A practical treatise on inflammation of the uterus, its cervix, & appendages, and on its connexion with uterine disease / by James Henry Bennet.

Contributors

Bennet, James Henry, 1816-1891.

Publication/Creation

London : John Churchill, 1853 (London : Savill and Edwards.)

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ON

INFLAMMATION OF THE UTERUS:

Its Cervix, and Appendages.

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ROYAL SOCIETY OF MEDICINE

A

PRACTICAL TREATISE

ON

INFLAMMATION OF THE UTERUS

Its Cervix, & Appendages,

AND ON ITS CONNEXION WITH UTERINE DISEASE.

BY

JAMES HENRY BENNET, M.D.

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS;
LATE PHYSICIAN-ACCOUCHEUR TO THE WESTERN GENERAL DISPENSARY;
FORMERLY HOUSE-PHYSICIAN (BY CONCOURS) TO THE HOSPITALS:—SAINT LOUIS,
NOTRE DAME DE LA PITIE, AND LA SALPETRIERE, PARIS, ETC.

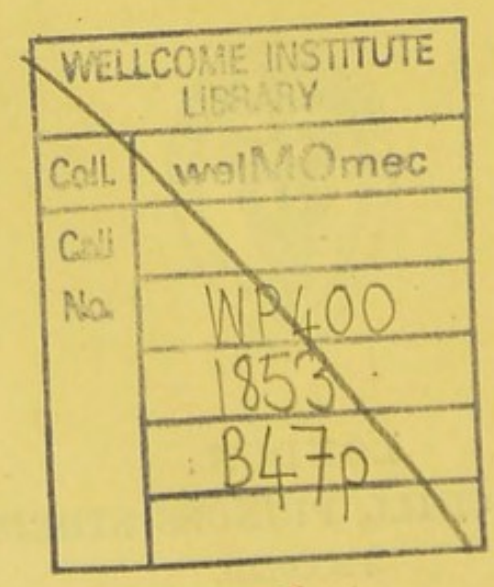
THIRD EDITION.



LONDON:
JOHN CHURCHILL, PRINCES STREET, SOHO.
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PREFACE.

In preparing the Third Edition of this work for publication, I have carefully revised it, and have made various additions, which will, I trust, render it more complete. I have also slightly altered the arrangement of the chapters, with a view to improve the general plan.

Within the last few years, the doctrines which I have advocated in the previous editions have made great progress, and have been adopted by a large, intellectual, and influential section of the medical profession at home, as also by many practitioners in our colonies. I have, indeed, received the most gratifying and satisfactory testimonies of adhesion and approbation from the most distant parts of the globe, the result of actual investigation of the subject.

I may likewise add, as evidence of the growing importance which is everywhere attached to this department of pathology, that both editions of the work have been republished in America, that the first has been translated into German, and the second into French.

Under such circumstances, I may certainly be allowed to pass unnoticed the "opposition" which I have met with. Believing thoroughly in the correctness of the facts and doctrines which I have advanced, I shall henceforth leave them in the hands of the profession, under the conviction that eventually they must and will be adopted and acted upon by the entire medical community.

60, Grosvenor Street,
November, 1852.

PREFACE

TO THE FIRST EDITION.

During my connexion with the Paris hospitals, which lasted seven years (three as a pupil, and four as a resident medical functionary), owing partly to choice, and partly to fortuitous circumstances, I was the assistant of several of the physicians and surgeons of that capital who have paid the greatest attention to uterine pathology, and my attention was thus early directed to this interesting department of medical knowledge. As I generally availed myself of the privilege granted to Paris "internes" by the hospital authorities, to take private clinical pupils with them on visiting the patients entrusted to their care, I was compelled to analyze carefully the morbid phenomena of every case, so as to satisfy the inquiring disposition of men of mature age and understanding, whom alone I could take with me, owing to the peculiar nature of uterine maladies. I was thus soon led to perceive, that however carefully the field of uterine pathology had been investigated, there still remained much to be elucidated. One point more especially attracted my attention—viz., the nature, causes, and therapeutics of ulceration and induration of the neck of the uterus, the commonest of all uterine lesions.

On referring to the most esteemed works on uterine diseases,

both French and English, I found that the data which the former contained respecting this malady were insufficient to account for the numerous modifications which I daily witnessed, whilst the latter were nearly completely barren on the subject. After much doubt and uncertainty, I at length arrived at views which appeared to me to explain much of that which had heretofore been obscure. It was not, however, until the experience of one year and of one hospital had been corrected by that of other years and of other hospitals, that my ideas took the direction which is presented in the present work.

To render this statement intelligible to those who are unacquainted with the medical institutions of Paris, I may mention that that city is remarkable for the extent and number of its special hospitals. There are immense separate establishments for the young, the adult, and the aged, as also for the syphilitic, the scrofulous, and those affected with skin diseases. Into these the house physicians and the house surgeons (who hold their appointments for four years) are successively draughted, so that, in the six or seven years during which the Paris "interne's" connexion with the hospitals lasts, at first as a pupil, and subsequently as a resident functionary, disease is studied on a large scale, in very varied fields. These successive changes of the point of view from which pathology is seen, I found of the greatest possible use. Uterine disease is not the same at St. Lazare, where five hundred prostitutes, affected principally with primary syphilis, are treated, as it is at the Hôpital St. Louis, the receptacle for cutaneous syphilis and scrofula, or as at the general hospitals, where non-syphilitic patients are received. Even in the latter, great differences exist; some—such as La Pitié—being near La Maternité, where several thousand women

are delivered annually, receive many patients recently discharged from that hospital; others—such as La Charité and the Hôtel Dieu—depend more on the general population; whilst in the Salpêtrière, which contains three thousand five hundred women above sixty years of age, and several hundred incurable cancerous patients, the uterine field again changes. I do not mean to say that the same forms of disease are not met with in these various establishments,—for such an assertion would be erroneous,—but that the proportions in which they show themselves, and often the modes of their manifestation, differ considerably.

An outline of my views on the subject of which I am about to treat, was hastily sketched and presented to the Faculty of Medicine of Paris, in the form of a thesis, on my graduating at that university. The present more elaborate essay was published in parts, in the "Lancet" of this year; and as I think the facts and views which it contains are of importance, I now reproduce them in a more extended and complete form. Under such circumstances, I cannot, certainly, be reproached with not having matured my opinions. In the first instance, they were formed after I had long enjoyed very great opportunities for seeing uterine disease. They have since been considered over and over again, and have stood the test of several years' additional experience.

Some of the views which I bring forward will, I believe, be found original,—at least, if I can trust the results of my bibliographical researches. I have also many details of great interest and importance to present, with reference to the various modes of *treatment* in inflammation, ulceration, and induration of the uterine neck adopted by the Paris physicians and surgeons—details which will, I believe, be new to most of my readers.

of cases, all reproducing the same phenomena; and when the doctrinal points brought forward are deduced from plain every-day facts,—which are not generally appreciated, merely because they are not sought for,—it is quite unnecessary to parade a long array of cases in order to substantiate them.

LONDON, *June* 18, 1845.

PREFACE

TO THE SECOND EDITION.

The present treatise has been for some time out of print, owing to the favourable reception which it received from the profession. The delay in the publication of the second edition originated in my wish to give a complete history of inflammation in all the organs and tissues which constitute the uterine system, as elucidated by the application of physical investigation to the study of uterine diseases.

This I have at length accomplished; and although nominally a second edition, the present is in reality a new work. It will be found to contain, not only a faithful history of the various pathological changes produced by inflammation in the uterus and its annexed organs in the different phases of female life, but also an accurate analysis of the influence exercised by inflammation in the production of the various morbid conditions of the uterine system, hitherto described and treated as functional.

Guided by the clinical observation of the last twelve years,—during which period I have constantly studied uterine disease in wide fields, and with the advantage of more accurate means of investigation than those generally employed,—I have endeavoured to demonstrate the important fact, that inflammation is the keystone to uterine pathology, and that unless the phenomena which it occasions be recognised and taken into consideration, all is doubt, obscurity, and deception.

The results at which I have arrived, and which are embodied in the following pages, are so diametrically opposed to the opinions current in the profession, as reproduced by the most recent and the most classical writers on uterine pathology, that they must appear startling, even to practitioners acquainted with the researches of Continental inquiry in this important branch of medical science. So thoroughly subversive, indeed, are they of all existing views respecting uterine disease, that nothing but the facility with which they can be tested could inspire me with the hope that they will, ere long, be universally acknowledged and adopted.

The diseases in question are amongst those to which females are most commonly exposed; and proofs of this fact may be found by any practitioner in the daily routine of his professional duties. To test the value of my assertions, he has merely to examine his patients. It must, at the same time, be borne in mind, that no one who does not set aside for the moment all previously formed pathological opinions, and impartially examine the cases in which the symptoms I have described are present, is competent to offer even an opinion on the subject.

Since the first publication of my researches in uterine pathology, above four years ago, a marked change has taken place in the opinions of a large portion of the profession—a change which may fairly be attributed, in a great measure, to the influence exercised by my writings. Several of the most eminent uterine pathologists of the present day—amongst whom I may name Dr. Montgomery[1] and Dr. Evory Kennedy[2]—have since then openly advocated views similar to those which I entertain

[1] The Dublin Quarterly Journal, August, 1846.
[2] Ibid., February, 1847.

respecting the frequency of inflammatory affections of the neck of the uterus. Moreover, I am able to state, from positive knowledge, that the practice of nearly all the eminent consulting practitioners in this department of pathology has been greatly modified within that period, and it is but rational to infer that their theoretical opinions have undergone a similar change.

In the present work there is much that is original, and new to the profession, both abroad and at home. I would more especially direct attention to the history:—of chronic metritis and of the displacements which it occasions, of late years so erroneously viewed—of internal metritis, hitherto confounded with disease of the cervical cavity—of inflammation and abscess of the lateral ligaments in the non-puerperal state, never, as yet, described by any author—of inflammation and ulceration in the cavity of the cervix—of inflammation and ulceration in the virgin,—in the pregnant and puerperal condition,—in the aged,—and in connexion with polypus and with uterine tumours;—and to the section on the diagnosis of cancer. As the facts detailed in the chapters in which these subjects are discussed are, like those formerly advanced, solely deduced from clinical observation, I firmly believe that their accuracy will be likewise substantiated, in the course of time, by the unanimous verdict of the profession.

It may be considered an axiom, that when once a discovery in science or art has been clearly pointed out and demonstrated, it ought to be susceptible of easy confirmation, wherever and by whomsoever the attempt be made, provided the inquirer possess sufficient knowledge and skill to qualify him for the task which he undertakes, and provided, also, he carefully and con-

scientiously follow the rules and directions laid down by the discoverer. No alleged discovery that will not bear this test can be accepted as such; and no person who claims the merit of a discovery ought to object to its being applied to his assertions.

I can have no hesitation in submitting the views and opinions which I entertain respecting the pathology of uterine disease, to the above test. If others, employing conscientiously, in similar cases, the same means of investigation as I have done, and as carefully as I have done, do not arrive at the same results,—however contrary those results may be to the recognised opinions of ages,—I will submit willingly to their repudiation of the doctrines advanced. I have, however, no fear on this score, for they are the expression of facts truly observed and faithfully reproduced, and will hold good alike in all climes, in all lands, and in all grades of social life.

London, *March* 26, 1845.

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A PRACTICAL TREATISE

ON

INFLAMMATION OF THE UTERUS,

Its Cervix & its Appendages;

AND ON

ITS CONNEXION WITH OTHER UTERINE DISEASES.

MEDICAL SOCIETY OF LONDON

CHAPTER I.

PRELIMINARY REMARKS.

A NEW FIELD OPENED TO THE STUDY OF UTERINE DISEASE BY THE ADOPTION OF PHYSICAL MEANS OF INVESTIGATION—THE FACTS RECENTLY BROUGHT TO LIGHT PARTIALLY KNOWN TO THE ANCIENTS —THE STATE OF MEDICAL SCIENCE AND PRACTICE IN THE MIDDLE AGES THE CAUSE OF MODERN IGNORANCE OF UTERINE PATHOLOGY.

Among the various branches of the healing art over which light has latterly been thrown, by the application of physical means of examination to the appreciation of local symptoms and of morbid changes, uterine pathology stands preëminent. The recent adoption, by some leading continental practitioners, of careful instrumental examination in the diagnosis and treatment of diseases of the uterus, has opened an entirely new field to practice, and must lead to a complete transformation of uterine pathology, as it is now presented in the medical literature of this country.

The discovery of percussion and auscultation, by Avenbrugger and Laennec, has not, indeed, produced as great a change in thoracic pathology as the application of physical examination in uterine disease is destined to produce in this important and extensive department of medical science. That I am not attributing too much weight to the results attainable in uterine

pathology by the discovery of improved means of diagnosis, will, I feel certain, be admitted by all who carefully peruse the following pages, and who recollect that the views which they unfold, although contrary to generally received opinions, are the scrupulous deduction of clinical observation alone, and not the offspring of theoretical reasoning.

To those who have studied uterine disease in the most recent and most esteemed works that have appeared in this country, the views and assertions contained in the present treatise will probably appear exaggerated; but all who take the trouble practically to test their correctness, will most certainly find that I have neither exaggerated nor mis-stated. The great error committed by all who have hitherto written on uterine affections, with the exception of some recent French authors, consists in their looking upon and describing inflammation of the uterus as a rare disease in the non-puerperal state, whereas, in reality, inflammation is the commonest of all the morbid manifestations of that organ, as it is of all other organs of the animal economy. As a necessary result of this error, not only is the existence of inflammation itself unsuspected and overlooked, but many morbid states which it gives rise to are also misunderstood, and generally, if not always, studied independently of their origin: among these I may mention, leucorrhea, dysmenorrhea, menorrhagia, partial prolapsus of the uterus, general debility, &c.

At first sight, it certainly does appear singular, to say the least, that a class of diseases of such every-day occurrence as uterine inflammations in reality are, should have been almost totally overlooked until within the last few years, and that the symptoms which they occasion should for ages have been made the foundation for false pathological superstructures. Such, however, is the case; successive centuries have perpetuated the same errors, and that owing to causes which are easily explained, if we revert to the past history of medicine.

The uterus is an organ to which is entrusted the preservation of the species, and not of the individual of whose organization it forms a part. It has, consequently, no hourly, daily, function to perform, like the brain, the lungs, the liver, the interference with which, by inflammation, necessarily gives rise to a class of

decided, unmistakable symptoms. Moreover, inflammation of the non-impregnated uterus, owing to anatomical data, into which I shall presently enter at length, is generally *peripheric*, if I may use the term; it is principally confined, at its origin, to the mucous membrane covering the cervix and lining the cavity of the cervix, to the cervix itself,—which is much less sensitive than the body of the uterus,—to the cellular tissue lying between the peritoneal folds that constitute the lateral ligaments, and to the ovaries. It is, likewise, generally chronic when affecting the mucous surfaces mentioned, its most frequent seat. The operation of these physiological and pathological facts, combined with the concealed and central anatomical situation of the uterus itself, gives to the symptoms of the vast majority of uterine inflammatory affections a degree of obscurity which those of few other diseases present. Hence the necessity of calling to our aid, in order to form a true diagnosis, every possible means of assistance; and certainly, no mode of investigation is so likely to enable us to arrive at a correct knowledge of the morbid changes which are taking place in a concealed organ as the ocular inspection of the organ itself.

That such an inspection is not only possible, but in most cases perfectly easy, was, no doubt, discovered in a very early period of medical history. We continually see the uterus falling, by its own weight, or by the laxity of its means of support, to such an extent as to merely require the separation of the labia to be seen, or as even to protrude externally. From the examination of the womb thus prolapsed to the use of some mechanical means of opening the vulva and vagina, so as to allow the eye to reach the lower segment of the uterus when the organ is not prolapsed, there is but a step. That step was made probably more than two thousand years ago. Although the fact is not generally known, it is nevertheless quite certain, that ocular inspection of the cervix uteri by instrumental means was known to the ancients, perhaps from the earliest times; and its having subsequently fallen into complete abeyance, along with the information obtained through its means, is a singular circumstance in the history of medicine, which can only be explained by the peculiar social conditions through which medical science has since passed.

Paulus Ægineta alludes to the διοπτρα, or *dioptra*, in several parts of his work, as to an instrument in general use. In the section on ulceration of the uterus,[1] he states that the ulceration is to be detected by the dioptra; and in that on the treatment of abscesses of the womb,[2] there is a long account of the way in which the instrument, evidently a kind of bivalve speculum, is to be used. This well-known author lived in the seventh century, but he was more a compiler than an original writer; and, according to Mr. Adams, the learned translator and commentator of his works, this part of his description of uterine diseases is mostly taken from Aetius, who, in his turn, professes to have copied from writers who lived at a much earlier period, such as Archigenes and Asclepiades.

Not only was instrumental examination of the uterine neck known to the ancients, but they were evidently familiar with this mode of investigation. This fact is satisfactorily proved by the practical information respecting diseases of the cervix uteri which they possessed—information which they could only have acquired by the ocular demonstration afforded by the use of the speculum. Thus, in the section of Paulus Ægineta's work on "Ulceration of the Womb," to which I have alluded,[3] we find inflammatory ulceration of the cervix uteri, its causes, varieties, and treatment, described at some length. The description is rather confused, it is true, but it is impossible not to recognise in it the various pathological facts which have been resuscitated these last few years. The writers were clearly acquainted with the various inflammatory lesions of the cervix

[1] The Sydenham Society's edition of the works of Paulus Ægineta, vol. i. p. 624.

[2] Ibid., vol. ii. pp. 385, 6.

[3] Ibid., vol. i. pp. 624, 5:—"The uterus is often ulcerated from difficult labour, extraction of the fœtus, or forced abortion or injury of the same, occasioned by acrid medicines, or by a defluxion, or from abscesses which have burst. If, therefore, the ulceration be within reach, it is detected by the dioptra, but if deep-seated, by the discharges; for the fluid which is discharged varies in its qualities. When the ulcer is inflamed, the discharge is small, bloody, or feculent, with great pain; but when the ulcer is foul, the discharge is in greater quantity, and ichorous, with less pain;

uteri, which in reality constitute, as I have stated, the commonest forms of uterine disease, and must have been in the habit of guiding their treatment by the state of the cervix as revealed by the dioptra. It is thus that we find different agents recommended according as the ulceration is "clean or foul; spreading or not spreading; attended or not with inflammation." It does not appear that caustics were used, the treatment enjoined being that resorted to by the ancients in the treatment of ulcers generally, and consisting, rationally enough, in two classes of agents, emollients and astringents.

The assertion has recently been made, that the dioptra was only used to separate the parts at the vulvar orifice of the vagina, and that the passages of Paulus Ægineta to which I refer, merely apply to disease in that region. Such an opinion, however, will not stand the test of a careful perusal. The neck of the uterus itself is evidently referred to in the first quotation, and abscesses in the upper part of the vagina, near the cervix, in the other. That the real cervix uteri was known to the physicians, not only of that age, but of an age many centuries antecedent, is evident from the Hippocratic writings. The latter afford evidence of a very considerable amount of knowledge respecting the morbid condition of the neck of the uterus itself. (See Aphorisms 51 and 54, section v., and the special treatises on the Diseases of Women.) Indeed, I cannot do better than quote the words of Mr. Adams, to whom the profession is also indebted for a very valuable edition of the works of Hippocrates. After giving an analysis of these treatises, he adds, "They furnish the most indubitable proof that the obstetrical art had been cultivated with most extraordinary ability at an early period. Be-

when the ulcer is spreading, the discharge is fetid, black, attended with great pains, and other symptoms of inflammation; irritation is produced by relaxing medicines, and relief by the opposite class. When the ulcer is clean, the fluid is small in quantity, consistent, without smell, thick, white, with an agreeable sensation. When the ulcer is inflamed, we must use those things recommended for inflammations. When it is foul . . . . . the Egyptian ointment without the verdigris answers admirably for the cure of ulceration . . . . . when the ulcer is spreading and attended with inflammation . . . . . when the ulcer spreads and is without inflammation . . . . . when the ulcer has become clean." . . . . . .

yond all doubt, the complaints of women, and the accidents attending parturition, must at that time have come under the jurisdiction of the *male practitioner.*"

It is impossible for any one acquainted with the modern state of medical literature on this subject, to read without surprise the description of ulceration of the womb which I have extracted from Paulus Ægineta. The important facts which it sets forth, although of every-day occurrence, appear to have fallen into complete oblivion for centuries, until M. Recamier, (one of the present physicians to the Hôtel Dieu in Paris,) about the year 1818, fortunately for humanity, revived the use of the speculum, and by its means resuscitated the knowledge so long dormant. The late celebrated surgeon, Lisfranc, at once adopted the speculum as a means of diagnosis and treatment, and by his lectures, writings, and practice, contributed more than any other of his countrymen to establish uterine pathology on a sound practical basis.

I cannot better illustrate how totally, in this country, the important pathological data which it will be my aim to elucidate, had been lost sight of, than by recalling the very striking fact, that inflammatory ulceration of the uterine neck and its sequelæ are not even alluded to in the work which for the last thirty years has been considered the standard authority on uterine diseases, and the talented author of which occupies the very first rank among our uterine pathologists. I allude to Sir Charles Clarke's Treatise on Female Discharges, the third edition of which was published in 1831. Various forms of cancerous ulceration are carefully described, but the very existence of inflammatory ulceration is not mentioned. Now when we reflect that, as I shall hereafter show, in nearly five cases out of six of uterine disease, in which chronic discharges, mucous, puriform, or sanguinolent, or other well-marked uterine symptoms, are present, there is inflammatory ulceration of the cervix, it is easy to conceive how erroneous must be the views respecting uterine pathology, of a medical school ignorant of so vitally important a circumstance.

The surprise which we must feel on learning that so much valuable information respecting female diseases was lost to

humanity for so lengthened a period, diminishes, however, when we reflect on the channels through which the knowledge of the ancients has been conveyed to us. When Europe was plunged in the intellectual darkness that followed the overthrow of the Roman empire by the barbarians, Science found a refuge among the Arabs, and it was through their labours, principally, that the Greek and Roman medical classics were preserved, and became known to their successors in science, the Roman-catholic priesthood. On the revival of letters taking place, several centuries after the overthrow of the Arabian caliphs, all the knowledge of the day, of medicine as well as of the other arts and sciences which constituted the Quadrivium, was confined to priests and monks.

Both the Arabian physicians and the Roman-catholic priests were placed in a position of peculiar delicacy towards their female patients; the former, owing to the seclusion of the female enforced by Mohammedan customs, and the latter, owing to their vows of celibacy. It is not, therefore, extraordinary that the Arabians should merely have transmitted to us in their works the information respecting uterine diseases and midwifery contained in the Greek and Latin authors whom they translated or copied; nor is it extraordinary that the Roman-catholic priesthood should have abandoned midwifery to midwives, and have allowed the practical knowledge of uterine diseases contained in the works of the ancients and of the Arabians to fall into abeyance. Neither the Mohammedan nor the monkish physicians were so situated socially as to be able to prosecute these branches of medical knowledge. Thence it is that midwifery was utterly neglected, and remained a dead letter so far as science is concerned, until a comparatively recent period, that of Ambrose Paré, Guillemeau, &c. Thence it is, also, that a cloud of ignorance has, from the same cause, overshadowed uterine pathology until our own day.

That results directly produced by the existence of a peculiar state of society, should have remained in operation for several centuries after the social condition which created them has itself ceased to prevail, is certainly rather singular; but this is not unfrequently the case, as might be variously exemplified. It

would be difficult, however, to meet with a more striking illustration of the fact than is presented by the history of midwifery and uterine diseases. Up to the middle of the fourteenth century, the practice of medicine being in the hands of the priesthood only, the neglect into which they fell can be easily understood. It is also easy to understand that these branches of medical knowledge should have continued to be neglected for some time afterwards, a certain connexion long continuing between the practice of medicine and the clerical profession; although Pope Honorius the Fourth, at the close of the fourteenth century, prohibited priests from actually practising medicine, yet in various countries, physicians were bound by oath to celibacy, as was the case until the year 1420 in the University of Paris. It does, however, appear most marvellous that the influence of these former social conditions should still be felt in the medical profession, should still exercise an evident control over medical science in England—a country which has now for three centuries professed Protestantism. And yet, unless we admit that such is the case, how can we account for the existing state of uterine pathology, or explain the opprobrium thrown, until within the last few years, by the governing bodies of our leading medical corporations, upon those who devote their attention to midwifery, and to the diseases of females, inseparably connected with midwifery?

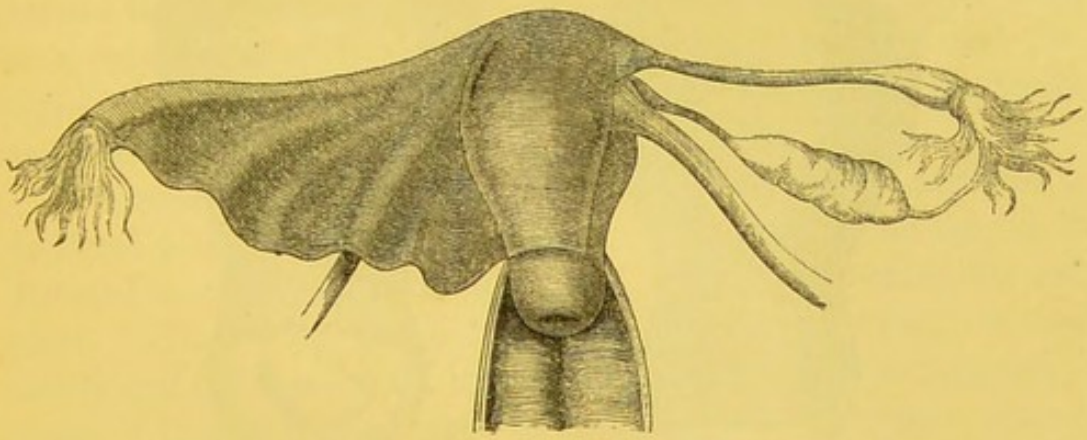
CHAPTER II.

ANATOMY AND PHYSIOLOGY OF THE UTERINE ORGANS.

UTERUS—OVARIES—BROAD LIGAMENTS—VAGINA—VULVA—AND PELVIC FASCIA.

The uterus occupies the median region of the pelvic cavity, lying between the bladder anteriorly and the rectum posteriorly, with both of which it has important connexions. It is contained, as also the ovaries, Fallopian tubes, and round ligaments, in the folds of the peritoneum, which constitute the lateral or broad ligaments.

Fig. 1.



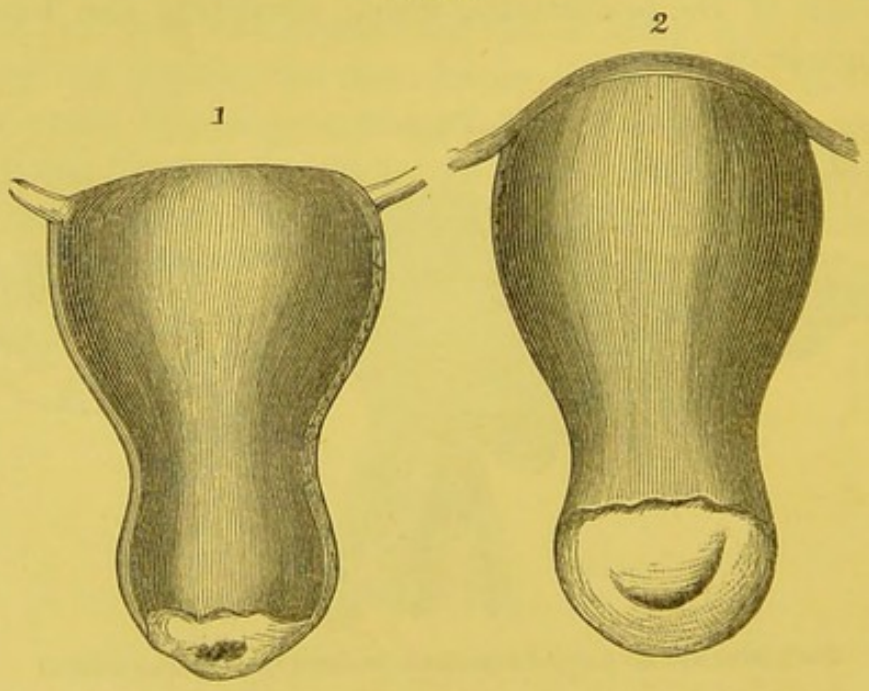
The Uterus and the Lateral Ligaments, (reduced from Quain's Plates.)

The anterior wall of the uterus adheres to the bladder inferiorly, for about half an inch. The limits of this adhesion are: from the insertion of the vagina on the cervix to the cul de sac formed by the peritoneum, as it is reflected from the posterior wall of the bladder to the anterior surface of the

uterus. The posterior surface of the uterus is connected with the rectum, but indirectly, through the medium of the peritoneum, which, after covering it and the superior region of the vagina, is reflected on the rectum, so as to form the posterior or utero-rectal pouch.

The form of the uterus is that of a hollow conoid, with its large extremity, the body, directed upwards, and its small extremity, the cervix, downwards. The neck of the uterus is divided externally into two regions, by the insertion of the vagina: the intra-vaginal, the portion of the neck which protrudes into the vagina, and the supra-vaginal, that which is above, and which, as we have seen, is the region of the uterus in contact with the lowest portion of the posterior wall of the bladder. The relative length of these two regions of the neck of the uterus varies greatly in different individuals, with some the insertion of the vagina being very low on the cervix uteri,

Fig. 2.



1. *The Virgin Uterus.* 2. *The Post-Partum Uterus.*
(*Dubois' Traité des Accouchements.*)

with others very high. In the former case, the portion that protrudes into the vagina is necessarily small, and may be rudimentary: in the latter case, on the contrary, it is long and

voluminous. Independently of this natural cause of elongation, the cervix may be exceptionably elongated to nearly any extent. I have seen it three inches in length, protruding from the vulva like a thick finger; and there are many instances of this kind on record.

The vaginal cervix (fig. 1) in the virgin female represents the upper portion of a small cone directed rather below and behind. At the summit of the cone is the orifice of the os uteri, a small circular opening, the anterior lip of which is rather fuller and thicker than the posterior. The diameter of this opening varies considerably, but it ought never, in a healthy state, to be sufficiently great to give to the finger the sensation of a cavity. Such a condition of the os uteri is generally the result of disease, as we shall see hereafter; the sensation imparted to the finger in health being merely that of a depression. After marriage, the cervix is generally flattened and retroverted, especially when naturally long and voluminous. After parturition, the cone formed by the vaginal cervix (fig. 2) remains, as does the entire uterus, rather more voluminous, and the orifice of the os uteri assumes a transversal form.

The uterus occupies the median line in the pelvis. Its axis follows the direction of that of the brim of the pelvis, so that in a woman standing, the fundus of the uterus would be slightly inclined upwards and forwards, and the neck downwards and backwards.

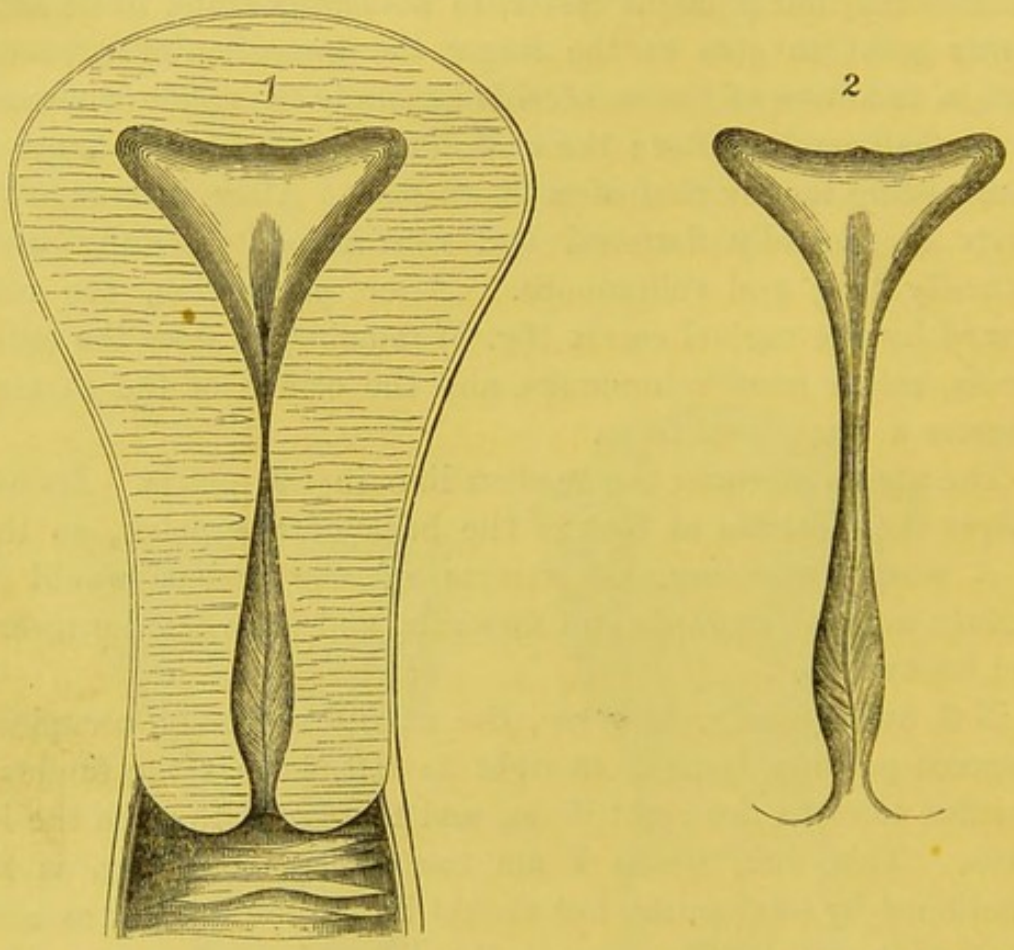
Not unfrequently, however, the uterus naturally occupies a diagonal position, lying from right to left, so that the fundus is directed towards the right ilium, and the cervix towards the left groin. This fact, which I am continually observing, is not mentioned by anatomists, but should be borne in mind, as ignorance of it may lead to error in the diagnosis of disease. Most of the lateral deviations of the uterus described by pathologists are merely exaggerations, in a diseased and hypertrophied organ, of this natural position or direction.

The weight of the nulliparous uterus is from an ounce to an ounce and a half, and that of the uterus of a woman who has borne children from one ounce and a half to two ounces.

The interior of the uterus does not present, as is generally

supposed, a single cavity, reached by a channel or passage through the neck, but a double cavity, one belonging to the body of the uterus, and the other to the neck itself. Each of these cavities is dissimilar to the other. That of the uterus is triangular, and its parietes form curves, the convexities of which are internal, and which are all but in contact, being merely separated by a little mucus. The cavity of the uterine neck is, on the contrary, fusiform, and its lateral parietes constitute regular curves, the convexities of which are external.

Fig. 3.



1. *The Cavities of the Uterus and Cervix, as they are during life.*

2. *The Uterine Cavities, as represented in Quain's Plates.*

At the union of the two cavities there is, during life, a natural stricture or coarctation, which closes the cavity of the uterus. This coarctation, which is not mentioned or described by anatomists, nearly always exists in the absence of disease, and is sufficiently great, (except soon after parturition, and sometimes for a

few days after menstruation,) to prevent even a small sound penetrating into the uterus, unless considerable force be used. From its universality, and occasional persistence after death, it must be the result of the anatomical structure of the parts, and probably of the presence of a kind of muscular sphincter. When the mucous membrane of these cavities is inflamed, and under various other conditions hereafter to be enumerated, this sphincter becomes relaxed, and the sound passes easily into the uterine cavity.

The surface of the cavity of the uterine neck presents a well-known peculiarity, which, as we shall see elsewhere, is important in a pathological point of view. Along the median line both of the anterior and posterior walls there is a longitudinal prominence, or crista, from which radiate on each side numerous thick folds, placed regularly one above the other, and constituting what has been called by anatomists the arbor vitæ, or tree of life. A trace of this median longitudinal crista is also found on the anterior and posterior walls of the cavity of the body of the uterus. The capacity of the latter cavity, in the healthy state, is very limited. It will not contain more than from nine to twelve minims of fluid.

The depth or length of the two uterine cavities from the os externum to the upper limit of the cavity of the body of the uterus is from two inches and a quarter to two and a half. The uterine cavities are both pretty nearly of the same length—that is, about an inch and a quarter. The contraction of the os internum, which arrests the probe, is, however, often found, during life, to be an inch and a half from the os externum, which would give only one inch for the depth of the uterine cavity. In the nulliparous uterus this natural contraction not unfrequently begins at about three quarters of an inch from the os.

Pregnancy and parturition impress decided modifications on the size and form of the uterus, which deserve special notice. The uterus becomes more voluminous, and its longitudinal and transverse diameters are both increased. (See fig. 2, page 10.) The cavity of the uterus is slightly enlarged at the expense of that of the cervix, the limit between the two being often rather lower, and its form is changed. Instead of representing a

triangle with curvilinear borders, the convexity directed inwards, it represents an ovular surface, the margins of which are regularly curved and concave. The infundibuliform angles, also, in which the orifice of the Fallopian tubes are placed in the nulliparous uterus, disappear, to a great extent, in women who have had several children, the Fallopian tubes opening into the superior and lateral region of the ovular cavity. The external form of the uterus also undergoes a change; the anterior and posterior walls become more convex, and the superior margin rises above the insertion of the Fallopian tubes, instead of being all but rectilinear. (Dubois.)

Structure.—The uterus is formed by an external peritoneal or serous investment, a proper or muscular tissue, an internal mucous membrane, bloodvessels, lymphatics, and nerves. The external peritoneal investment of the uterus is intimately connected with the proper tissue of that organ by dense cellular tissue, according to most anatomists; and by short muscular fibres, according to M. Jobert de Lamballe, except in the lower region, near the cervix and vagina, where he also admits the presence of cellular tissue.[1]

The muscular tissue of the uterus is of a very peculiar nature. In the impregnated state its structure is easily demonstrable, the muscular fibres lying in bands, circles, and ellipses, which the eye perceives without difficulty. It is then highly vascular; the arteries and veins being large, and filled with blood. Its vitality is consequently great, and, as a necessary result, its pathology is that of a highly-vitalized organ. Thence it is, partly, that in the puerperal state we find inflammation severe, and rapid in its development and progress.—In the non-impregnated state, on the contrary, the uterus is in a very different condition. Instead of weighing several pounds, it weighs little more than one ounce. Its muscular tissue is in a completely rudimentary state, the fibres being so closely agglomerated and interwoven, that at first sight it appears more like a mass of fibrous tissue than the muscular and highly vascular

[1] M. Jobert de Lamballe on Structure of the Uterus, *Lancet*, Sept. 7th, 1844.

organ previously examined. This fibro-muscular structure contains but very little cellular tissue; indeed, its presence has been altogether denied by some anatomists. With the assistance of the microscope, however, it may be easily recognised in the diseased uterus; we may therefore conclude that it is also present in a rudimentary form in the healthy organ. In the uterus of a woman who had died of uterine cancer, presented to the London Medical Society by Dr. S. Beck, the existence of cellular tissue in the healthy structure surrounding the diseased regions was very evident, as also in a uterus half destroyed by corroding ulceration, which I myself subsequently presented to the same Society.[1]

The structure of the cervix uteri is fundamentally the same as that of the body of the organ, but it differs by the presence of a greater amount of cellular tissue and by a greater degree of vascularity. The muscular fibres, according to M. Jobert, are circular, decussatory, and longitudinal in the entire animal creation. The circular fibres are the most numerous, the longitudinal being only found in the posterior region of the cervix. The circular fibres are distinct from those of the body of the uterus; the longitudinal ones, which occupy the middle posterior region of the cervix, are, on the contrary, the continuation of the posterior longitudinal layer of the uterus. Hence, probably, it is, that chronic inflammation of the cervix uteri has a much greater tendency to pass on to the posterior wall of the uterus than to the anterior, the latter region of the cervix being less intimately connected with the body of the uterus.

The uterine cavities are lined by an internal or mucous membrane, the nature of which has much occupied anatomists. It is only, however, within the last few years that its true nature has been satisfactorily made out, through the labours of M. Coste, of M. Robin, and of Baron Dubois of Paris. In the following brief account of this membrane I have adopted the views of these authors.[2]

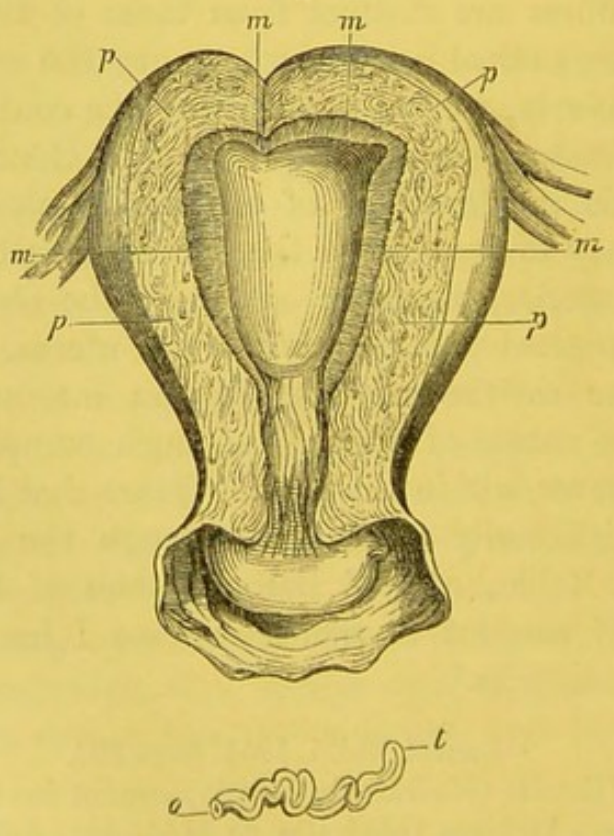
[1] Lancet, vol. i. 1851, page 295.

[2] M. Coste—Histoire Générale du Développement des Corps Organisés, 1847; M. Robin—Archives Générales de Médecine, Juillet, Août, 1848. Baron Dubois—Traité des Accouchements, vol. i. 1849.

The lining membrane of the uterine cavity, although evidently a mucous membrane, differs considerably from all other mucous structures. It does not merely line the cavity of the uterus, as mucous membranes generally do, but forms a part of the uterine walls, being continuous with the proper tissue of the organ, without the interposition of any sub-mucous cellular tissue. Its thickness is very considerable, representing a fifth, or even a quarter, of the entire thickness of the uterine wall. The adherent surface, as we have seen, is intimately connected with the proper tissue of the uterus; the free surface, which constitutes the interior of the uterus, is smooth, and presents a great number of small openings, which are the orifices of mucous follicles.

On dividing this membrane by a section of the uterus, it is found to be formed by a number of parallel filaments, perpendicular to the uterine cavity, and closely superposed; thence a smooth homogenous appearance, which contrasts with that of the proper tissue, the fibres of which are irregularly interwoven in every sense, and which presents a number of vascular openings.

Fig. 4.



p p, *the proper tissue;* m m, *the mucous layer or membrane;* o t, *a tubular gland.*
(*From Coste's Atlas.*)

The uterine mucous membrane is formed by glands, vessels, and an epithelium, united by fibro-plastic tissue, dartoic tissue, cellular tissue, and an amorphous matter. The glands are remarkable by their form, which is tubular, long, and sinuous, or vermiform. Numerous vessels penetrate it, but in a state of capillary division. Of the various tissues enumerated, the fibro-plastic is the most abundant, forming about half the mucous membrane. It differs from cellular tissue, properly so called, by its microscopic characters, and also by the fact that it belongs exclusively to anormal tissues, or to those in process of renovation. Its presence, therefore, in the uterine mucous membrane, in the normal state, is a remarkable fact, and the only example of the kind in the economy. The epithelium is vibratile, inasmuch as it presents ciliary corpuscles, which are incessantly agitated by a vibratory movement.

The mucous membrane of the cervical canal presents the same structure and characteristics, but it is very much thinner. The glands, also, instead of being long and tortuous, are short, and of a utricular form. They are numerous, and many of them present an important peculiarity, that of being imbedded, hidden between the folds and radiations of the arbor vitæ. Thence, as we shall see, the extreme difficulty, in many cases, of curing chronic inflammation of the mucous membrane of the cervical canal.

The arteries which supply the uterus, are the ovarian, from the aorta; and the uterine, from the hypogastric. The uterine branches of the ovarian arteries are principally distributed to the body of the organ, but their smaller divisions reach the cervix, and freely ramify in it. The uterine arteries, by far the larger of the two, after passing along the vagina, give off their largest branches to the neck of the uterus, in their course to the body of the uterus. Thus, in the non-pregnant state, the cervix is more freely supplied with bloodvessels than the body of the organ, which may account for its greater liability to inflammatory disease. M. Recamier has described, as existing around and near the os uteri, a vascular network, which forms a sort of erectile tissue: and his views have been confirmed by the researches of M. Forget and Dr. Tilt. This anatomical condi-

tion would tend to account for the extreme turgescence so often observed around the os when it is attacked by inflammation.

The veins of the uterus accompany the arteries. The ovarian empty themselves on the right side into the inferior vena cava; on the left into the corresponding renal vein. The uterine veins empty themselves into the hypogastric veins, and anastomose freely with the ovarian. These veins are remarkable for their great size, which is much greater than that of the arteries, for their frequent anastomoses, and for their anatomical structure. The external membrane being absent, the internal membrane is in immediate contact with the proper tissue of the uterus, so that the walls of the veins are contractile. With reference to the veins, therefore, the uterus may be considered an erectile tissue, with muscular parietes. The above anatomical facts explain the great tendency to venous congestion which the uterus presents in disease, especially when the vital contractility of the organ has been diminished by the lengthened persistence of morbid changes.

The lymphatic vessels are numerous, and may be divided into superficial, situated at the surface, underneath the peritoneal covering, and the deep-seated, which are distributed in the walls of the uterus. Those of the body of the uterus follow the course of the ovarian vessels, and uniting with the lymphatics of the ovaries, and broad ligaments, terminate in the lumbar lymphatic ganglia. Those of the cervix uteri terminate principally in the pelvic ganglia.

The nerves of the uterus are derived from the renal and hypogastric plexuses. Those from the first source follow the course of the ovarian arteries, and are distributed to the fundus and superior region of the uterus. Those from the second follow that of the uterine arteries, and present pretty nearly the same distribution, dividing into superficial and deep-seated branches. (Dubois.)—The hypogastric plexuses are principally formed by branches of the sympathetic, but they also contain nerves issuing from the sacral plexuses. The uterus is thus connected both with the ganglionic and cerebro-spinal system—a fact which accounts for the sympathetic influence which it exercises when diseased on the various functions of organic life, as also on those

of the cerebro-spinal system. The researches of the numerous anatomists who have of late years investigated the nerves of the uterus, have proved satisfactorily that the neck of that organ receives nerves, as well as the body; but they do not clearly prove that these nerves reach the lower, or vaginal portion of the cervix. M. Jobert, indeed, states positively that his dissections show they do not. The marked insensibility of the vaginal portion of the cervix, in the great majority of cases, would tend, *à priori*, to prove that nerves are deficient in this region, or, which is more probable, present to a very limited extent. In no other region of the uterus do we see the same absence of pain, when serious disease is present, or when painful therapeutic agents are resorted to. This is not always the case, however, for occasionally the cervix is found acutely sensitive to every kind of impression.

According to Dr. Robert Lee, the nerves of the uterus enlarge greatly during pregnancy, so as to cover the uterus with a stratum of nervous plexuses and ganglia. Dr. S. Beck, on the contrary, states that the nerves do not alter in their thickness during pregnancy; at least, that no alteration occurs before they enter the tissue of the uterus, while that organ itself, and the vessels which supply it, enlarge in size to an extreme extent.(Quain.)—Both these contradictory statements are illustrated and supported by careful dissections, and have both received the sanction of the Royal Academy. The questions which they involve, however, although very important to the anatomist and physiologist, are much less so to the pathologist, to whom it is sufficient to know that the uterus is freely supplied with nerves, which connect it primarily and principally with the ganglionic system, and secondarily, with the cerebro-spinal system. Thus are explained the numerous sympathetic reactions on the various functions of organic life, and on the brain and spinal cord, which are exhibited in uterine disease.

Ovaries, Fallopian tubes, round ligaments, and broad ligaments.—The ovaries are situated in the posterior folds of the broad ligaments, behind the Fallopian tubes, in front of the rectum, from which they are often separated by some folds of the small intestine. They occupy the superior margin of the lateral

ligaments, and are consequently on a level with the fundus of the uterus. The external extremity is fixed to the pavillon of the Fallopian tube, and the internal extremity is connected with the uterus by the ovarian ligament. The ovaries are constituted by a peritoneal and a fibrous investment, and by a parenchyma or proper tissue. The latter is formed by small, densely aggregated cellular fibres, between which are spaces filled with a yellow fluid. It is very vascular, and is supplied by the ovarian arteries which enter the ovary by the lower margin. Interspersed in this spongious tissue we find the Graafian vesicles.

Between the folds of the lateral ligaments we also find the Fallopian tubes, constituted by a fibro-muscular sheath, investing a canal lined by an elementary mucous membrane; and the round ligaments, which are composed of muscular fibres emanating from the uterus.

The lateral ligaments, formed, as we have seen, by the reflection of the peritoneum from the anterior to the posterior surface of the uterus, contain between their folds, in addition to the ovaries, Fallopian tubes, and round ligaments, a layer of filamentous tissue, which separates them one from the other, and surrounds the various organs enumerated. The principal use of this intervening cellular tissue appears to be to allow the peritoneal folds to separate and accommodate themselves to the progressive ampliation of the pregnant uterus.

Vagina and Vulva.—The vagina is a membranous canal, the length of which varies greatly in different individuals, according to their size and to individual peculiarity. In the healthy female, when not relaxed by disease, or distended beyond measure by repeated child-bearing, the vagina represents a very extensible but closed canal, the walls of which are in contact, so as to embrace and support the neck of the uterus. The posterior wall is longer than the anterior, owing to its rather convex form and to its insertion at a higher region of the cervix. It is in contact in its superior fourth with the peritoneum, and in its inferior three-fourths it lies over the rectum, with which it is connected by a layer of fatty cellular tissue of variable thickness. The anterior wall is slightly concave, and is in relation superiorly with the trigone of the bladder, and inferiorly with the urethra. It is connected

with these organs by filamentous cellular tissue of a dartoic nature. At the sides the vagina is inclosed between the levator ani muscles. It is partially closed inferiorly by a small sphincter-like muscle—the constrictor vaginæ. The vagina is constituted by a proper membrane or tube presenting the characters of erectile tissue, and contained between two fibrous layers. Externally it is surrounded by a loose dartoic or contractile cellular tissue; internally it is lined by a mucous membrane covered by a squamous epithelium, and presenting numerous transverse rugæ, which radiate from a median raphé or columna. These rugæ are numerous in the lower part of the canal, and become less marked and less numerous as we reach the upper region. Repeated pregnancies, by dilating the vagina, render the rugæ less characteristic. Hence the opinion that they are principally destined to facilitate the ampliation of the vagina. M. Cruveilhier, however, in common with some of the older physiologists, considers them to be formed principally by large papillæ, lineally arranged, and to be organs of sensation. The vaginal mucous membrane is freely supplied with mucous follicles. The arteries of the vagina are branches of the internal iliac—viz., the vaginal, internal pudic, vesical, and uterine. The corresponding veins are large, and form at each side a large plexus. The nerves are derived from the hypogastric plexus of the sympathetic and from the fourth sacral nerve and the pudic nerve of the spinal system.

The vulva is formed by the mons veneris, the labia majora and minora, the hymen, and the clitoris. The mons veneris is merely the integument on the fore-part of the pubic symphysis, elevated by a quantity of cellular and adipose tissue, and covered with hair. The labia majora are two rounded elliptic folds of integument, which descend from the mons downwards and backwards, gradually becoming thinner as they descend. Inferiorly their union limits the perineum in front; superiorly, they conceal between their commissure the clitoris. The external surface of the labia majora is cutaneous; the internal, mucous; and between the two are found fat, vessels, nerves, glands, and dartoic tissue. From the upper surface of the clitoris descend the narrow folds of mucous membrane, the labia

minora, or nymphæ, which directly inclose the external orifice of the vagina, and are very freely supplied with mucous follicles and sebaceous glands. It is covered by a scaly epithelium. Sometimes the nymphæ, instead of being concealed by the labia majora, are elongated, and protrude beyond them, in which case they generally become thicker, and assume a darkish hue. With the women of some parts of Africa and Asia, as is well known, this peculiarity of structure becomes so marked as to constitute an inconvenience and a deformity, and has even led to the adoption of a kind of circumcision. Between the two layers of mucous membrane which constitute the nymphæ is found a cellular tissue of an erectile nature, which may be said to constitute its proper tissue, and a great number of small sebaceous follicles. The vessels and nerves are the same as those of the labia majora; derived from the internal and external pudic and obturator arteries; and from the inguinal branches of the lumbar plexus and the internal pudic nerve.

The *clitoris* is a spongious vascular erectile organ, placed before the symphysis pubis, and below the upper commissure of the nymphæ, which presents a great identity of structure with the parallel organ in the male. Its free extremity or gland is covered by an external membrane, on which ramify a vast number of small nerves,[1] branches of the internal pudic, the presence of which accounts for its extreme sensibility and delicacy. This structure constitutes the clitoris an erectile organ, but its erectibility, in the healthy and normal state, is confined within narrow limits, only slightly increasing its length and volume, so that it never depasses the labia majora. Under the influence of disease or irritation, however, and sometimes as a natural condition, it may attain a considerable size.

The *hymen*, a duplication of mucous membrane placed at the entrance of the vagina, is constant in its presence, but varies greatly in thickness and development in different females. In some it is thin, largely open, and elastic, so as to admit of easy dilatation; in others, on the contrary, it is fleshy, presents a

[1] See a very interesting monograph on the structure of the clitoris by Kobelt of Fribourg. Paris, 1851. (Translation.)

small opening, and its resistance can only be overcome by considerable force. When lacerated, the divisions retreat and form small tubercles, and sometimes elongated tongues, to which the name of carunculæ myrtiformes is usually given.

The various vulvar organs which we have described, all present numerous mucous follicles, destined to lubricate them, and to protect them from injury. At the union of the two upper thirds of the vaginal orifice with the lower third, at the side of the vagina, are two large mucous glands, the glands of Bartholine, or the vulvo-vaginal glands, which, although known and described by the older anatomists, had been all but forgotten until the recent researches of M. Huguier[1] demonstrated their constant existence and their importance as organs of lubrication. The duct by which they empty themselves is about half an inch in length, and opens at the side of the hymen. These glands are frequently the seat of disease, as we shall see hereafter.

The mucus secreted by the vulvo-vaginal glands, and by the follicles of the vulva, is transparent and viscid; that of the vagina is white, creamy, and fluid; whilst that of the cervical canal, uterus, and Fallopian tubes, again presents the transparency and viscosity which usually characterize mucus. In the cervical canal it is peculiarly viscid and tenacious, adhering to the surface so as to be extracted with difficulty. The mucus of the uterus is alkaline, brings back the blue colour of red turmeric paper, and contains in abundance small corpuscles, which appear to be suspended in it.[2] The mucus of the vagina is acid, reddens blue turmeric paper, and nearly always contains numerous lamelliform corpuscles, the result of a kind of exfoliation of the epithelium. It will thus be seen, as M. Donné judiciously remarks, that the mucous membrane of the vagina presents characteristics that constitute it a mere modification of the skin, of which it is the continuation: it is covered with an epithelium very analogous to the epidermis, and is, to a certain extent, an organ of tactile sensation, secreting mucus, which, like the cutaneous secretion, contains a multitude of epidermic detritus, and no mucous globules. The mucous mem-

[1] Mémoires de l'Academie de Médecine, 14th volume.

[2] Donné, Cours de Microscopie, 1844, p. 155.

brane of the cervix and body of the uterus, on the contrary, more deeply seated, loses completely all analogy with the skin; its epithelium is vibratile, it is not an organ of tact, and its mucus is characterized by the presence of mucous globules, and by the absence of epithelial detritus.

The various organs constituting the vulva, which we have rapidly examined, present a feature in common which deserves special notice—their erectile structure. They are all supplied with numerous vessels, which anastomose so freely as to assume the spongious or cavernous character, thus constituting tissues, in which the rapid flow of blood produces erectile phenomena. The multiplicity of nerves, and the presence of dartoic tissue, contribute greatly, no doubt, to the development of the above conditions. This structural peculiarity of the vulvar organs impresses on their inflammatory diseases peculiar features.

The Pelvic Fascia.—The pelvic fascia are constituted by the superior pelvic aponeurosis, and by the perineal aponeuroses.

The superior pelvic aponeurosis closes the abdomen inferiorly. It represents a concave veil, or diaphragm, extended over the pelvic cavity, and inserted posteriorly on the anterior surface of the sacrum and coccyx, anteriorly on the internal surface of the pubis, and lining laterally the sides of the pelvic excavation. This aponeurosis is traversed by the rectum, the vagina, and the bladder; but the aponeuritic fibres being reflected on each of these organs, there is no positive perforation of the aponeurosis. This disposition is more especially remarkable on the bladder and vagina, and contributes considerably to strengthen these organs. The rectum, vagina, and bladder, thus divide the fasciac pelvis into two lateral halves. Between the rectum and the vagina the fascia presents a transversal septum, which divides it also into two very unequal antero-posterior halves; the smaller one, the posterior, containing the rectum, and the larger, the anterior, containing the vagina and bladder. The existence of this fascia adds greatly to the strength of the floor of the pelvis, which it partly forms; contributes powerfully to retain in situ the pelvic organs, and exercises considerable influence in limiting and directing morbid manifestations, and especially fluid collections.

The perineal aponeuroses are three in number, and occupy that part of the pelvic outlet which is formed by the pubic arcade. Their form is consequently triangular, and their limits are, laterally, the ascending branches of the ischion, and posteriorly, a line drawn from one tuberosity of the ischion to the other. They all three adhere to the body and symphysis of the pubis superiorly, and to the ascending branches of the ischion laterally, uniting posteriorly so as to form, as it were, closed cavities, traversed by the urethra and the vagina, but not by the rectum, which is posterior.

The superficial aponeurosis is inserted on the anterior surface of the pubis and ischion, covers the roots of the clitoris, the ischio-cavernous muscles, and is inserted in the skin of the labia majora. The middle aponeurosis is inserted on the pubis, behind the clitoris, and covers the bulb of the vagina, and the constrictor-vaginæ. The deep-seated aponeurosis is separated from the former by cellular and vascular tissue only. It is inserted on the posterior surface of the pubis, and on the internal surface of the ischion. These aponeuroses greatly add to the solidity and power of resistance of the external orifice of the genito-urinary organs.

Physiology.—Throughout its entire period of vital activity, the non-pregnant uterus has an important function to perform, that of menstruation.

The function of menstruation has been much elucidated during the last ten years by the labours of the numerous physiologists who have investigated the phenomena of generation, amongst whom stand prominent, Pouchet, Gendrin, Negrier, Barry, Wharton Jones, Bischoff, and Raciborski, &c. I would, however, more especially refer to the elaborate work on Spontaneous Ovulation, by M. Pouchet,[1] in which will be found a full and complete account of his own important researches, as also of those of nearly all the ancient and modern writers on the subject. To M. Pouchet, whose life appears to have been partly devoted to the study of this interesting and important physiological point, belongs the credit of having been one of the first to

[1] Théorie Positive de l'Ovulation Spontanée, par F. A. Pouchet, Professor of Zoology to the Museum of Natural History of Rouen. Paris: Baillière. 1847.

broach the doctrine of spontaneous ovulation as a law in the females of all mammiferæ, and also of having established this law in the most irrefutable manner by numerous experiments, and by a close and powerful analysis of all that had been done by his fellow-labourers in this field of observation.

The researches to which I refer prove, in the most satisfactory and conclusive manner, that menstruation is intimately connected with the evolution from the ovary of matured ova, which takes place periodically in the virgin as well as in the married female. In the human female the maturation and evolution of ova occur at frequent intervals, and are marked by the exudation from the uterine cavity of a greater or less quantity of blood. In the lower animals, the interval is generally longer, and the menstrual phenomena are less marked, consisting merely in congestion of the sexual organs, accompanied by the exudation of mucus, mingled with a few blood-corpuscles. But in both, the phenomenon is the same; in both, nature directs a tide of blood to the uterine organs, as the ova contained in the ovary arrive at maturity, in order that the uterus may be in a fit state to receive and nourish them should they be fecundated after their emission from the Graafian vesicle.

A decided physiological connexion exists between the different organs which constitute the sexual apparatus in the female—viz., the ovaries, the uterus, the external sexual parts, and the breasts. All are dormant, as it were, until the advent of puberty, the great and essential characteristic of which is the development of the Graafian vesicles or ova. Previously deeply imbedded in the tissue of the ovaries, small, and rudimentary, as puberty approaches, some of their number begin to enlarge, and gradually to approach the surface. The installation of puberty and the first menstrual show coincide, and are evidently connected with the arrival of one or more of these vesicles at the full period of development. A few red streaks formed by capillary vessels are first observed on the surface of the Graafian vesicles, which protrude from the surface of the ovaries. These capillaries gradually increase in number and intensity of colour, giving the membrane on which they ramify the appearance of being the seat of acute inflammation, until at last, in the centre of the vascularized surface, an

opening shows itself, the result of a tear or rent, or of absorptive inflammation; the ovule is expelled, and having been grasped by the fringed extremity of the Fallopian tube, passes down its canal, to be lost, no doubt, in the uterus, if not fecundated.

According to M. Pouchet, the opening of the Graafian vesicle and the evolution of the ovule take place either at the epoch when menstruation ceases, or one or two days later. If this view be correct, the progressive vascularization of the proper membrane of the ovum or Graafian vesicle would coincide with, and to a certain extent occasion, the uterine congestion that precedes and accompanies menstruation; as also the sympathetic irritation and swelling of the breasts which so frequently precede and accompany the menstrual flux.

I have qualified the above statement by the words "to a certain extent," because it appears to me that the uterus is not merely a passive organ, receiving and responding only to impressions originating in ovarian phenomena, but that it exercises a marked influence over their development. Thus we find that its diseases very frequently arrest and modify in various ways the function of menstruation, and also diminish, annihilate, or increase sexual feelings and appetites. We may therefore fairly presume that they exercise the same unfavourable influence over the maturation and evolution of the ova. In other words, the attentive consideration of the reciprocal influence of the uterus and of the ovaries on each other in disease, must lead all impartial observers to the conclusion, that in health they constitute one system of organs, the integrity of which in its component parts is necessary for the normal accomplishment of the functions of ovulation and menstruation.

The above, I am firmly convinced, is the only true and rational view that can be taken of the uterine system, both in health and in disease. To attribute both the healthy and the morbid conditions of menstruation all but exclusively to ovarian influence, as has been done by some pathologists, is to take much too narrow a view of uterine pathology, and is as far from the truth as would be the negation of all ovarian influence on uterine phenomena. The ovaries, it is true, preside over the function of menstruation, as we have seen, but the uterus cannot certainly be

considered a "mere reservoir," or bladder, destined only to receive and nourish the ovum after impregnation.

The more accurate knowledge which we now possess of the cause, seat, and mode of manifestation of the menstrual function, tends greatly to corroborate the view at which I have long arrived, from clinical experience, respecting irregular or morbid menstruation—viz., that it is nearly always, when strongly marked and *inveterate*, the result of positive disease of some portion of the uterine system, and, generally speaking, of the uterus. That such is the case must be admitted as probable, when we consider that the function, although presided over by the ovaries, is accomplished by the uterus, which contains an extensive mucous surface. Those who have hitherto written professionally on menstruation are, however, so totally unaware of this important fact, that their works, even the most recent, are replete with cases the true nature of which they do not even suspect—cases in which it is most evident to me that menstruation was modified by positive disease, but which they view as physiological, or as the result of constitutional causes. When treating of the morbid conditions of the menstrual functions I shall endeavour to point out the data by which mere physiological modifications, the result of constitutional or accidental causes, may be distinguished from modifications the result of actual disease. Although a difficult task, I hope to be able to accomplish it by bringing to bear on the question the facts respecting uterine inflammation which will be previously developed.

From what precedes, it is evident that the term menstruation ought in reality to be applied to the totality of the conditions that co-exist with the maturation and evolution of ovarian vesicles. Until recently, however, the exudation of blood from the uterine organs in the human female, the all but invariable concomitant of this periodical function, having been alone observed, it has been to it only that the term menstruation has been given. The necessary connexion between the ovarian and uterine phenomena having only been discovered and established of late years, it is not surprising that the meaning of the word menstruation should have been thus limited. Henceforth, however, it will have to be taken theoretically in its more extended and truer sense, although,

practically, we may still be obliged to limit the term menstruation to the uterine element, or the exudation of blood, as it is the ostensible indication and evidence of the changes that are taking place in the ovaries.

It is now universally admitted that the menstrual secretion takes place from the mucous membrane lining the uterine cavity. For one or two days before it commences, in the healthy uterus, a tide of blood sets in towards the uterine organs; and if the cervix uteri is then brought into view, its mucous surface is found greatly congested, and of a deep red hue. When the secretion has commenced, the blood may be seen to ooze *guttatim* from the os uteri. After it has ceased, the tide of blood gradually recedes, and in the course of one, two, or three days, the uterus is restored to its normal condition, the cervix assuming its naturally pale, rosy hue. If the uterus is the seat of disease, the flux to it begins earlier—often a week previous. After menstruation has ceased, there is also, in disease, a great tendency to the perpetuation of the menstrual congestion, the uterus frequently not appearing to have the power to expel the menstrual blood.

Menstruation in the human female oscillates physiologically between great extremes, or, in other words, it may vary to an extreme extent in its mode of manifestation, and yet these variations may be compatible with health, and with the perfect integrity of the uterine organs. Indeed, there is not a greater difference between the human female and the female of the lower mammiferæ, in which the menstrual function only shows its presence by a congested state of the genital organs and a slight mucous secretion, than there is between different females. Thus, in some, the menstrual flux only shows itself for a day or two, or even for a few hours, throughout life, and is very scanty; whereas, in others, it lasts seven or eight days, and is always so profuse as to be all but hemorrhagic.

The physiological variations of menstruation may be referred to its epoch of first manifestation, to its duration, to the quantity of blood lost, to the amount of pain experienced, and to the periodicity of its return.

The epoch at which menstruation first sets in, is very variable, but may be said to range between eleven and nineteen or twenty,

the cases in which it occurs before or after these ages being rare. The medium age, in temperate climates, according to Raciborski, who deduced it from the analysis of a large number of cases, is about fourteen—a statement which my own experience completely corroborates. There are cases on record, in which menstruation has set in as early even as the third or fourth year, but they can merely be considered freaks of nature. Climate was formerly considered to exercise great influence over the epoch at which menstruation appears, but this influence appears to have been greatly exaggerated. So far from cold greatly retarding, and heat greatly accelerating, its appearance, it would seem, from the valuable researches of Dr. Robertson,[1] of Manchester, that the medium age is pretty nearly the same all over the world. Raciborski finds a difference in the medium age of the cases he investigated for the north and south of France, but that difference only amounts to a few months, and would require to be deduced from a larger number of persons, to be definitively accepted. Menstruation generally ceases between forty-five and fifty, but the menopause may occur much earlier or much later.

The duration of the menstrual flux, and the quantity of blood lost, vary very considerably in different females. The average duration may be said to be about four or five days, but many are only unwell two or three, and with many, again, it lasts six or seven. When menstruation is of short duration, the loss of blood is generally scanty, whereas it is greater when it lasts a long period, not only on account of its longer duration, but also because it generally flows more freely. The influence of climate in this respect also appears to have been much exaggerated. The fact of menstruation being constitutionally of long duration, and profuse, I have found to be a powerful predisposing cause of uterine inflammation, owing, probably, to the intensity of the mollimen hemorrhagicum, and to the length of time it persists, during which the patient is exposed to many perturbing causes. The intensity of the physiological congestion is evidenced by the fact, that for one, two, or three days before and after menstruation, these females often have a slight white or leucorrheal discharge, even when in perfect health.

[1] Essays and Notes on the Physiology and Diseases of Women. 1851.

With many females the first manifestation of the menses is unaccompanied by pain. The menstrual flux makes its appearance with scarcely any previous admonition of its advent, and continues to appear without pain or uneasiness; or if pain is present, it is slight, and limited to the first few hours. This is the most favourable mode in which the menstrual function can take place, and the one which affords the greatest guarantee of future immunity from inflammatory disease. It is, however, by no means the rule; with many women, the first advent and the subsequent appearance of the menses, are attended, physiologically, throughout life, with great uterine pain. With some the pain is limited to the first few hours, with others it exists for a shorter or longer period before, and lasts throughout, the period.

The periodicity of menstruation also varies physiologically to a great extent. I have found that four weeks or twenty-eight days, the lunar month, is the most general term; but the periodical return of the menses may take place at any time between the third and the fifth week. Most authors allow even a greater latitude; but I believe that the constant return of the menses at an earlier or later period will nearly always be found, on a careful inquiry, to be a pathological symptom, and to be connected with local disease.

From what precedes, it will be perceived that the physiological variations of menstruation — variations quite compatible with health—are so numerous and so great, that it is impossible to lay down any standard by which the integrity of the function can be generally tested. The above fact would much diminish the importance of the changes that occur in the menstrual function in disease, as an element of diagnosis, were it not that this irregularity is not observed, physiologically, in each individual case. In other words, every female has *her own individual standard,* to which she generally remains true throughout her life, unless the uterine organs be the seat of disease, or the general health be deeply modified by some other cause. Once therefore we have ascertained the mode in which menstruation occurs in any particular female, at an epoch when it may be fairly presumed that she was in good uterine health, we are

authorized to surmise the presence of uterine or ovarian disease —and, generally speaking, the former—if any marked and permanent change takes place.

It is the ignorance of this important fact that has filled with errors, as I have already stated, all existing treatises on menstruation, at nearly every page of which cases are narrated as physiological, which I at once recognise as most decidedly pathological. This circumstance, therefore, must greatly invalidate the value of the conclusions at which these authors have arrived, whether statistical or otherwise, with respect to the physiology of menstruation.

PART I.

INFLAMMATION OF THE UTERUS AND OF THE UTERINE ORGANS.

CHAPTER III.

THE FREQUENCY AND IMPORTANCE OF INFLAMMATION IN UTERINE PATHOLOGY.

Inflammation of the body of the uterus in the acute or subacute state, is not of very frequent occurrence, but inflammation of the cervix, and especially of the mucous membrane which covers it and lines its cavity, is so common as in reality to form the prominent feature of uterine pathology. That such should be the case, is a necessary consequence of the anatomical and physiological conditions in which the uterus is placed.

On reviewing these conditions, we find that the body of the uterus presents a very dense and non-vascular structure in the non-pregnant state, and contains cellular *tissue* in an elementary form only; that the uterine neck is of a less dense structure, is more vascular, indeed all but erectile around the os, and has a cavity distinct from that of the body of the uterus, the mucous membrane of which is studded by numerous mucous follicles. Physiologically we find that, throughout its entire period of vital activity, the non-pregnant uterus has an important function to perform—that of menstruation—which consists, as we have seen, in the periodical secretion or excretion of a certain quantity of blood from the uterine cavity, this excretion of blood coinciding with the separation of a mature ovum from the ovary. This act of menstruation is preceded, accompanied, and followed, by determination of blood to the uterine organs, by a kind of molimen hemorrhagicum; so that if a healthy female is examined instrumentally a day or two before the appearance of the menses, whilst they are present, or a day or two after, the vaginal

mucous membranes, and more especially that which covers the cervix, are found turgid, and of a deep red colour; thus presenting incontrovertible evidence of a considerable degree of passive congestion. When uterine inflammation exists, this congested condition of the uterine organs often extends over a much more lengthened period, both before and after menstruation, and is necessarily greatest in the most vascular part of the uterus, that is, in the cervix, and its lining mucous membrane.

The periodical return of menstruation taking place, in the great majority of women, about every fourth week, and the menses generally continuing four or five days, we find that the menstrual molimen hemorrhagicum must last with most women from seven to ten or twelve days. It thus appears, that during one-third or one-fourth of each month the uterus of a menstruated female, and especially the cervix, the most vitalized region, is physiologically in that condition which, throughout the economy, immediately precedes inflammation—viz., a state of congestion. When, on the other hand, we consider that the arrest of a secretion from a congested organ is one of the most frequent causes of inflammation, and how very many causes there are that can arrest or modify the menstrual flux, it need not be a source of surprise that inflammation should occur in the uterus and its neck apart from physical lesions, but rather a source of astonishment that it should not occur more frequently than it actually does.

With some females, moreover, the uterus seems to be naturally a weak organ. This peculiar delicacy of the uterine system is indicated by the difficulty with which menstruation is at first established, by its irregularity during the first years, by its scantiness or abundance, by the frequent presence of leucorrhea before and after menstruation—an indication of congestion of the uterine system—and by the existence of pain either for the first few days, or for the entire period. These peculiarities of menstruation, although apparently morbid, are evidently natural with some females, as I have already stated, and quite compatible with the absence of disease of any kind. They characterize a tribe, as it were, of the human race; a class of females who are more liable than others, in the course of their uterine life, to inflammatory diseases of the uterus, and to all the accidents to which these diseases give rise.

It would seem as if, with them, either the menstrual "molimen hemorrhagicum" was so great as to distend beyond measure the uterine tissues, thus giving rise to extreme congestion and pain, or as if the uterus was so peculiarly sensitive, that even the physiological menstrual congestion could not take place without its sensibility being anomalously raised.

These anatomical and physiological considerations explain how it is that inflammation of the neck of the uterus, as I have stated above, is a frequent instead of a rare disease, as it is supposed to be by our most eminent uterine pathologists. Inflammation of the *body* of the uterus in the unimpregnated state is, in truth, a rare disease; but inflammation of the *neck* of the uterus, on the contrary, is an exceedingly common one; so common, indeed, that the very great majority of the females who apply for relief when labouring under uterine symptoms, physical or functional, will be found, on careful examination, to be suffering from its existence. Leucorrhea, dysmenorrhea, menorrhagia, irritable uterus, prolapsus, &c., are generally studied independently of any such origin; but, in reality, in nineteen cases out of twenty, when confirmed, they are the immediate result of inflammatory disease of the cervix, and only to be effectually treated by attacking the primary disease to which they owe their existence. Leucorrhea, more especially when chronic, and persisting during the entire interval of menstruation, is nearly always the result of inflammation and ulceration of the uterine neck; but a large proportion of the generally-reputed functional diseases of the uterus will also be found, if submitted to severe scrutiny, assignable to the same cause. Most of the more intractable cases of dysmenorrhea, menorrhagia, irritable uterus, and amenorrhea, that are met with in practice, are the result of local inflammation. I do not include chlorosis and hysteria, because they are not diseases of the uterine system. Chlorosis is a disease of the blood, and the modifications which occur in menstruation are merely the *result* of debility and disordered sanguinification. Hysteria is a disease of the nervous system, which is very often occasioned by disease of the uterus, but which is not necessarily connected with it. Irritable uterus is merely another name, in most instances, for uterine inflammation.

All the symptoms which Gooch, and the writers who have copied him, give as characterizing irritable uterus, may generally be referred, without hesitation, to such disease.

I am in a position to prove, by statistical data, that inflammation of the lower segment of the uterus is really as frequent, and plays as important a part, in uterine pathology, as I assert. During the last few years, I have kept a careful register of all the cases of uterine disease which I have treated at the Western General Dispensary, with which Institution I am connected as physician-accoucheur. The Western Dispensary is one of the largest institutions of the kind in London, nearly ten thousand patients being annually treated by its medical officers. My patients consist of those who present uterine symptoms, and are either addressed to me by my colleagues or by the house-surgeon on registration. The cases, therefore, present the same origin, and must be of the same nature, as those that fall under the notice of the physician-accoucheur at other similar institutions—at Guy's Hospital, for instance—where only one case of inflammation of the cervix in fifty (twenty in a thousand!) is stated by Dr. Ashwell to occur.[1] Nothing can be more dissimilar than the results at which I arrive on analyzing my cases, three hundred in number. I find that two hundred and forty-three were suffering from decided inflammatory disease of the cervix or of its cavity, and that in two hundred and twenty-two ulceration was present.

As the thousand cases of so distinguished a physician as Dr. Ashwell were taken from exactly the same class of patients as my own, the extraordinary discrepancy of the results obtained by direct observation cannot fail to arrest the attention of practitioners, more especially as the question at issue is not one of secondary importance, but really involves the whole truth of the doctrines which I have submitted to the profession.

These three hundred cases were all attended by me at the Dispensary between the 1st of July, 1844, and December, 1848. The details of each case were carefully taken down by myself, in the presence of the patient, and the description of the local

[1] Dr. Ashwell's Treatise on the Diseases Peculiar to Women. Second Edition, p. 184.

state of the uterine organs was always written immediately after examination—the examination being invariably carried out before any note of the local state of the patient was made. As the results at which I have thus arrived, with reference to the comparative frequency of the various forms of uterine disease, are quite novel, and perfectly subversive of all existing ideas respecting uterine pathology, I have given a brief tabular summary of these cases in an Appendix.

The analysis of the cases which I have seen and attended in private practice, leads to precisely the same conclusion. But as it might be urged, from the nature of my writings, that I am most likely to be consulted on this particular form of uterine disease, I have thought it better not to refer to them for statistical purposes.

The most cursory survey of the cases contained in the Appendix will show, that although the real cause of the morbid symptoms was the existence of local inflammation, yet that the *apparent* nature of the disease was most varied. Some patients complained of leucorrhea, some of dysmenorrhea, some of irregular menstruation, some of flooding, some of backach, some of bearing-down and prolapsus, and some merely of debility and anemia. The true nature of the case had to be sifted out—as generally occurs; what was only a *symptom* being considered the disease.

Although the doctrine which I bring forward—that inflammation of the uterus and inflammation and ulceration of the neck of the uterus are, in the majority of cases, the real causes of morbid uterine changes and symptoms—may at first appear singular to those whose knowledge of uterine pathology is derived from the classical treatises of the day, a little reflection will show that such must be the case. By admitting this important pathological fact, we are only bringing the uterus within the pale of the laws that regulate disease in the rest of the human economy. In the history of the diseases of all the animal structures and organs, we find inflammation playing the principal part. Thus it is with the brain, the lungs, the liver, the kidneys, &c. Take away from a treatise on the diseases of any of these organs all that relates to inflammation and its sequelæ, and how small a space,

comparatively, would the remainder occupy. How is it, then,that in our modern treatises on the diseases of the non-pregnant uterus,—an organ exposed to so many morbific causes,—inflammation is considered a rare malady, and discussed and dismissed in a few pages; whilst nineteen-twentieths of the work are taken up with the history of presumed functional affections, of tumours, of cancer, &c.? To this question only one answer can be made. It is because the true pathology of the uterus has been completely overlooked. In reality, inflammation is, comparatively, quite as frequent in the uterine system, at least in its peripheric region, as in other organs; its existence has been overlooked only because its symptoms are obscure, and because its diagnosis has been impeded by various causes, social and moral, the more important of which I have already attempted to elucidate.

Having by these observations prepared my readers for the facts which I have to bring forward, I shall at once enter into the investigation of the phenomena presented by inflammation in the non-pregnant uterus. As my descriptions are drawn from the actual observation of disease, I may safely assert that those who, following my example, study nature, will find that I am a faithful interpreter of her morbid manifestations.

From the great difference which exists between the anatomical and physiological condition of the body and the neck of the uterus, it will be at once understood that it is impossible to unite in the same description the history of inflammation in the two regions. I intend, therefore, firstly, to examine inflammation in the body of the non-pregnant uterus; and subsequently to study the same disease in the cervix uteri, together with its numerous and important sequelæ.

After giving a careful and complete description of uterine inflammation, considered generally, I shall briefly examine inflammation of the uterine neck in each of the different epochs of female life—viz., in virgins; in pregnant women; in the puerperal state; and in women who have ceased to menstruate. I shall then give the history of vulvitis and vaginitis; of inflammation of the ovaries; and of abscess of the lateral ligaments; concluding this part of the work with the treatment of these various forms of inflammatory disease.

CHAPTER IV.

ACUTE METRITIS—CHRONIC METRITIS—INTERNAL METRITIS.

Acute inflammation of the non-impregnated, non-developed, uterus, is a rare disease. This is a fact which is generally admitted by uterine pathologists. I believe, however, that acute metritis will be found of even less frequent occurrence than it is now supposed to be, when it is no longer confounded with inflammation of the lateral ligaments—a mistake at present frequently made, even by experienced practitioners.

The rarity of acute metritis is the natural result of the peculiar dense, fibro-muscular, non-cellular structure of the body of the uterus. Tissues of this nature being but slightly susceptible to inflammation as a necessary consequence of their peculiar structure, if the uterine system is exposed to the causes of inflammation, its periphery,—the mucous surfaces, the cervix, or lateral ligaments,—which are so much more highly vitalized, are generally the regions attacked. When the state of the uterus is modified by the extraordinary development and vitalization that occur during pregnancy, or during the increase of a large fibrous tumour, we remark a very different state of things. If the uterine system is then exposed to the causes of inflammation, especially after parturition, the body of the organ is frequently attacked; and metritis observed under these circumstances manifests a degree of intensity and a virulence unknown in the unimpregnated condition of the uterus, but quite consistent with its modified structure. In reality, the uterus is anatomically a perfectly different organ when unimpregnated and when developed by impregnation; and its pathology is as different in the two conditions as its anatomical condition. The numerous

and wonderful changes which the uterus undergoes during its physiological life are, indeed, a subject for admiration, and impart extreme interest to the study of its diseases.

Seat.—Acute metritis generally appears to affect the entire body of the uterus, although, no doubt, it may attack a portion only of its tissue. Paulus Ægineta and other ancient writers describe metritis as occupying sometimes the anterior uterine wall, and sometimes the posterior, sometimes the sides, and sometimes the fundus or apex, the symptoms varying in each case; and nearly all subsequent authors have copied their description. The distinction is perfectly correct if applied to chronic metritis, in which each of these regions may be separately affected; but it is not, I think, altogether applicable to acute metritis. In all, or nearly all the cases of acute metritis that I have seen, the entire uterus, including the cervix, was apparently affected. The inflammation might perhaps be more intense in one region than in another, but this is a point rather difficult to determine, as I shall presently explain, and, moreover, of little practical importance. Acute inflammation in the unimpregnated uterus seldom extends to the peritoneal investing membrane, as so often occurs in puerperal inflammation. Indeed, I only recollect having seen two or three instances in which the symptoms of peritoneal inflammation were so decidedly marked as to render the existence of peritonitis certain, although cases of the kind are mentioned by authors as not uncommon. I have, however, repeatedly been called to see cases in which the peritoneum was erroneously supposed to be compromised. The frequent participation of the peritoneum in the inflammation that attacks the womb after parturition, is probably owing to changes in its texture and nutrition consequent on the development of the gravid uterus. Like that organ, in all probability, it then becomes more vitalized, and more liable to inflammation.

As predisposing causes to acute metritis, and to inflammation of the uterine system generally, we may mention youth, a plethoric temperament, but more especially the peculiar susceptibility of the uterine system which I have mentioned as characterizing from the first so many of the females who are attacked in after-life with uterine inflammation in some of its varied

forms. This physiological condition, which may exist, as we have seen, independently of any physical imperfection, lesion, or disease, is evidently one of the principal predisposing causes of uterine inflammation.

The chief causes that tend immediately to induce acute metritis, are arrested menstruation, sexual excesses, and the extension of chronic inflammation from the neck of the organ. To these I would also add, as occasionally causing acute inflammation, all kinds of surgical interference with the uterine organs, such as the cauterization of ulcerations of the cervix, the use of vaginal injections, of pessaries, &c. Any influence that suddenly arrests menstruation, especially in its incipient stage, such as exposure to cold or damp, wet feet, or mental emotions, may give rise to acute metritis. These latter causes are generally considered to be capable of occasioning acute inflammation, even in the interval of menstruation. I have very seldom, however, observed it in the unimpregnated uterus apart from the menstrual period, except as the result of some physical injury; of a blow, of a severe fall, or of cauterization of the cervix. This latter cause of inflammation acts, it must be remembered, on an organ, the vitality of which has been raised by the existence of inflammatory disease, generally of a chronic nature. Although of rare occurrence, acute metritis having this origin is occasionally met with by those who have great opportunities for observation.

Symptoms.—The symptoms of acute metritis are local, and general or sympathetic. The most prominent local symptom is severe pain, situated deeply in the hypogastric region, above and behind the pubis, irradiating into the ovarian region, and sometimes down the thighs, accompanied by a very disagreeable sensation of pelvic weight and uneasiness. There is also, generally speaking, severe pain in the lower lumbar, or lumbo-dorsal region. The cutaneous surface of the inferior abdominal region, from the umbilicus to the groin, is very sensitive to the touch, but slight pressure on the abdominal parietes does not very much exacerbate the deep-seated pain, even when made immediately above the pubis. On examining digitally, the vagina is generally found hot and dry, from arrested secretion; the cervix is swollen,

and often, but not always, sensitive to the touch. The body of the uterus is no doubt always enlarged, but any attempt to appreciate its size, by raising or displacing it, through the medium of the cervix, is generally attended with too much pain to be persisted in. The inflamed uterus is, indeed, so exquisitely painful, that the slightest pressure exercised directly upon it through the vagina, occasions severe pain, often giving rise, instantaneously, to a sensation of nausea. Notwithstanding this excessive sensitiveness of the uterus, it is possible, in every case, to ascertain, without putting the patient to any great amount of pain, that it is the uterus itself which is the seat of inflammation, and not the adjoining tissues. The sensitive tumour is the immediate continuation of the cervix, occupying the median line, and is equally painful and evident on the right and on the left of that line; unless, however, the uterus be naturally lying transversely from right to left, as is sometimes the case, when the inflamed organ will extend more to the right than to the left side. This is an important practical point to determine, as in inflammation of the lateral ligaments the tumour formed by the inflamed tissues is generally applied, annexed as it were, to the side of the uterus, so as only to form one mass with it. Owing to the great sensitiveness of the uterus, if moved, directly or indirectly, the patient is unable to walk, or even to stand; and when sitting up in bed, (a very painful position,) the body is generally so inclined as to take off all strain from the abdominal region. When lying down, the patient remains on her back, that being the position in which the uterus presses least on the surrounding organs. The passage of the fæces through the rectum is often attended with very great pain, owing to its position immediately behind the uterus. This is more especially the case when the motions are constipated. They are then sometimes coated with mucus, showing an irritable state of the rectal mucous membrane. There is also, frequently, considerable irritation and pain about the bladder, accompanied by dysuria, more or less marked. The vascular and nervous connexion between the uterus, the rectum, and the bladder, is too intimate for these organs not all to suffer when one of them is severely inflamed.

In acute metritis there is, generally speaking, no discharge at

first, the vaginal secretion being arrested, as well as that from the uterine cavity. Sometimes, however, when the inflammation extends to the lining membrane of the uterus, there is a more or less abundant sero-sanguinolent secretion. On the decline of the inflammation, a copious discharge, of variable nature, will often take place.

Acute metritis is always accompanied by considerable febrile reaction. The skin is hot, the pulse quick, but not small and thready, as when the peritoneum is compromised. The tongue is covered with a white fur, and continued nausea is almost invariably experienced, but it is seldom carried so far as to produce vomiting, as in metro-peritonitis. Thirst, headach, and want of rest, are also present, as in all febrile diseases; and the bowels are constipated. The breasts are often sympathetically affected, one or both becoming swollen and painful.

Acute inflammation of the uterus is stated, by most authors, frequently to give rise to hysterical symptoms. I have seldom, however, found this to be the case; and when they are present, I have generally observed them to occur in young females previously subject to hysteria.

All the symptoms above enumerated are not met with in every case, nor do they always manifest themselves with equal intensity. Sometimes obscure pain in the lower hypogastric region, with slight febrile reaction, alone is experienced; and it is only by careful digital examination that we ascertain that the body of the uterus is the seat of acute inflammatory action.

Progress and Termination.—Generally speaking, the inflammation gives way to treatment in from five to ten days, resolution taking place. Owing to the elementary nature of the cellular tissue contained in the body of the uterus, there is seldom any formation of pus in the substance of the uterus, although it sometimes occurs. If the purulent collection is near the uterine cavity, it empties itself therein, and is evacuated through the cervix. When the matter forms near the outer parietes, the inflammation appears to be generally propagated to the cellular tissue contained between the lateral ligaments, and the pus finds its way out of the pelvis, as when the inflammation and suppuration have primitively existed in those ligaments. The

propagation of acute inflammation from the uterus to the lateral ligaments is so often observed, as we shall hereafter see, that it may be considered one of the natural terminations of acute metritis.

When acute metritis does not terminate by resolution, or by extension to the lateral ligaments, it passes into the chronic state, and then generally becomes partial, or confined to one region. I have never seen acute metritis in the unimpregnated uterus terminate fatally, and there appear to be but few cases on record in which such has been the case. This is no doubt owing to the inflammation seldom extending to the peritoneum, and to the uterus not having functions to perform necessary to the preservation of the individual. A vast amount of uterine disease may consequently exist without life being directly endangered.

Prognosis.—Acute metritis, apart from the puerperal state, being very rarely a fatal disease, there is but little to fear for the life of the patient, provided proper remedial measures be adopted to subdue the inflammation. It may, however, especially if not treated with sufficient energy and promptitude, by passing into the chronic stage, prove the source of very serious and very prolonged evils. There are few diseases that occasion more suffering than chronic metritis, and chronic inflammatory disease of the lateral ligaments.

Diagnosis.—Although it is by no means difficult to recognise acute metritis, even if present in a subdued form, its existence is not unfrequently passed over unperceived. Many practitioners are satisfied with the mere knowledge that there is inflammation existing in the lower abdominal region, and treat the disease on general antiphlogistic principles, calling it "inflammation of the bowels." Treatment, however, which is based on such obscure notions of the real state of the patient, is apt to fall short of the necessities of the case, to partially subdue the morbid symptoms only, and to leave behind the seeds of future and more intractable disease. It is of the greatest importance in pelvic inflammation, as in inflammation of other regions, that the precise seat of the morbid action should be determined, and that no means of diagnosis should be neglected which can give the necessary information.

The diseases with which acute metritis is most likely to be confounded, are inflammation of the bladder and inflammation of the lateral ligaments, as they both give rise to the same local pains and to the same general reaction. In addition, however, to the symptoms peculiar to each, which differ considerably, the seat of the disease may be at once ascertained by a careful digital examination. By passing the forefinger of the right hand into the vagina, upwards, behind and above the pubis, and pressing with the fingers of the left hand over the lower abdominal region, the state of the bladder previously emptied may be directly ascertained. The bladder is then merely separated from the fingers by the abdominal and vaginal parietes. If it is inflamed, pressure will occasion great pain, whereas, if there is merely sympathetic irritation, the pain on pressure will be but slight. I have thus ascertained, in several obscure cases, that acute symptoms, supposed to be the result of uterine inflammation, were really occasioned by cystitis. In one instance, a young unmarried lady had fallen on some stones whilst bathing. The urethra was bruised; retention of urine followed the swelling of the contused parts, and the bladder not being relieved for above twenty-four hours, owing to the patient concealing her sufferings, cystitis ensued. The inflammatory symptoms, which were very intense, irradiating all over the pelvic region, threw considerable obscurity over the case. But all doubt as to the nature and limits of the disease was cleared up by a careful vaginal examination: the uterus was small, free from sensibility, and readily moveable, whilst the bladder was inflamed, and acutely sensitive. In inflammation of the lateral ligaments, the pain lies more to one side of the median line, and the finger passed upwards by the cervix, detects the inflammatory tumour lying on one side of the uterus.

Pathological Anatomy.—Acute metritis in the unimpregnated uterus is, as we have seen, so seldom fatal, that there are scarcely any elements to be found for a description of its pathological anatomy. Thus Boivin and Duges, in their treatise on the Diseases of the Uterus (vol. ii. p. 240), say that the state of the uterus of a female who had died of acute non-puerperal metritis, would *probably* be pretty much the same as in fatal

puerperal metritis. As I have not seen a case of the kind, I can only repeat this assertion, and say that the uterus would probably be found tumefied and softened, more vascularized than in the normal state, and of a reddish-white hue, with limited infiltrations of pus.

CHRONIC METRITIS.

In describing chronic metritis, I shall likewise confine myself to the consideration of the disease in the body of the uterus. Although the distinction is not made by writers on uterine diseases, it is of extreme practical importance. It is in a great measure because it has not been adopted, that there is not to be found a correct description of this form of uterine inflammation. Some of the leading *symptoms* of chronic metritis are erroneously attributed by many uterine pathologists to the displacements of the uterus which it *occasions;* and this has likewise much contributed to obscure its history, especially of late years.

Seat.—Chronic inflammation of the body of the uterus, in contradistinction to acute metritis, is more frequently partial than general; that is, it generally occupies a limited extent only of the uterine tissue. In its partial form, it is observed, in nine cases out of ten, in the posterior wall of the uterus, in its inferior region, immediately adjoining the base of the cervix. The predilection of chronic metritis for this particular region is probably partly accounted for by the band of longitudinal muscular fibres which pass into the posterior region of the cervix, from the posterior wall of the body of the uterus, chronic metritis being generally the result of extension to the uterus of chronic inflammation of the cervix. It may, however, exist in the anterior uterine wall, or laterally.

Causes.—Chronic metritis sometimes occurs as the termination of acute metritis, whether puerperal or non-puerperal; but it is, generally speaking, as I have just stated, the result of the gradual extension of chronic inflammation of the neck to the body of the uterus, and the product of years of uterine disease.

Symptoms.—Chronic metritis is a malady the symptoms of which vary considerably in intensity, according as the patient is

examined during the quiescent state of the uterus—that is, in the interval of menstruation, or during the presence of the menstrual flux, and for a few days before and after. Although a most distressing and wearing affection, it is not altogether incompatible with what a superficial observer might consider tolerable health, especially during the interval of menstruation. At that time, indeed, there is scarcely ever any febrile reaction, and the local uterine symptoms are much mitigated. The general symptoms are then not unfrequently confined to functional derangement of the stomach, of the nervous system, and of the general nutrition, the result of the sympathetic reaction of the diseased uterus on the economy at large. A very different state of things, however, is generally observed when the molimen hemorrhagicum that precedes menstruation sets in. The uterine inflammation, previously latent, again becomes evident, both the local and general indications of its existence reappearing with renewed intensity.

When the uterus or any part of it is chronically inflamed, the patient experiences a constant, dull, aching, deep-seated pain in the lower hypogastric region, just above and behind the pubis, and in the right or left ovarian region, oftener in the left than in the right. There is also a dull, aching pain in the lumbo-sacral region, which is even more universal and more constant than the abdominal and pelvic pains. These pains extend, irregularly, round the hips and down the inside of the thighs; and are generally accompanied by a deep-seated sensation of pelvic weight and heaviness. Walking, and, indeed, every kind of motion, is attended with an exacerbation in the pain, owing to the shocks which are conveyed to the inflamed uterus. Going up and down stairs is more especially painful; and to some even the motion of the most gentle vehicle is insupportable. These pains and aches are more especially marked before, during, and after menstruation. They are then often quite agonizing, and render any motion unbearable.

On examining the womb digitally, in addition to the evidence of co-existing disease of the cervix which is usually detected, if the inflammation is general, the entire uterus is found enlarged and sensitive on pressure. When it is partial only, the finger

passed carefully behind, before, and on the sides of the uterus, carrying the cul-de-sac of the vagina before it, so as to explore its walls, readily discovers the seat of the disease. Instead of the finger passing from the base of the uterine neck on to a smooth, insensible surface, a continuation of the plane formed by the cervix, it meets with an exceedingly sensitive elevation or protuberance, sometimes quite regular, sometimes irregular and knotty. In the latter case, however, the nodosities that diversify the tumefied surface are all perfectly spherical; there are no knife-back ridges or sharp irregularities. Pressure on this tumefied surface is exceedingly painful. Occasionally there is no perceptible tumefaction, but merely an exquisite sensitiveness in a limited region of the uterus; pressure giving rise to the sensation of sickness. The womb is, in most instances, quite moveable, but the attempt to move it is attended with great pain.

The uterus is not bound down and fixed in a certain position, like the liver or the kidneys. In order, no doubt, that it may be able to enlarge during pregnancy, it is loosely suspended in the pelvic cavity, and is kept in its normal position as much by the contractility of the vagina and the pressure of the surrounding organs, as by its ligaments. As a necessary consequence, the partial tumefaction of the walls of the uterus that follows chronic inflammation, is invariably attended with greater or less displacement of the body of the organ, the nature of the displacement varying according to the seat of the tumefaction. If the posterior wall is the seat of inflammation and enlargement, as is generally the case, the additional weight in this region causes the body of the uterus to fall backwards, towards the cavity of the sacrum. The uterus, in a word, is retroverted, and the cervix is generally anteverted, that is, directed upwards, towards the pubis; the finger having to be passed deeply into the pelvic cavity, towards the sacrum, to find the root of the cervix, and the tumefied posterior uterine wall which is lying on the rectum.

In the form of uterine retroversion that occurs during pregnancy, the anteverted cervix approximates more and more to the pubis as pregnancy advances, until it presses on the urethra,

and impedes the flow of urine. This is not observed in retroversion from inflammation, the increase in volume of the body of the uterus being comparatively slight. Moreover, in the latter form of retroversion, the cervix often remains in its usual position, and is not anteverted, notwithstanding the displacement of the uterus. In that case, it forms an angle with the body of the uterus, which is said to be retroflexed.

When it is the anterior uterine wall that is inflamed and tumefied, the uterus may fall forwards, especially in married females, and there is anteversion of the body of the organ, which, instead of gravitating backwards into the sacral cavity, falls forwards towards the pubis, the cervix being retroverted. If this is the case, the anterior vaginal parietes are often so stretched by the extreme retroversion of the cervix, that it is difficult to examine digitally through it the anteverted uterus, so as to ascertain satisfactorily the presence of tumefaction and enlargement. This, however, may be accomplished with care and attention, the bladder being previously emptied, or at least the existence of a limited painful region may be ascertained, which, coupled with the displacement and the other symptoms, is conclusive as to the existence of chronic inflammation and enlargement.

When the uterus is retroverted and much enlarged, it generally rests directly on the rectum, and constitutes a mechanical obstacle to the passage of its contents. Thence the accumulation of fæces above the uterus, and obstinate constipation, accompanied by severe bearing-down. Thence, also, as in acute inflammation, extreme uterine pain, along with sickness, when the bowels are moved, either spontaneously or from purgatives, owing to the fæces lifting up the womb as they pass. From the same cause, even the injection of a little water into the bowel is often attended with extreme pain. This state of things is likewise accompanied, in a great number of cases, by congestion, or even sub-acute inflammation of the mucous membrane lining the rectum or colon, as evidenced by the secretion of large quantities of muco-pus, and of pseudo-membranous shreds and casts, that are passed along with the fæces. Muco-pus thus passed, however, must not be confounded with that which escapes from the

vagina at the time the bowels are moved—a mistake which the patient frequently makes. There is also, very often, considerable irritation of the bladder, of its neck, and of the urethra. This irritation is partly the result of the uterine displacement, which acts more or less on the bladder, owing to the anatomical connexion between that organ and the uterus, partly of the irradiation of irritation or inflammation from the uterus to the surrounding organs, and partly of a morbid state of the urinary secretion.

Partial chronic metritis may, no doubt, be confined to the lateral regions of the uterus, apart from disease of the lateral ligaments, but I scarcely recollect having met with a clear instance of the kind. Were chronic inflammation to be thus localized, the symptoms would be the same, although the displacement of the uterus would probably be more or less modified, according to the laws of gravity.

In chronic metritis there is not, necessarily, any vaginal discharge. Nevertheless, a muco-purulent or sanguinous secretion is very frequently observed, owing to the usual co-existence of inflammation of the vagina and cervix. But even in the absence of such a complication, there is generally a white or transparent leucorrheal discharge. In some cases, for one or more days before and after menstruation, there is a very peculiar dark-brown discharge, evidently composed of a combination of mucus and blood. The white mucus is secreted by the mucous membrane covering the cervix and upper portion of the vagina, owing to the state of congestion in which the uterine inflammation keeps these tissues. The transparent mucus is secreted by the mucous follicles which line the cavity of the cervix, from a similar cause. The dark mucoso-sanguinolent secretion is evidently thrown off by the lining membrane of the uterine cavity, and possibly from the inflamed portion only, on the approach of or after menstruation, when the uterus is turgid with blood.

General Symptoms.—The countenance of a person suffering from chronic uterine inflammation is generally pale and sallow, and nearly always offers a very marked expression of pain and languor. It has long been remarked that patients labouring under chronic uterine disease present a peculiar cast of features,

to which the term uterine has been applied; but in none is the '*facies uterina*' more indelibly impressed than in those labouring under chronic metritis. It is more especially during the periodical exacerbations of the inflammatory symptoms which menstruation occasions, that this peculiar expression is remarked. Although scarcely ever entirely absent, even in the most quiescent state of the inflamed uterus, it then becomes so obvious as to strike the most indifferent. With nearly all my patients thus affected, I can tell, the moment I enter the room, by the physiognomy alone, if menstruation is impending or has commenced.

The pallidness of the countenance in chronic metritis is often modified, on the slightest emotion or excitement, by intense flushing, which gives to the patient's countenance for the time the hue of health, and deceives a superficial observer as to the state of the sufferer.

There is generally considerable emaciation. This, however, is not always the case; or the emaciation may be only comparative, so as not to be perceived by those who have not known the patient in better health.

An exceedingly general, and, in a diagnostic point of view, valuable symptom, is nausea. When the inflammation is severe, nausea will exist continually, presenting, however, a decided exacerbation at the monthly period. If, on the contrary, the disease is not so severe, or has been mitigated by treatment, the nausea may only be present during the periodical exacerbation of the disease. It is seldom carried so far as to produce sickness, but is sufficiently great to be attended with loathing of food. Nausea appears to me to be peculiarly characteristic of chronic inflammation of the body of the uterus, which it nearly always accompanies, whilst in chronic inflammation of the cervix it is often absent. This I find to be so generally the case, that when nausea is present in chronic inflammatory disease of the cervix, I conclude that the body of the uterus is probably more or less compromised, even if I cannot satisfy myself, by digital examination, of the extension of inflammation to that region.

In addition to the above symptoms, patients suffering under chronic inflammation of the uterus present, to a greater or lesser

degree, the symptoms which are observed when the health is broken down under the influence of all chronic affections. Thus they complain of intense headach, disordered vision, or partial deafness, want of sleep, and disagreeable dreams; foul tongue, loss of appetite, flatulence, heartburn, constipation; palpitations, flushing of the face, and occasional feverishness. The urine is nearly always loaded with lithates, and sometimes with other morbid products. In a word, all the functions which are under the influence of the organic system of nerves, and nutrition generally, appear sympathetically to suffer.

The most marked sympathetic reaction, however, is that which the stomach evinces. The intimate connexion between the stomach and the body of the uterus is shown, as we have seen, by the all but constant appearance of nausea when the latter is inflamed. It is also demonstrated physiologically by the general existence of sickness during pregnancy; and experimentally, by the frequent manifestation of nausea on the uterine probe being passed into the healthy uterine cavity. Hence it is that uterine inflammation seldom exists for any length of time without the functions of digestion becoming impaired, and without the symptoms which characterise dyspepsia and imperfect assimilation and nutrition making their appearance. The mutual dependence of the uterus and stomach on the same system of nerves, the sympathetic, affords a ready explanation of this important fact. The same train of reasoning must lead us to the conclusion that chronic uterine disease reacts directly also on the functions of the liver and of all the chylopoietic and other organs, with which it is similarly connected. These sympathetic reactions will be carefully investigated when we are treating of inflammation of the neck of the uterus.

Progress.—Chronic inflammation of the uterus has a decided tendency to perpetuate indefinitely its existence, as is the case with inflammation in all tissues of rather a low vitality; such as the bones, for instance. This tendency, however, is greater in the uterus than in the osseous and other similar structures, owing to the periodical exacerbations to which the peculiar functions of the uterine system give rise. There is also a much greater reaction on the health and integrity of the entire

economy, owing to the intimate connexion existing between the uterus and the sympathetic nervous system which presides over the functions of organic life. The disease does not, however, present itself at first, or in all cases, with such severity. Both the local and general symptoms may be slight and obscure, especially during the interval of menstruation; but as time progresses, they generally become more and more decided, and the patient at last gradually sinks into the state which I have described.

Termination.—The periodical exacerbations that occur under the influence of the menstrual uterine congestion appear to prevent chronic metritis from terminating spontaneously by resolution. I cannot, indeed, recall to mind a single instance in which I have satisfactorily ascertained the disease to have thus terminated, during the persistence of menstruation. When menstruation finally ceases, spontaneous resolution, no doubt, not unfrequently takes place. Resolution, on the contrary, is one of the ordinary terminations of chronic metritis under the influence of appropriate treatment. Sometimes the enlargement of the uterine tissue gradually melts and disappears; in other instances the disease terminates by induration; the general enlargement of the uterus, or its local hard tumefaction remaining, in part, but all anomalous sensibility disappearing. This is, perhaps, a more common result of treatment than complete resolution. Under the influence of the menstrual exacerbation, or of other accidental causes, the chronic inflammation may become acute, and extend to the lateral ligaments, or even to the peritoneal membrane. This, however, is very rarely the case. Cancerous degenerescence is also one of the possible terminations of chronic inflammation of the uterine tissue; I believe, however, that it is very rarely observed. When it does occur, we must admit the previous existence of the cancerous diathesis; such a diathesis existing, the presence of chronic disease in the uterus would certainly be very likely to localize its action in that organ.

Prognosis.—From what precedes, it is evident, that although our prognosis in a case of chronic metritis may be favourable as regards the life of the patient, which is scarcely ever directly

endangered, yet it cannot be said to be favourable with reference to the probability of a speedy recovery. Chronic metritis may also terminate unfavourably, through the casual development of acute inflammation in the surrounding tissues, or through cancerous degenerescence. We ought always to be guarded, therefore, in giving an opinion as to the future. This is the more imperative, as a still more probable source of danger exists in the extreme sympathetic depression of all the powers of the economy. A female who has been suffering for years from chronic metritis is generally in so weak and enfeebled a condition, from disordered digestion and nutrition, and from the numerous other functional derangements which the disease occasions, that she has but little vital power to resist the attacks of intercurrent diseases, or to ward off the development of any cachexia to which she may be constitutionally disposed. Thus, we find such persons becoming consumptive, or succumbing under the influence of acute inflammatory affections, the action of which they would certainly have resisted had their constitution not been weakened by the existence of a chronic depressing disease.

Notwithstanding all these drawbacks and perils, we may, generally speaking, take a favourable view of the case, provided the patient be willing and able to submit to a judicious, energetic, and sufficiently prolonged course of treatment; and provided the disease have not existed too long to be susceptible of eradication. Unfortunately this is not always the case. Social circumstances may render it impossible for the patient to obtain proper advice, or, even if obtained, to follow the rules laid down for her guidance. The disease may, also, in some exceptionable cases, in the course of years of undisturbed possession, obtain so firm a hold on the economy as to resist every means employed to entirely eradicate it, at least during the existence of menstruation. I have met with a few instances of the kind, in which I have been able to limit and favourably modify the disease, but not entirely to eradicate it. Obstinate chronicity is, indeed, a characteristic of this disease. In most of the cases of chronic metritis which I meet with, the inflammatory action has existed for many years unrecognised and untreated, when I

discover its presence; and the disease has become, as it were, an integral part of the economy of the patient. When this occurs with chronic inflammation in any of the tissues, it is always exceedingly difficult to subdue it radically.

Diagnosis. — Most of the patients affected with chronic metritis whom I see are considered to be merely suffering from uterine irritation, from displacement of the uterus, retroversion or retroflexion, or from functional dysmenorrhea. A careful digital examination, however, at once reveals the true nature of the case. The general symptoms which I have enumerated are of themselves sufficient, especially when at all severe, to indicate the existence of chronic metritis. Should they not, however, carry conviction with them, their presence is at least sufficiently significative to render a further examination indispensable. Once digital investigation is resorted to, if the local symptoms of chronic metritis are borne in mind, it is by no means difficult to discover the real nature of the disease. The limited tenderness, increased by pressure, and generally situated on the posterior uterine wall, the local tumefaction and subsequent displacement of the uterus, are too characteristic not to be recognised.

There are, however, morbid non-inflammatory conditions of the uterus which may be mistaken for this form of inflammation. Thus, I have not unfrequently found the uterus present, for some time after the complete cure of inflammatory disease, a peculiar state of exaggerated sensibility. The slightest touch occasions pain, sometimes in every region, and sometimes in a limited spot only; but the sensibility is not inflammatory, for if the contact is renewed, or the pressure is continued, pain is no longer experienced. Again, small fibrous tumours often form in the walls of the uterus, increasing their size and weight, and causing displacements; so that tumefaction and displacement alone cannot be considered symptoms of inflammation. Indeed, if the uterine enlargement is great, it is most probably the result of a fibrous tumour, the existence of which, at the same time, does not preclude inflammation of the uterine walls. I have repeatedly met with this complication of the two diseases. Lastly, an inflammatory tumour of the broad ligaments may be

mistaken for chronic metritis, occupying the lateral region of the womb, more especially if the tumour is lying on the uterus, as is often the case. The symptoms that characterise the latter affection, which I shall hereafter describe, will enable us to establish the distinction when it really exists. In some cases, however, the two diseases are combined.

It is occasionally rather difficult to distinguish between cancer of the uterus and chronic metritis. If the circumscribed uterine tumefaction presents irregularities of surface, nodosities; if the pains are of a lancinating character; if the health has deeply suffered, and the patient is emaciated, sallow, and weak, it is next to impossible not to suspect the existence of cancer. Indeed, in such a case, it is only by observing the symptoms and progress of the disease that our fears on this score can be allayed. A careful analysis of the mode in which the two diseases manifest themselves in the uterus, will, however, render a correct conclusion possible, even in a case of this description. Cancer, in the very great majority of instances, commences in the cervix, and thence extends to the body of the uterus. In both regions it is generally latent in its first stage; and when the attention of the medical practitioner is directed to the disease, and the state of the patient investigated, it is nearly always found very far advanced. Cancer of the uterus is soon followed by immovable adhesions between the uterus and the surrounding tissues. In chronic metritis there may be adhesions, but they are not of the perfectly immovable nature of those observed in the malignant affection. In cancer, the nodosities and inequalities are sharp, knife-backed, irregular; in chronic metritis, they are spherical, and regular in their irregularity. Cancerous tissues are seldom very sensitive to the touch, whereas it is the reverse with the inflamed uterus. Cancer has a tendency to progress and to pass through its periods in the course of a limited space of time, say one, two, or three years. The symptoms indicating the existence of chronic metritis, on the contrary, may generally be traced back for several years, and when recognised, the disease appears to remain nearly stationary, if left to itself. The consideration of these differences will also prevent cancer being mistaken for

chronic metritis. If cancer of the uterus has become ulcerated, the distinction is still plainer.

Pathological Anatomy.—When the uterus of a person labouring under chronic metritis is examined after death, the inflamed region of the uterus is found enlarged, and more filled with blood than in the healthy condition. If the chronic inflammation is terminating by induration, the texture of the diseased part is more than usually dense, and of a greyish or greyish-red hue.

INTERNAL METRITIS.

Seat.—By internal metritis, or uterine catarrh, is meant inflammation of the mucous membrane lining the cavity of the uterus. The very existence of this mucous membrane was formerly called into question, but it is now universally admitted and described by anatomists, although its peculiar organization, as we have seen, renders its anatomical demonstration difficult.

Much stress has been laid of late years on uterine catarrh by continental writers, and it has been described by some, not only as a very common disease, but also as the cause of most of the inflammatory and ulcerative affections of the cervix met with in practice. In reality, however, such is not the case. Internal metritis is a *rare* form of uterine inflammation, and has only been considered common because it has been confounded with inflammation of the *cavity of the cervix*, a disease which, on the contrary, is very often met with.

The frequency of inflammation in the cavity of the cervix, and its general limitation to that cavity, are dependent, in a great measure, on anatomical conditions, which we will briefly recall. The mucous membrane that lines the cavity of the cervix, is more vascular than that of the uterine cavity, and presents a greater number of mucous follicles; many of which are concealed between the rugæ of the arbor vitæ, the mucous membrane accurately following the depressions and commissures of the latter. The cavity of the healthy cervix is also distinctly separated from that of the body of the uterus by a constriction or natural sphincter, which has not been described by

anatomists, but which is, generally speaking, sufficiently powerful to offer a decided obstacle to the introduction of the uterine sound into the cavity of the uterus, in the healthy state. The existence of this constriction was first pointed out to me some years ago by Dr. Simpson of Edinburgh, as an indication of a morbid condition; but subsequent researches have led me to believe, as I have already stated (p. 12), that it exists in the healthy state, and that it is not *necessarily* morbid even when carried to such an extent as to render the introduction of the uterine sound impossible. The cavity of the cervix is often deeper by half an inch, than that of the uterus itself. The uterine sound, when passed into the uterus, is concealed to the extent of two inches and a half; of which one inch and a quarter, or one inch and a half, occupies the cavity of the cervix. In the latter case one inch only is in the uterus. (*See fig.* 1, *p.* 12.)

The latest continental writers on uterine catarrh have fallen into the error of describing inflammation of the cervical canal as uterine catarrh. Whenever, on examining the cervix with the speculum, muco-pus is observed issuing from the os uteri, they conclude, without further examination, that it proceeds from the *cavity* of the uterus, and that the latter is the seat of inflammation. They do not reflect that the muco-pus *may* proceed, as it really does in nineteen cases out of twenty, from the cavity *of the cervix*. The result of a careful scrutiny of all the cases of inflammation of the cervix uteri that I have seen for many years, with reference to this point, has shown me that in the immense majority the inflammation does not extend into the cavity of the uterus. I have been led to this conclusion by the observation of the following facts:—Firstly. The dilatation which invariably *accompanies* inflammation of the cavity of the cervix does not, generally speaking, extend beyond the internal constricted point, or "os internum," the latter remaining contracted, so as not to allow the free admission of the sound into the uterine cavity. Secondly. Therapeutical means carried so far only as the morbid dilatation exists, or to the os internum, effectually cure the inflammation, and put a stop to the discharge.

In some few cases, on the contrary, the os internum participates

in the relaxation of the cervical cavity, so that the sound passes freely into the uterus, the two cavities communicating as in fig. 2, p. 12. When this is noticed, the cavity of the uterus may or may not be inflamed; if it is, the discharge from the os uteri is more abundant, and presents peculiar characters, the local and general symptoms are rather different, and what is conclusive, therapeutical agents carried into the cavity of the cervix alone may not be sufficient to effect a cure. These latter cases are really cases of internal metritis, or uterine catarrh. The former, by far the more numerous, I look upon as cases of inflammation of *the mucous membrane and follicles of the cavity of the cervix only, or of cervical catarrh.*

Causes.—All the causes which give rise to acute or chronic metritis may also occasion internal metritis. It appears, however, to be generally met with in practice as the result of the lengthened existence of inflammatory disease of the cervix and of its cavity. The inflammation gradually progresses along the cavity of the cervix until it reaches the os internum, and passes into the uterus. Indeed, considering the extreme frequency of inflammation of the entire cavity of the cervix, it is only surprising that the disease should so generally stop at the internal sphincter of that organ.

Among the causes most likely to give rise to internal metritis, a prominent position must be given to the inflammation that occurs after parturition and abortion. When inflammation of the uterus follows the expulsion of the ovum, the surface on which the placenta was implanted is peculiarly liable to be attacked, and the seeds of chronic inflammation of the uterine lining membrane may thus be sown. In some exceptional cases, blennorrhagic inflammation may be a cause of internal metritis, the inflammation gradually extending from the vagina to the cervix, to its cavity, and to that of the uterus. This, however, I believe to be much less frequently the case than has been asserted.

Symptoms.—Internal metritis being nearly always complicated by inflammation of the cervix, of its cavity, or of the substance of the womb, its symptoms are rather difficult to unravel; so difficult, indeed, that I do not believe the task has yet been accomplished satisfactorily by any writer. Internal metritis

may be said to exist to a certainty, if the os internum of the cervix is so completely open as to allow the uterine sound to pass freely into the uterine cavity; if that cavity is increased in size, and more sensitive, and if, likewise, there is a more or less abundant *sero-sanguinolent* discharge, accompanied by dull, deep-seated pain in the region of the uterus itself—that is, behind and slightly above the pubis,—and by a certain amount of general febrile reaction.

The sero-sanguinolent discharge is the most important of these symptoms; indeed, it may be said to be as characteristic of internal metritis as the rust-coloured expectoration is of pneumonia. The presence of blood in the secretion from the inflamed mucous surfaces is in both cases owing to the same cause—viz., the extreme tenuity of the ciliated epithelium. The blood-corpuscles exude in inflammation, as in pneumonia or inflammation of the air-cells of the lungs, and blood is expelled mingled with the secretion of the inflamed surface. This sanguinolent discharge, however, is not always present when there is inflammation of the interior of the uterus. It is only when the inflammation is severe, or in its period of greatest intensity, that it is observed. At the onset, in the period of decrease, and sometimes throughout the entire duration of the disease, the secretion may be merely muciform or puriform. When congestion alone remains, it may consist only of transparent mucus. If this is the case, it becomes more difficult to distinguish internal metritis from inflammation of the cavity of the cervix, in which the same discharges are present; in both, they may be seen issuing in a thick stream from the os uteri, when the cervix is brought into view with the speculum. We can then only be guided by the amount of the discharge, by the morbid dilatation of the os internum, and by the other symptoms which I have enumerated.

In the healthy unimpregnated uterus, as I have stated, the cavity of the uterus is only an inch or an inch and a quarter in depth, and so small as merely to contain a few drops of fluid; consequently the uterine sound once introduced has but an exceedingly limited range of motion. In internal metritis the cavity of the uterus is dilated, increased in size, and the uterine sound moves with more freedom; the presence of the sound in the uterus, and its

contact with the walls of its cavity, seem also to be attended with more pain than usual. This symptom, however, cannot be much depended upon, as the introduction of the sound generally occasions pain even in the healthy uterus; not unfrequently giving rise to nausea and faintness. Indeed, the cavity of the uterus appears to be naturally extremely sensitive, whereas that of the cervix is only slightly so in most females.

Internal metritis is nearly always accompanied by a dull, aching pain in the back or ovarian regions, similar to that experienced in inflammation of the cervix, and by deep-seated pain in the region of the uterus. The uterus is generally rather swollen, enlarged, and sensitive to the touch, the entire organ being in a congested, irritable state. Internal metritis is also often accompanied by a slight amount of febrile reaction, occurring at intervals, after exertion, instrumental interference, or at the monthly periods. The catamenia are often disordered, generally manifesting themselves more frequently and more abundantly, lasting longer, and being attended with more pain than usual. Sometimes the flow of blood is so great and so lengthened as to constitute flooding, and this is more especially observed, as might be anticipated, when the sero-sanguinolent discharge is present. With some patients, however, on the contrary, the menstrual secretion appears to be diminished; but in either case it may be laid down as a rule, that the disease is aggravated by the appearance of menstruation. In addition to these symptoms, all the general sympathetic reactions which are observed in chronic metritis, and in chronic inflammation of the cervix, may be present. As internal metritis is generally complicated by these diseases, we may also have the peculiar symptoms which they present.

In some rare instances, inflammation of the lining membrane of the uterine cavity is followed by ulceration. When this is the case, the cavity of the uterus becomes considerably enlarged, and large quantities of pus, blood, and mucus, collect within it, and are expelled through the os uteri. Dr. Hall Davis exhibited, a short time ago, to the Pathological Society, the uterus of a woman thus affected who died under his care; there were several large ulcerations on the internal surface of the organ. There are

other cases on record, but this termination of internal metritis is undoubtedly very rare. The mucous membrane of the uterus does not seem very liable to the ulcerative stage of inflammation.

From what precedes, it will be evident that although a careful digital examination, combined with the use of the uterine sound, enables us to appreciate many of the symptoms of internal metritis, yet we can only obtain all the information we require to form a diagnosis, by carefully examining with the speculum the condition of the uterine organs. The cervix should be brought completely into view, in a good light, so as to enable the medical attendant, not only to ascertain its precise condition, and that of the inferior and external portion of the cavity of the cervix, but likewise to appreciate the amount and precise nature of the discharge that issues from the os uteri.

Progress, Termination, Prognosis.—Internal metritis, when acute, and a mere complication of inflammation of the body of the uterus,—as is often the case when the immediate result of parturition or abortion,—not unfrequently terminates by resolution. Sometimes, even in these cases, it passes into the chronic form. Apart from the puerperal condition, it is generally observed in the chronic stage. Once it has become chronic, it may perpetuate its existence indefinitely, if unmodified by treatment. Like all other uterine inflammations, it is often kept alive, even in the best constitutions, by the periodical exacerbations occasioned by the monthly molimen hemorrhagicum. Indeed, owing in a great measure to this cause, it is very rarely that we see internal metritis, once it has attained the chronic stage, spontaneously terminating by resolution, at least during the persistence of the menses. When the latter have definitively ceased, this form of uterine inflammation, like those which we have studied, or shall study, may gradually yield, and eventually disappear under the mere influence of the modified functional and structural vitality of the uterine organs. Confirmed internal metritis may exercise a sufficiently severe sympathetic influence over the constitution to debilitate the patient thoroughly, and to occasion death indirectly by exposing her, thus weakened and reduced, to the development of cachectic and accidental affections.

Pathological Anatomy.—I have repeatedly seen the surface of the uterine cavity presenting the anatomical evidences of inflammation in patients who have died of puerperal inflammation at various periods after their confinement. The internal surface of the uterus was then red, swollen, congested, and covered with a thin coat of muco-pus; but I have only once seen a uterus presenting evidence of this form of disease in the non-puerperal state; it was in the case of internal uterine ulceration to which I have alluded. The mucous membrane presented several large inflammatory ulcerations, situated on the internal surface of the uterine walls, and quite distinct from the cavity of the cervix, which appeared free from inflammation. There was, however, considerable disease of the uterus present, besides the inflammation of its cavity. The organ was much enlarged, its walls thickened, and its cavity greatly dilated.

Diagnosis.—The elements of a correct diagnosis of this disease are to be found in the account which I have given of its symptoms. Internal metritis presents so many points of contact with inflammation of the cervix or of the body of the uterus, that the diagnosis can only be satisfactorily established by a rigorous analysis of the symptoms of all these diseases; with which, moreover, it is generally complicated. I may, however, remind the reader, that internal metritis is generally confounded with acute or chronic metritis, but more especially with inflammation of the lining membrane of the *cavity of the cervix.* In acute metritis, there is much more febrile reaction, greater local pain, and more sensibility of the uterus. In chronic metritis, there is marked *partial* sensibility of the uterus, accompanied by local changes in its volume. In inflammation confined to the cavity of the cervix, muco-pus oozes out of the os uteri, and the cavity of the cervix is dilated, but the os internum remains closed. Moreover, although the mucoso-puriform secretion may be streaked with blood, it is not *mingled* with it, as in the acute stage of internal metritis. There is not that sero-sanguinolent, sanious discharge which characterizes this latter disease, nor the often severe reactional symptoms to which it appears to give rise.

As I have already stated, it is to inflammation of the cavity of the cervix that we must refer nearly all that has been

written of late years by continental writers respecting interna. metritis. They are evidently quite ignorant of the normal existence of the internal sphincter on which I have found it necessary to lay such stress, and do not appear to have any clear view of the comparative length of the two cavities of the cervix and of the body of the uterus. Consequently, they have concluded that the injections they used therapeutically penetrated into the interior of the uterus, and cured the internal uterine inflammation which they supposed to exist; whereas, in reality, the disease must have been nearly always confined to the cavity of the cervix, and the remedies used cannot have penetrated beyond the os internum, that is, beyond the sphincter, which separates the two cavities.

CHAPTER V.

INFLAMMATION OF THE NECK OF THE UTERUS.

INFLAMMATION, ULCERATION, AND HYPERTROPHY OF THE CERVIX UTERI CONSIDERED GENERALLY.

In order to appreciate the morbid changes, the result of inflammation, which take place in the cervix uteri, it is indispensable that we should bear in mind the anatomical facts which I have described in Chapter II. The presence of cellular tissue in the cervix, its greater vascularity as compared with the uterus, and the highly developed state of the mucous membrane lining its cavity, studded as it is with numerous mucous follicles, are, in a pathological point of view, the most important anatomical peculiarities which it presents.

The size and length of the cervix uteri vary considerably in different females—a fact which must necessarily be taken into consideration if we wish to appreciate the existence or non-existence of hypertrophy, or of morbidly increased volume, of the organ. Indeed, these physiological variations are so great, that were we to allow ourselves to be guided by size alone, as appreciated by the touch or the speculum, we should, undoubtedly, be often misled, and induced to suppose that disease existed when it did not. In reality, there is no precise rule as to size. The cervix may be voluminous, and yet perfectly healthy; and when this is the case, there is entire freedom from uneasy sensations. The apparent length of the cervix is also very variable, the difference being evidently occasioned principally by the implantation of the vagina at different heights on the cervix. From this cause, in some females, the cervix is merely a few lines in length, whereas in others it is an inch and a half,

or more. Congenital elongation of the cervix uteri may, however, be carried to such an extent as to constitute a deformity, and to lead to disease. The most remarkable illustration of this malformation that I have met with, was in a patient under my care at the Western Dispensary. She was a young, healthy, unmarried servant-woman, aged twenty-three, and presented a cervix three inches in length, about the thickness of the middle finger in its entire extent. This elongated cervix was rather tender and inflamed; it had gradually prolapsed during the three previous years, until, when she consulted me, it passed out at least an inch beyond the dilated hymen. Owing to the uterus being thus dragged down, she suffered much local discomfort, which had induced her to apply for relief.

Attempts have been made, and more especially by French writers, to ascertain, by measurement, the normal size of the cervix in the healthy state. I do not, however, attach much importance to the results thus obtained. Whatever its size, shape, or direction, the uterine neck may be considered healthy if it is free from inflammation or induration, if the os is normal, and if the cervical cavity is in a normal state.

In the healthy condition, the cervix uteri is perfectly soft and smooth. On being pressed by the finger, no hardness or resistance, indicating condensation of tissue, is felt. There is, at the same time, a certain degree of elasticity about it, the varying degree of which indicates the presence or absence of local congestion of the uterine system. In this, the healthy state, the surface of the neck of the uterus is generally unctuous to the touch; the layer of mucus by which it is then covered accounting for this very characteristic sensation. There is also complete absence of pain on pressure. In examining the cervix by the touch, it is advisable to appreciate carefully the state of the entrance to its cavity, as slight local induration existing on or within the margin of the lips, or its open condition, might otherwise escape notice. The pulp of the finger should be brought successively to bear on each part of the surface of the organ, above, below, and on each side, which may be easily accomplished. Not only does this mode of examination contri-

bute to render our sensations of density and smoothness more perfect, but it also enables us to judge of the size and freedom from adhesions of the body of the uterus itself. In the unimpregnated state, and when not morbidly enlarged, the body of the uterus, as we have seen, moves readily when pressure is made on the neck; pressure thus applied acting as on one extremity of a lever—raising the other in the opposite direction. If these facts respecting the healthy uterine neck are borne in mind, the detection of disease becomes comparatively easy.

Seat.—Inflammation of the cervix uteri may commence in the mucous membrane covering the cervix or lining its cavity, or in the mucous follicles which that membrane presents, or in the substance of the organ. In the latter case the disease is generally connected with general metritis. Inflammation of the mucous membrane is not unfrequently limited to one of these regions, that is, either to the interior or to the exterior of the cervix; but it is seldom confined to one anatomical element. Generally speaking, both the mucous follicles and the vascular mucous network are simultaneously the seat of inflammation.

Causes.—The causes which give rise to inflammation of the cervix may be divided into predisposing and efficient. The predisposing causes are anatomical and physiological. The anatomical predisposing causes of inflammation have already been fully elucidated. The physiological predisposing causes are numerous, and vary according to the epoch of the uterine life.

Previous to menstruation, the uterus is dormant—in abeyance, as it were. Its vitality is low, and it appears to be very little exposed to inflammatory action. Menstruation having once commenced, a very different state obtains; the uterine system, as we have seen, becoming more vitalized, and remaining in a state of physiological congestion during a variable period of each lunar month. Although in other parts of the economy long continued congestion is the most powerful predisposing cause of inflammation, we can scarcely look upon the molimen hemorrhagicum that precedes, accompanies, and follows the menstrual secretion as predisposing to inflammation of the cervix uteri so long as it remains strictly within physiological limits; it is then merely an element of a natural function. Unfor-

tunately, however, the congestion of menstruation is far from invariably remaining within these boundaries. In some females, as I have elsewhere stated, it appears to be always morbidly great, in which case there is pain experienced throughout life during the catamenia, or for the first day or two of their presence, and that in the absence of any local inflammatory disease, or of any physical imperfection in the uterine passages. In all, the menstrual secretion is liable to be prevented, diminished, increased, or suddenly arrested by a host of mental, social or pathological causes; and whenever this is the case, the natural uterine congestion may become morbid, and thus give rise to inflammation. This accounts for virgins being not unfrequently attacked with inflammation and ulceration of the neck of the uterus, (a fact which I have fully substantiated;) as also for their being liable to the other inflammatory affections of the uterus which we have already studied.

In the married state, the cervix uteri is necessarily exposed to another fruitful cause of inflammation, even when conception does not take place. The physiological congestion and excitement which accompany intercourse may, if too frequently renewed, give rise to inflammation; and the same result may be occasioned directly by physical contusion of the organ itself. In some females the uterine system appears to be so extremely sensitive, that inflammation follows intercourse nearly immediately, even when the bounds of discretion have not been overstepped. Owing to the operation of these latter causes, many young females are attacked with inflammation and ulceration of the cervix within a few days or weeks of marriage; and when such is the case, they mostly remain sterile. If they do conceive, successive abortions or miscarriages generally take place; and this will frequently be found the explanation of the repeated abortions which sometimes occur during the first years of married life, and prove so embarrassing to the practical accoucheur.

When conception has taken place, other causes of inflammation come into action. A new life dawns on the uterus and its appendages. Instead of remaining in a quiescent condition, merely disturbed at periodical intervals by the menstrual congestion, the uterus assumes a high degree of vitality, becomes the

seat of a most active nutrition, and rapidly increases in size. The hard fibro-muscular tissue of which it is formed undergoes, apparently, a complete transformation, and assumes the decided characteristics of muscular structure; the arteries and veins, previously so small as to be demonstrated with difficulty, are developed to an enormous extent; and the entire organ becomes one of the most, instead of one of the least, vascular in the human economy. The cervix uteri participates in the change; it becomes turgid, swells, softens, and its entire structure is modified by the exaggerated organic activity which pervades the uterine system. Pregnancy may thus itself be considered a predisposing cause of inflammation of the cervix. The uterine system, however, appears to be peculiarly shielded from inflammatory action during pregnancy. Were not this the case, considering the high degree of vitality which it then presents, inflammation would necessarily be much more frequent than it actually is. A careful investigation of the morbid conditions of pregnancy has, indeed, proved to me that inflammation and ulceration of the cervix frequently exist during that state; but I believe that in these cases the inflammatory disease generally originates antecedently to conception taking place, and is merely increased and magnified by the changes which occur in the vitality of the uterus.

Parturition is a very frequent cause of inflammation and ulceration of the cervix, as might be presumed *à priori*. Not only is parturition frequently followed by inflammation of the uterus involving the cervix, which may perpetuate itself in the latter region even when it has been subdued in the body of the organ, but it often occasions inflammation of the cervix alone, other parts of the uterine system not being simultaneously affected. This is owing to the cervix being the part of the uterus the most exposed to laceration and contusion during parturition.—The cervix may be lacerated more or less extensively during the most natural labour. In a rapid confinement, a strong contraction, or a succession of strong contractions propelling the child with great force against the imperfectly dilated os, will, as I have repeatedly witnessed, thus lacerate the cervix, under circumstances otherwise the most favourable.

The mucous membrane lining the cavity of the cervix is even more exposed to laceration and contusion than the deeper-seated structure of the organ. This mucous membrane becomes more vascular and more perfect as pregnancy advances, and as the general organic vitality of the uterus increases; its integrity being in nowise interfered with by the changes that are taking place in the uterine system.

That such is really the case is evident, dilatation of the os uteri only commencing in primiparous women towards the end of the sixth month, and in those who have borne children not until the end of the fifth. Moreover, this dilatation of the os uteri is very slight until parturition actually commences, and is not consequently calculated to interfere with the integrity of the mucous membrane with which the cervical canal is lined. As soon, however, as the pains which precede and accompany the expulsion of the fœtus commence, the dilatation of the os uteri progresses rapidly, and in the course of a few hours is carried to such an extent as to admit of the passage of the fœtus. A necessary consequence of this rapid dilatation of a canal lined by a mucous membrane in an entire state is, that it must, in many cases, be accompanied by contusion, erosion, and laceration of the membrane. In the majority of women, no doubt, these lesions disappear promptly, cicatrization taking place with rapidity, under the influence of the retraction of the tissues of the neck, and of the reparative phlegmasia which sets up, after delivery, in the cervix, as well as in the body of the uterus. But if this physiological inflammation of the uterus should prolong its duration and assume a pathological character; if remnants of the placenta or of the membranes left in the uterine cavity give rise, by their decomposition, to an irritating fœtid discharge; it is easy to understand that the lesions of the mucous membrane, instead of healing, will almost inevitably become the seat of inflammation and of subsequent ulceration.

When inflammation and ulceration of the cervix uteri recognise this origin, it will often, but not always, be found, on inquiry, that the last abortion or labour was followed by morbid symptoms of more or less intensity, varying from severe metritis to mere uterine pains, or by a fœtid and unpleasant lochial

discharge. In such cases, the inflammation and ulceration will at first exist between the lips of the os uteri or in its cavity, and if the patient is examined soon enough, the course of the ulceration may be followed as it escapes from the os, and spreads itself on the cervix. I have often met with cases of this description. In the first instance in which, a few weeks after labour, I saw a small ulceration issuing from the lips of the os uteri, I was struck with the fact, but did not attempt to explain it. The comparison which I afterwards made between cases of this description, and others examined at a later period, in which the inflammatory disease could only be traced to a natural labour, led me to perceive the clue which exists between the cause and its effect. It is, indeed, evident to me, that a considerable proportion of the cases of inflammation and ulceration of the cervix met with in practice originate in this manner.

Married women who have had children, and who have escaped the dangers of childbirth, are not only exposed subsequently to all the various causes of inflammation which have been already enumerated, but are more liable to their operation than virgins, or than women who have never conceived. The uterus of a woman who has borne children, as long as menstruation lasts, never returns entirely to the size which it presented previous to conception. It is rather larger, rather more vascular, and endowed with greater vitality; consequently, it is more liable to inflammatory disease. Thence it is, also, that in metritis, unconnected with pregnancy, the body of the uterus enlarges more in women who have borne children than in those who have not.

This remark applies even more to the cervix uteri than to the body of the organ. The more vitalized state of the cervix in women who have conceived, accounts also for induration and hypertrophy being much more frequently a concomitant and a result of inflammation and ulceration in them, than in women who have never been pregnant. This is a highly interesting fact, as the changes in the intimate structure of the cervix which constitute hypertrophy form a most important feature in the history of the disease whenever they are present.

In more advanced life, when menstruation is ceasing, the extreme and lengthened uterine congestion which often accom-

panies the irregularities that occur in the menstrual secretion may be considered as predisposing to inflammation of the cervix. This congested condition of the uterus will sometimes perpetuate itself for years after menstruation has finally ceased; more especially if the cervix is the seat of inflammatory disease. Generally speaking, however, it gradually gives way, and the uterus falling into a state of atrophy, any inflammatory affection of the cervix that may exist spontaneously disappears.

The various predisposing causes of inflammation which have been enumerated, are all connected with functional and physiological states of the uterine system. Their exaggeration or morbid modification leads to the development of inflammation under the influence of all the ordinary efficient causes of inflammatory disease, and more especially of those which act on the uterus. Inflammation of the cervix may also be the result of the extension of vaginitis, blennorrhagic or non-blennorrhagic, or it may occur spontaneously, like all other phlegmasiæ, without being traceable to any particular cause. It may occur from the direct exposure of the cervix to the air, to friction, and to external violence, as in complete procidentia of the uterus. It is not unfrequently met with when fibrous tumours are developed in the walls of the uterus, and is very often the concomitant both of large polypi originating in the uterine cavity and passing through the cervix by means of a pedicle, and of the small vascular polypi that grow from the contour of the os, or from the parietes of the cavity of the cervix. The frequent existence of inflammation and ulceration of the cervix and its cavity under the latter circumstances may be easily accounted for. When a fibrous tumour has formed in the uterus, the latter, along with its cervix, becomes developed and vitalized, as in pregnancy, and consequently predisposed to take on inflammatory action; and polypi, whether fibrous or vascular, irritating the tissues with which they come in contact as they escape from the os uteri, cause the mucous membrane to inflame and to ulcerate.

Symptoms.—The symptoms of inflammation of the neck of the uterus may be divided into—anatomical, local, functional, and sympathetic or constitutional.

ANATOMICAL SYMPTOMS.

The anatomical symptoms consist in those changes which take place in the appearance, form, and structure, of the cervix uteri, as appreciated by the touch, and by instrumental examination.

Congestion and Simple Inflammation.—When the mucous membrane which covers the cervix is inflamed, it ceases to present to the touch the unctuous surface which characterizes it in health; at the same time the entire cervix becomes tumefied and enlarged, but remains soft, the swelling being merely that of congestion. If the inflammation extends to the deep-seated structures, or if it commences there, the cervix is more or less indurated, as well as enlarged, from the interstitial effusion that takes place. When the uterine neck is thus increased in weight, it nearly always falls more or less in the vaginal cavity, so as to approximate the vulva. In married females, it is also *generally retroverted,* owing to physical pressure in congress.

When the inflamed cervix is brought into view by the speculum, its surface is found to offer a vivid red tinge instead of the pale rosy colour of health. It may present a uniform red hue, and be dotted with florid papulæ, or with white pustulæ, consisting of mucous glands hypertrophied or distended with muco-pus; or it may offer any of the shades between the bright red of arterial blood and the livid tinge of venous blood, according to the state of the circulation. On the inflamed surface we find a certain amount of muco-pus, which generally requires to be wiped off before the state of the mucous membrane can be clearly ascertained. The presence of this muco-pus is very important in a semeiological point of view, as both redness and tumefaction of the cervix may be produced by mere congestion, especially if it is carried to a morbid extent. Thus, if the healthy cervix is examined instrumentally during menstruation, or for a day or two before or after, it will generally be found to present these characters. Under such circumstances, however, there is the absence of the product of inflammation, muco-pus, to guide us.

Muco-pus, the product of inflammation, must not be confounded with the abundant white creamy secretion which is frequently found in this region, and which is the result of congestion, and not of inflammation.

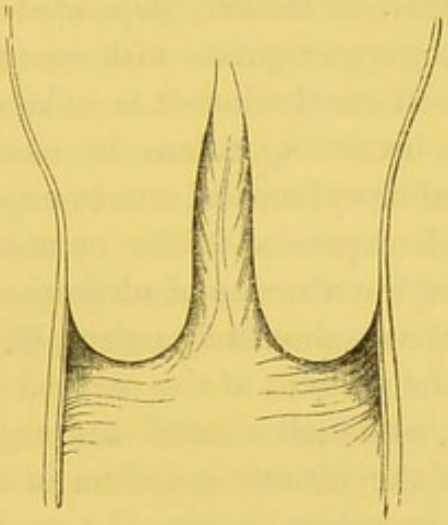
In the first stage of inflammation, before any morbid secretion has set in, it may be difficult to distinguish between congestion and inflammation. The difficulty, however, seldom presents itself in practice, as patients are scarcely ever seen, or at least examined, in the incipient period of the disease.

Sometimes the inflamed cervix presents pseudo-membranous patches similar to those which are observed in pseudo-membranous angina, and in croup. These patches are principally observed around the os, but may occur on any part of the cervix: they indicate a very intractable form of inflammation, which it is exceedingly difficult to subdue. They often keep re-forming for months, however energetic the means used to cure the inflammation to which they owe their origin.

Changes produced by Inflammation in the Cavity of the Cervix.—When inflammation attacks the *cavity* of the cervix, important modifications take place both in the os uteri and in the cervical canal—modifications which have not hitherto been described, even by continental writers. In the healthy condition, the os uteri is closed to such an extent as to be but just perceptible to the finger passing over it, and as to only admit a moderate-sized sound or bougie, which opens it in passing, as it would the urethra. The entire cervical passage, as far as the os internum, is similarly, but not uniformly contracted. When the cavity of the cervix is inflamed, it expands, on the contrary, becoming more or less open; as does also its external orifice, the os uteri, the lips of which are everted. It is difficult to account satisfactorily for the change which inflammation thus produces in the cervical cavity of the uterus. It may be owing to paralysis of the submucous muscular fibres which encircle it, induced by the inflammation of the adjacent mucous membrane; or it may be the result of inflammatory distention of the submucous cellular tissue. Whatever the explanation we adopt, the fact is certain; a more or less patent state of the os and cavity of the cervix uteri is the invariable concomitant of inflammation. This anatomical change in the state of the orifice of the uterus is

invaluable in a semeiological point of view, as it can easily be recognised by the touch. Whenever the finger, instead of passing over a scarcely perceptible orifice, meets with a well-marked depression, into which its extremity may be inserted to a greater or less extent, we may all but conclude that inflammation, with or without ulceration, is present, and it becomes advisable to pursue the investigation farther, so as to ascertain, by ocular inspection, in a satisfactory manner, the real state of the parts.

Fig. 5.



Os Uteri and Cervical Cavity open from Inflammation.

Generally speaking, the morbid dilatation of the cervical cavity ceases before we reach the os internum, which, as I have elsewhere stated (p. 58), appears in most instances to oppose a kind of barrier to the extension of inflammatory action to the uterine cavity. (*See fig.* 1, *p.* 12.) Should the inflammation, however, extend to the cavity of the uterus, the dilatation becomes complete throughout. It is because the distinction between the two cavities of the uterus, that of the neck, and that of the body of the organ, has not been made, as I stated when treating of internal metritis, (p. 58,) that the symptoms of disease in these two regions have been completely confounded, and that many French pathologists consider internal metritis a very common form of uterine inflammation, complicating, if not originating, most cases of inflammation and ulceration of the

cervix; than which nothing can be more untrue. Inflammation of the *cervical* cavity is, in reality, the common affection; whereas inflammation of the *uterine* cavity is fortunately rare.

Although, as a general rule, the os externum be thus open when the cavity of the cervix is inflamed and ulcerated, the rule is not without exception. I have, in some few instances, met with a closed os externum, although the cavity of the cervix was inflamed, ulcerated, and dilated behind it. This became evident on slightly dividing the os externum, when the case became perfectly similar to the figure in the woodcut. This fact shows that the touch cannot be entirely depended upon in these cases.

Although the finger recognises with ease the open state of the orifice of the cervical canal when it is inflamed, the eye may not detect it, unless a bivalve speculum be used, or at least a sufficiently large conical or cylindrical one to expand the lips of the os uteri. The morbid expansion of the os uteri and cervical canal is scarcely ever, in the absence of ulceration, carried to such an extent as to leave the os absolutely patent, like a bronchial tube in a hepatized lung, the parietes of the cervical canal being still more or less in contact, although dilated and separable. Hence the great advantage of the bivalve speculum in these cases: the expanding power of its valves enables the practitioner to open the lips of the os uteri to their full extent, and thus to ascertain by ocular inspection the state of a portion at least of the cervical canal.

The mucous membrane that lines the cavity of the cervix, when inflamed, presents a dark livid-red hue, which may be traced with the eye to a considerable depth, by depressing with the sound the lower lip of the os. This surface bleeds easily on being touched with the probe, especially if excoriated or ulcerated, which is not the case in the healthy condition. In the healthy state, the probe may generally be passed gently along the cervical canal, as far as the os internum, without the slightest oozing of blood. This is an important fact, as the escape of a few drops of blood from the os often follows, on the contrary, the entrance of the sound into the uterine cavity, even in the healthy condition.

The inflamed mucous membrane of the cervical canal also secretes muco-pus in more or less abundance; and this muco-pus

filling up the cavity, can often with difficulty be wiped away. I generally use for that purpose a small piece of cotton, inserted into the cleft of the fluid caustic-holder, which may be passed into the cavity of the cervix, owing to its dilated state, and with which the mucus may be removed. Even when there is no pus present, the cavity of the cervix is often completely filled with glairy transparent mucus, evidently secreted by the mucous follicles of the inflamed lining membrane. This glairy mucus, which may be compared to the uncooked white of an egg, has much attracted the attention of writers on female discharges, and is considered to be secreted by the uterine organs generally, as the result of debility, whereas, in reality, it is secreted by the cavity of the cervix, and is nearly always the concomitant of inflammation. It is sometimes produced in very great abundance, and constitutes one of the principal forms of the vaginal discharge commonly called "whites." The presence of great quantities of this glairy mucus, along with an open state of the os uteri, may be considered as pathognomonic of inflammation of the cavity of the cervix.

Inflammatory Ulceration.—Inflammation may exist for years in the cervix and its cavity, without giving rise to any other anatomical changes than those which have been enumerated. This, however, is not generally the case. The mucous membrane lining these regions, and more especially that portion of it which is near the os, appears to be peculiarly liable to take on ulcerative action. Consequently, the existence of inflammation, in the majority of instances, is soon followed by the manifestation of the ulcerative process. Ulceration generally appears first round the os, and just within the cavity of the cervix. From thence it extends, more or less, especially outwards over the cervix. Many different forms or species of ulceration are described by continental writers, but, in my opinion, without necessity or advantage. An ulceration occupying the cervix uteri may present all the various modifications which suppurating surfaces offer in any other part of the body, from the minute granulations of a slight abrasion to the livid vegetations of an unhealthy sore; but these modifications of the ulceration require in reality no division or classification.

When an abrasion or excoriation only is present, the cervix is generally of a vivid red, and the granulations are often so minute, that it is at first difficult to ascertain whether the mucous membrane is abraded or merely congested, or to perceive the limit of the excoriation once it has been ascertained to exist. The doubt, however, may be solved by lightly touching the suspected surface with the nitrate of silver. The abrasion immediately assumes a much whiter hue than the region which is merely congested, and its margin becomes well defined and evident. An abraded or excoriated condition of the mucous surface is generally the form under which ulceration presents itself in the cavity of the cervix; granulations of any size being very seldom met with in this region. In virgins, also, ulceration often presents this character, especially when it is limited to the contour and cavity of the os.

Some recent writers have denied the propriety of applying the term ulceration to the abrasions and excoriations which I am describing, and which they would call granular inflammation. That I am warranted, however, in so doing, when the lesions are the result of inflammation and of morbid vital action, and not of physical violence, must be evident to all who are acquainted with the classical literature of the profession. Ulceration, says Samuel Cooper, "is the process by which *sores* or ulcers are produced in animal bodies." J. L. Petit defines an ulceration or ulcer as "a solution of continuity, from which is secreted pus, or a puriform, sanious, or other matter." Boyer states, that "an ulceration is a solution of continuity of the soft parts, more or less ancient, accompanied by a purulent secretion, and kept up by some local or internal cause." Any of these definitions apply quite as truly to a mere abrasion or excoriation, the result of diseased action, secreting pus or sanies, as to the chronic, excavated, cutaneous ulcers, which the writers in question most unaccountably expect to find on the cervix uteri. Owing to the peculiar structure of the mucous membrane lining the cervix and its cavity, the margin of an inflammatory ulceration in this region is scarcely ever elevated and inverted, unless it be chancrous or cancerous, or unless the mucous membrane have been modified structurally by long exposure to the air, as in complete procidentia uteri. Inflammation of a merely granular character of

the cervix uteri is, however, sometimes observed, and real ulcerations, after being treated for some time, may heal over superficially, and assume a granular appearance.

In its more decided form, ulceration of the cervix uteri is susceptible of presenting every possible variety. The granulations may be firm, of a vivid hue, scarcely bleeding on pressure; or they may be large, fungous, livid, and bleeding profusely at the slightest touch. These fungous ulcerations are generally connected with torpor of the local circulation. When they are present, the congestion of the vagina and cervix is often very great, of a livid venous character, and the non-ulcerated surface of the cervix may present dilated varicose veins. It is the presence of these varicose veins that has led French writers to give to ulcerations in which they occur the name of varicose ulcerations. In pregnant women, after the first few months, ulceration of the cervix generally assumes this fungous form. Sometimes the granulations, from a purely inflammatory but luxuriant sore, will rise above the level of the surrounding parts, and even form small fleshy masses, which may be partly brought away by the finger, or which separate spontaneously. Ulcerations of this description bleed profusely whenever they are interfered with; sometimes to such an extent, that on bringing them into view with the speculum, the blood partly fills the instrument as often as it is wiped away. Whatever the character of an inflammatory ulceration of the cervix, the ulcerated surface is never excavated; it is always on a level with or above the non-ulcerated tissues that limit it; and its margin never presents any abrupt induration. Owing to this circumstance, it is always impossible to determine by the touch the precise point at which the ulceration terminates.

The cervix seldom presents more than one ulceration, situated around the os, dipping into its cavity, and extending more or less externally on the outer surface. Sometimes, however, we find, in the vicinity of the os uteri, several small ulcerated patches, isolated one from the other, but near to it. These multiple ulcerations, which are rare, are evidently formed, in the first instance, by aphthæ or ulcerated mucous follicles.

Owing to the all but invariable existence of the ulceration

around and inside the os uteri, the form of the latter is always considerably modified. The lips of the os swelling, enlarging, and expanding, the orifice of the cervical cavity opens; this opening of the os uteri being much more considerable when ulceration is present than when inflammation alone exists. Its extent depends principally on the size which the enlarged cervix reaches, on the degree and nature of the ulceration, and on the physiological condition of the patient. It is always much greater in a woman who has had children than in one who has not. In slight cases, the end of the finger only passes between the patulous lips of the os uteri. In more decided and more chronic disease, half or more of the first phalange of one, two, or three fingers, will enter its cavity. This is more especially the case when the lips of the os uteri are very much hypertrophied and indurated. They then often present the form of two rounded segments of a sphere, separated by a deep fissure; and the ulcerated surface, which is situated deeply between them, can only be discovered with the eye on their being separated with a bivalve speculum.

The presence of ulceration, generally speaking, gives to the surface on which it exists a soft, velvety, mossy character, which the finger, with a little practice, readily recognises. This soft, velvety sensation, and the open state of the os uteri, are the most important evidences of the existence of ulceration that the touch can furnish. They do not, however, conclusively prove the existence of ulceration, inasmuch as inflammation of the cavity of the cervix alone will open the os, as we have seen, more or less; and the velvety sensation cannot be depended upon, owing to the very variable nature and seat of ulceration. If it is situated deeply between two rounded lips, or inside the os, the finger does not reach it. The difficulty of distinguishing by the touch between mere inflammation and ulceration is, however, of the less consequence, as the open state of the os, which exists in both, is a morbid condition of sufficient importance to render an instrumental examination absolutely indispensable.

In nearly all the cases in which inflammation and ulceration occupy the exterior of the cervix, they will be also found, on examination, to penetrate, more or less deeply, into its cavity. The entire

cavity of the cervix, as far as the os internum, may be ulcerated. Even when the cervical canal is free from ulceration, it is generally inflamed to a greater or less depth if ulceration exists externally. Owing to the cavity of the cervix expanding, as we have seen, when thus affected, if its lips are well separated by the bivalve speculum, and the patient is placed in a good light, the eye will often be able to follow the disease to a considerable depth; especially if one of the lips of the os uteri is at the same time depressed or elevated with the uterine sound. We must judge as to the presence of ulceration beyond the point which the eye can reach, by the nature of the secretions, and by the expansion of the cervical canal. In the cavity of the cervix it is often difficult to distinguish between inflammation and ulceration, owing to the minuteness of the granulations of the ulcerated surface.

The natural coarctation of the os internum appears all but invariably to constitute a barrier to the extension of ulceration into the cavity of the uterus. In the case of ulceration of the cavity of the uterus, to which I have elsewhere alluded (p. 61), the cervix and its cavity were perfectly free from disease.

Discharges.—The secretion from the ulcerated surface, wherever its seat, is necessarily purulent. The pus may be thick, and of a yellow healthy colour, or it may be thin and sanious, according to the state of the ulceration. It may be secreted scantily, or in abundance. It may be mixed with a good deal of mucus, or remain uncombined. When secreted scantily, and unmixed with mucus, it is often absorbed in the vagina, so as not to appear at all externally. If this is the case, the patient may suffer from extensive ulceration, and yet have no vaginal discharge. When the purulent secretion is very abundant, or when it is mixed with a large quantity of mucus, more or less reaches the exterior, and the patient is said to have the whites, the generic term under which are popularly designated all non-sanguinolent discharges from the vagina. When the discharge is purely purulent, it is generally thick, yellow, and seldom very abundant. When it is semi-mucous, or entirely mucous, its character varies according to the region which secretes the mucus. The mucus in these cases is the result of the congested or inflamed state of the mucous follicles of the cervix, of the cervical cavity, and of the vagina;

and as congestion generally accompanies inflammation and ulceration of the cervix, it varies in quantity according to the intensity of the congestion, and in nature according to its seat.

The white, milky, creamy fluid which is so commonly met with in females, and which has given its name to vaginal discharges generally, (whites, leucorrhea, flueurs blanches,) is the secretion of the numerous mucous follicles which cover the cervix, and probably also of the follicles existing in the upper part of the vagina, when in a state of congestion.

The thick, tenacious, ropy, transparent, white-of-egg mucus, is secreted, as I have already stated, by the mucous follicles occupying the cavity of the cervix, and possibly also by the lining membrane of the uterus. I have always found it occupying, and issuing from, the cavity of the cervix. This peculiar secretion seems scarcely ever to take place in any quantity, unless inflammation be present in the interior of the cervix, and its existence is, consequently, nearly always an indication of inflammatory disease in the cervical canal. The white milky mucus, on the contrary, which is secreted on the exterior of the cervix, seems to be produced by mere congestion, whatever its cause: thus very many women who have no disease whatever of the uterus present it for a few days before and after menstruation, when the uterus is in a state of physiological congestion. At first, it certainly must appear rather strange that inflammation of the mucous membrane lining the cervical canal should, generally speaking, be only attended with the secretion of a large quantity of transparent mucus. We may, however, find an analogy in other mucous membranes, as, for instance, in that which lines the nasal fossæ. Inflammation in this region, constituting what is commonly called "a cold in the head," also gives rise to an abundant secretion of the same kind of glairy mucus.

The amount of the morbid secretion, from these various sources, in inflammation and ulceration of the neck of the uterus, is sometimes considerable. It then appears externally in large quantities, is found in abundance in the vagina, especially in its upper region, and on the introduction of the speculum, until wiped away, completely conceals the cervix. When thus abundant, however great the congestion and inflammation of the cervix and

vagina, if the disease is of a purely inflammatory nature, the discharge is always, or nearly always, partly mucous, not entirely purulent. The discharge of immense quantities of unmixed pus from the vagina is very uncommon in simple inflammation, and appears to be all but characteristic of gonorrheal inflammation in the female.

The vaginal discharge in ulceration of the cervix is not unfrequently tinged with blood. This occurs more especially after any effort or exertion, or after intercourse; but it may take place, at intervals, without any appreciable cause. In some instances, the exudation of blood, in more or less abundance, will occur regularly for a week or more after each menstrual period, or even during the entire interval of menstruation. In these cases, the blood evidently escapes from the ulcerated surface, and seldom appears in large quantities. Generally speaking, during the interval of menstruation there is only a slight occasional show, the blood being nearly always mixed with the other mucoso-purulent secretions. Sometimes, however, pure blood escapes, and severe hemorrhage may take place under these circumstances. It is generally pure unmixed blood, but in small quantities, that is observed after intercourse, and its presence at such a time may be always considered a very important symptom, indicating the existence of an ulcerated surface within reach, liable to be bruised and injured by pressure. The lengthened sanguinolent discharges that not unfrequently follow laborious confinements, abortions, and miscarriages, lasting without intermission for weeks and even months, and proving so intractable to treatment, are nearly always connected with, and caused by, ulceration of the neck of the uterus, or of its cavity. This, however, is too important a subject to be cursorily examined, and will be fully studied in a subsequent division of this work.

In connexion with the vaginal discharges above described, may be mentioned the secretion and expulsion of flatus from the uterine organs, which is occasionally observed. In all the cases in which this symptom has been mentioned to me, I have found, on examination, that the patient was suffering from inflammatory ulceration of the cervix: and, generally speaking, it has subsided on the removal of the uterine disease. I am there-

fore, I conclude, warranted in believing that the flatus, in these instances, is produced by the decomposition of the morbid fluids to which the inflammatory disease gives rise. It may evidently take place in either the uterine cervical or vaginal cavity. It is always a source of great distress to the patient, and sometimes persists in a modified manner after the removal of disease, especially during menstruation.

Inflammatory Hypertrophy.—Inflammatory ulceration of the cervix is generally followed, in the course of time, by important changes in the structure, size, and form of the organ. One of the first effects of the disease is, as we have seen, to produce congestion and swelling of the central structure of the uterine neck; the cervix becoming larger, but at the same time remaining soft and elastic. This state may long continue without any other change taking place. I have repeatedly found the cervix enlarged, swollen, and congested, but perfectly soft, after years of disease, especially when the disease has been limited to the cavity of the cervix or to the immediate vicinity of the os. Generally speaking, however, this is not the case. The central tissues are not only congested, but inflamed; effusion of plastic lymph takes place in their structure, and becomes more and more organized. Thus the cervix is not only enlarged, but also indurated. At first, the central induration is evidently of an active inflammatory nature, as indicated by the increased heat of the organ, the vivid redness, and sometimes the pain on pressure. If the disease is not subdued, in the course of time these symptoms of inflammatory action partially subside, and the cervix becomes the seat of mere chronic hypertrophy, the inflammatory origin of which is scarcely discernible. The extent to which inflammatory hypertrophy of the cervix may be carried is perfectly surprising; the size of the uterine neck thus affected varying from that of a small walnut to that of a man's fist.

In virgins, and in women who have had no children, the cervix seldom enlarges to any great extent. It is often indurated, although not at all increased in size, the finger detecting the induration and structural change without the eye perceiving it. When it does enlarge in virgins, the neck of the uterus seldom becomes more than two or three times the natural size, although

exceptions to the rule are met with, especially with those who are advanced in life.

In women who have borne children, on the contrary, central induration and structural hypertrophy are much more commonly met with. Owing to the greater vascularity and vitality of the uterine tissue, inflammation more readily extends to the central structure of the cervix. It is, consequently, not only more frequently followed by induration, but when induration does occur, it is nearly always much more extensive than in virgins or even than in sterile females. It has been asserted by several French writers, that the inflammatory hypertrophy of the cervix so frequently observed in women who have had children, and who are suffering from inflammation of the cervix, is the principal cause of the ulceration which nearly invariably accompanies it; or, in other words, that the ulceration is generally a secondary affection. This assertion, however, is evidently an error. I have very often been able to follow the extension of the inflammation accompanying ulcerative disease to the deeper-seated tissues, and to watch the gradual manifestation, under its influence, of deep-seated induration. Thus I have frequently seen cases in which a slight ulceration was at first the only lesion, and in which the general induration which subsequently made its appearance, gradually became more and more marked as the ulceration increased in extent. I am also continually meeting with ulceration confined to one lip, accompanied by induration and hypertrophy of that lip only. Indeed, there is generally, in recent cases, a very evident conformity between the degree of the general induration and the extent and duration of the ulceration. In the production of inflammatory induration of the cervix, there is likewise another very important circumstance to be taken into consideration—viz., the time that has occurred since an abortion or a labour. The nearer a female is to the epoch at which she has been delivered or has miscarried, when attacked with inflammation and ulceration of the cervix, the greater will be the inflammatory hypertrophy produced by the ulceration.

The induration and hypertrophy are generally confined to the cervix; but sometimes they pass on to the body of the uterus,

then, obviously, also the seat of inflammation. This is a serious complication, as it is much more difficult to restore to a healthy condition the body of the uterus when it is thus modified, than it is to overcome inflammatory hypertrophy in the cervix. Fortunately, the induration seems most frequently to limit itself to the cervix, notwithstanding the anatomical continuity of the two regions.

Although I thus consider induration and hypertrophy of the cervix generally to be the result of the extension of superficial inflammation to the central tissues, to be the sequela, and not the cause, of ulceration, the reverse may take place. Induration and enlargement of the cervix may remain as a result of general metritis, and by the irritation which it produces give rise to inflammation and ulceration of the mucous surface.—Whatever may have occasioned the general inflammatory induration, if it persist, it certainly becomes an important cause of local disease, continually reproducing the ulceration, unless means be taken to remove it as well as the more superficial disease. This it does in two ways: by keeping up a chronic state of inflammation of the organ, in which the mucous surface necessarily participates, and by the irritation which the friction of the hypertrophied and generally prolapsed cervix against the parietes of the vagina occasions.

As the indurated cervix enlarges, the external orifice of the cervical canal, opening and expanding, assumes a transversal form; so that instead of a circular, or nearly circular orifice, we have a deep fissure, presenting well-defined lips. This is more especially the case when the induration is accompanied by extensive ulceration. These lips may or may not be equally indurated or enlarged; sometimes one is many times larger than the other. When it is the superior lip that is thus enlarged, it covers the os uteri, which the finger must search for underneath it; when it is the inferior one, the os uteri will be found above it, underneath the pubis. I have seen both the superior and inferior lip separately enlarged to such an extent as to form a kind of tumour, projecting a couple of inches beyond the less hypertrophied lip.

The indurated cervix is not unfrequently divided into separate

lobes. The presence of these lobes is an evidence of antecedent laceration of the cervix during an abortion, a difficult or instrumental labour, or even sometimes during a natural labour. The lacerated surfaces not healing, the ulceration, in the course of time, is followed by hypertrophy of the segments into which the cervix is divided. These segments sometimes assume a stony hardness, and their existence often leads to the supposition that the patient is labouring under carcinoma. I have met with several cases of this description, in which the disease had been erroneously pronounced to be cancerous by high authorities. There is, however, a means of establishing a diagnosis, which, simple as it is, has not yet been pointed out. When the lobular, knotty, irregular condition of the cervix is the result of laceration, and is simply inflammatory, the fissures which separate the lobes radiate round the cavity of the os as a centre,—which is not the case in a cancerous tumour,—each separate lobe being perfectly smooth in itself, and free from tubercles or superficial inequalities.

Not only is this lobular form of induration erroneously considered cancerous, but even the hard inflammatory hypertrophy which I have described is still more erroneously considered to be frequently malignant by the highest and most esteemed authorities.

Displacements of the Cervix.—The uterus, as I have stated, is not firmly supported by its ligaments, as is generally supposed, but merely suspended in the cavity of the pelvis, and kept in situ to a great extent by the natural contraction of the vagina around its lower segment, and by the pressure of the surrounding organs. Owing to this anatomical circumstance, the slightest modification in the volume and weight of the cervix gives rise to a change in its position—a fact which we have already seen exemplified in the body of the organ (p. 48). Inflammatory hypertrophy of the cervix increasing considerably the specific gravity of the inferior portion of the uterus, the entire organ descends, prolapses. The cervix is thus brought much nearer to the vulva; at the same time it is very frequently directed backwards, so as to press on the posterior parietes of the vagina and on the rectum, whilst the body of the uterus may, or may not, be carried forward. This

change of position, which constitutes retroversion of the neck of the uterus, is so commonly met with in married females suffering from inflammatory induration, as to constitute nearly the rule. With them it is evidently, to a great extent, the result of intercourse. In the healthy state, the cervix is soft and small, and yields to pressure; but when it is enlarged and indurated, it must necessarily offer resistance, and consequently be thrust backward, and lodged in the cavity of the sacrum. The continued recurrence of this physical cause of displacement in these cases, eventually renders the retroversion of the cervix permanent.

Whenever there is much enlargement and induration of the cervix, unless the vagina be extremely contractile, there is always more or less prolapsus. This is more especially the case when the patient is standing; the degree to which the prolapsus may be carried depending on the amount of the hypertrophy and on the state of the vagina. If the vagina has retained its contractility—as in the virgin—it will support the uterus; but if, on the contrary, it is lax, and offers no support to the enlarged cervix,—as in women who have had many children,—it may fall as far as the orifice of the vulva, or even appear externally. This abnormal laxity of the vagina may be partly occasioned by the hypertrophy itself; the distention of the superior portion of the vagina by the enlarged cervix diminishing its tonicity, and the uterus then falling, as it were, into a non-contractile pouch. When it thus lies low in the vagina, it gives rise to a very irksome sensation of weight, dragging, and bearing-down, which may be felt, not only in the pelvic region, but in the abdomen, the patient often feeling, especially when erect, as if a foreign body were about to escape from her. These sensations are occasioned partly by the weight of the uterus bearing anomalously on the floor of the pelvic cavity, and partly by the traction which the enlarged and prolapsed womb exercises on its ligaments, and on the organs with which it is connected. When sitting or lying, the bearing-down sensation is less marked; but if the enlargement of the cervix is considerable, there may be another sensation experienced, that of a tumour, pressed up, when sitting, by the resistance of the seat.

The hypertrophied cervix is sometimes directed anteriorly, or anteverted; it then lies behind the pubis, more or less high,

according to the extent of the anteversion. When this is the case, it is always owing to some enlargement of the body of the uterus, which causes the uterus to fall back into the cavity of the sacrum, and thus throws up the cervix.

The hypertrophied cervix occasionally lies diagonally in the pelvic cavity, to the left or to the right; so that the finger passed into the pelvis per vaginam in a straight line towards the sacrum, misses it entirely, leaving it on one side. When the cervix is directed to the left, as is usually the case, I scarcely consider the displacement morbid. In many non-pregnant females, as I have already stated, the uterus naturally lies diagonally from right to left, and in the cases in question this position is merely exaggerated and rendered more apparent by the hypertrophy.

LOCAL SYMPTOMS.

Under the head of local symptoms, for want of a better term, I have classed the symptoms furnished by the extension of inflammation to the surrounding organs.

Extension of Inflammation to the Vagina and Vulva.—When the neck of the womb is inflamed, the congestion and inflammation nearly always extend, more or less, to the vagina. If the inflammation of the cervix is slight, the upper third or upper half only of the vagina will be congested or inflamed, and present the deep vascular hue and the mucoso-purulent secretion which characterize these conditions in a mucous membrane. If the disease of the cervix be severe, and sometimes when it is not, the entire vagina and the vulva are congested, swollen, tender, and more or less inflamed.

The vulva is not unfrequently the seat of inflammation, even when the vagina is free, or it may remain inflamed, when the vaginitis is subdued. Inflammation of the vulva, labia majora, nymphæ, &c., is often accompanied by a very distressing symptom, intense itching. This itching has been generally described as a disease of itself, under the name of pruritus vulvæ; but it is, in reality, nearly always connected with erythematous or follicular inflammation, either occupying the entire vulva, or, what is more common, patches around the nymphæ or hymen, and is then a

mere symptom of the internal inflammatory disease. Hence its well-known intractability to treatment. So long as the uterine disease is allowed to run its course, and the means used are only applied to the vulva, there is but little chance of its being cured, however energetic the treatment. Generally speaking, it disappears, on the contrary, or is easily subdued, once the uterine inflammation has been removed. The most painful form of vulvar inflammation and pruritus, as we shall see when specially treating of vulvitis, is that in which the cutaneous surface of the labia majora is affected. The itching is then often so extreme as to be perfectly agonizing, rendering sleep impossible, and only becoming bearable when the inflamed surface has been rubbed until it is abraded and covered with blood. When this is the case, the labia are always considerably thickened, and the numerous mucous follicles which exist in this region are enlarged and visible, so as to give to the skin and mucous membrane a speckled appearance. This form of vulvar inflammation scarcely ever gives way until the uterine inflammation is radically cured.

The deep red hue of the vagina and vulva which is met with in inflammatory congestion and inflammation, exists physiologically before, during, and after menstruation, as also during lactation. Its presence under these circumstances, therefore, must not be considered a symptom of disease. It is merely the result of a physiological determination of blood to the uterine system, and disappears with the cause that produced it.

Extension of Inflammation to the Rectum and Bladder.—Inflammation of the uterine neck, when severe and chronic, not unfrequently extends to the rectum, and to the bladder and urethra, or at least exercises a morbid influence over these organs. The vascular system of the three pelvic viscera, the bladder, uterus, and rectum, is so intimately connected, that it is all but impossible for one to suffer much from long-continued inflammation, without the other feeling more or less the effects of the disease. The rectum is, indeed, generally affected in chronic uterine disease. This clinical fact is explained, not only by its vascular connexion with the uterus, but by the physical pressure exercised on it, as we have seen, by the diseased uterus. If the body of the uterus is inflamed and enlarged, it falls back towards

the cavity of the sacrum, so as to rest with its entire weight on the rectum. If the cervix is enlarged and indurated, it is generally thrust back mechanically, so as to press on the lower bowel, the body of the uterus remaining in situ or being carried forwards. In either case, the pressure on the lower bowel is attended with the same distressing results as when it is the body of the uterus that is retroverted and presses on the rectum. The fæces meeting with a physical obstruction to their passage into the lower part of the rectum, accumulate above, and keep the upper part of the bowel permanently distended.

Their passage is also generally attended with great pain, especially if they are solid, owing to the contents of the bowel having to lift up the inflamed and indurated organ that obstructs their exit. The body of the womb, however, being infinitely more painful and sensitive when inflamed than the cervix, it is more particularly when it is diseased that the pain on defecation is very severe; pain is often experienced when the cervix is enlarged and indurated, but by no means to the same extent. The rectum is often, in these cases, in a state of extreme congestion and irritation, as indicated by its great sensibility, and by the quantity of mucus that is frequently expelled along with the fæces. The combined action of these causes, in the course of time, appears to destroy the natural contractility of the lower bowel, and, as a necessary result, to induce obstinate constipation. Indeed, constipation from want of sensibility and contractile power in the rectum, is one of the characteristics of chronic inflammation of the uterus and its neck.

Hemorrhoids and prolapsus ani are not unfrequent complications of the disease we are studying, owing to the operation of the causes that have just been enumerated—viz. obstinate constipation, and the straining which it occasions, secondary congestion and irritability of the rectum, impeded circulation, dilatation and relaxation of the bowel and of its mucous surface. The attacks of piles occur, most frequently, at the period of menstruation, when the pelvic irritability and congestion are at the greatest height. These attacks are often very frequent and very severe, and add greatly to the discomfort of the patient.

The constipation observed in chronic uterine inflammation

occasionally alternates with diarrhœa. When this is the case, the diarrhœa is mostly observed at the commencement of menstruation, or a day or two before. It may last all the time of the menses, or only for the first day or two. Sometimes diarrhœa is observed during menstruation in patients thus affected, who do not suffer from constipation, the cause being, no doubt, the extension of the menstrual congestion to the bowel. This circumstance alone has led me, in several instances, to suspect the existence of uterine disease. It must be kept in mind, that an attack of diarrhœa at the commencement of menstruation, is not unfrequently observed physiologically—a fact which the researches of Dr. Tilt have clearly demonstrated.

The anatomical connexion that exists between the bladder and the uterus renders it nearly as liable as the rectum to suffer, secondarily, when the neck of the uterus is the seat of inflammatory disease. The bladder and urethra may become congested and irritable, giving rise to pain above and behind the pubis, accompanied by a frequent desire to pass water, to difficulty in its excretion, and to heat and scalding in the urethra as it passes.

Irritability of the mucous membrane of the bladder, its neck, and of the urethra, is not unfrequently produced in chronic inflammation of the cervix uteri, as of the body of the uterus, by the morbid state of the urine itself. In inflammatory ulceration of the uterine neck there is the same intense sympathetic reaction on all the organs supplied by the sympathetic nerves, and as the inevitable result, the same depraved state of digestion, assimilation, and general nutrition. The kidneys eliminating in abundance urate of ammonia, phosphate of ammonia, oxalate of lime, &c., the presence of these salts in the urine often occasions great irritation of the mucous membrane lining the urinary system, kidneys, ureters, bladder, and urethra. The existence of vesical irritation in uterine disease, as the direct result of the contact of morbid urine with the mucous membrane, does not appear to have been recognised by uterine pathologists: at least, I do not recollect seeing it mentioned. The vesical irritation which is so common in this class of diseases is generally, and, in my opinion, in most cases erroneously, attributed to displacement of the womb,

if any such displacement exist. Not but that I admit that vesical irritation may originate in this latter manner, when the displacement and the consequent traction on the bladder are very great.

It is difficult, but not impossible, to recognise from the symptoms the cause of the vesical irritation when present. If it is occasioned by mere extension of inflammation to the bladder or its neck, the irritation is observed when the uterine inflammation is at its height; there is not only pain on passing water, but often great difficulty of excretion, or even complete retention. These symptoms, and more especially retention, re-occur with the greatest intensity during the menstrual epochs, when, generally speaking, the uterine inflammation becomes exacerbated. As the inflammation of the cervix subsides during the interval of menstruation, the dysuria diminishes, and the vesical irritation becomes bearable. Moreover, the urine is generally clear in these cases, and free from lithates, &c.

When the irritation of the bladder and urethra is occasioned by the contact of a morbid urinary secretion, the difficulty and pain on passing water are not quite so great, but are more permanent. There is also a very characteristic dull aching pain in the region of the neck of the bladder, from which the patient is never free; and the urine is found, on examination, to be morbidly loaded with salts. These symptoms are generally seen with the greatest intensity in cases of uterine disease in which the inflammation of the uterine neck has become quite chronic. Not unfrequently they make their appearance, for the first time, or become greatly exacerbated, after the disease of the cervix uteri has been completely cured. It would appear as if the inflammatory ulceration of the cervix had a kind of derivative or counter-irritant effect, which prevented the irritable state of the bladder from becoming apparent. So long as this internal counter-irritation lasts, the irritability of the bladder is obscure, in abeyance as it were; but it becomes distressingly evident when the uterine disease has been subdued. This important fact not being recognised in practice, the existence of these symptoms is a fertile source of error. I have frequently, of late years, been consulted in cases in which the uterine

disease having been entirely overcome, the sudden or gradual appearance of the symptoms of irritable bladder had been mistaken, both by the patient and her medical attendant, for a relapse of the uterine affection, or for the indication of some obscure uterine lesion still undiscovered. I have also, repeatedly, seen irritability of the bladder, occurring under these circumstances, erroneously considered the evidence of calculus, or of severe organic disease of the urinary organs. Such errors, however, need never be made, if the symptoms indicating the presence of this form of vesical irritability are carefully investigated, and the above facts borne in mind.

The dull aching pain which exists in these cases is evidently referable to the neck of the bladder, and is felt just behind and above the symphysis pubis. The pain is always present, although aggravated by the excretion of urine. It sometimes extends all over the inferior and median hypogastric region, reaching nearly as high as the umbilicus. There is also frequently pain, of a dull, heavy kind, on both sides of the upper lumbar region of the back, in the region of the kidneys; and shooting darting pains along the course of the ureters, from the kidneys to the bladder, are often experienced. On examining per vaginam, and on pressing the urethra and neck of the bladder with the forefinger against the pubis, more or less pain is felt, which is not the case in the healthy state. Sometimes, also, there is a certain amount of swelling and puffiness about the neck of the bladder, the existence of which may be similarly ascertained. The desire to void urine is very frequent; and as the urine passes along the urethra, it gives rise to a sensation of heat and scalding. The patient is often obliged to get up several times in the night, in order to empty the bladder. I occasionally see cases in which the water can scarcely be retained for more than half an hour at a time.

When vesical irritation is occasioned by a morbid state of the urinary secretion, it may be turbid when first passed. As it cools, the turbid matter collects in light-coloured flaky clouds, which, after remaining a short time in a state of suspension, collect at the bottom of the glass. Instead of being turbid at first, the urine may be clear, but become turbid on cooling.

The urine is then generally of a dark-brown colour, and the sediment which forms is also of a dark brown or dirty pink hue. These sediments are principally constituted by amorphous urate of ammonia, but may contain crystals of oxalate of lime, or of the phosphates of lime. When the triple phosphates are present, they often form an iridescent film on the surface of the urine, like that which is seen on lime-water on exposure to the air. This film is found, on examination, to consist of crystals of the same phosphatic salts as those which are contained in the deposit.

The turbid state of the urine may exist as a temporary result of depraved digestion, appearing from two to four hours after the ingestion of food, according to its digestibility, and soon after ceasing to be present. The turbidity may, on the contrary, be permanently present whenever the urine is examined, whether it be modified or not by the results of digestion;—that is, it may be observed both in the *urina sanguinis* and in the *urina digestionis*, according to the state of the digestion, and to that of the functions of nutrition and assimilation. Under the microscope, numerous epithelial scales are often seen, and sometimes a few pus-globules.

These morbid elements may exist in the urine for years, as a result of depraved digestion and assimilation, without giving rise to irritability of the mucous membrane of the urinary system. But when the irritability has once appeared, it is exceedingly difficult to overcome, the irritation being continually kept up by the very cause that occasioned it—the morbidly constituted urine. In many instances it is only after the urine has become healthy, and remained so for months, that all irritation about the bladder finally disappears. During this time the exfoliation of epithelial scales is sometimes so great, that they are plainly visible to the naked eye, and collect in large quantities at the bottom of the glass. I shall revert to the morbid conditions of the urine when treating of the reaction of uterine inflammation on the functions of digestion and nutrition.

Pain and its Seat.—One of the chief causes that has hitherto tended to keep the profession in ignorance of the frequent existence of inflammation and ulceration of the uterine neck, is,

that the disease very often exists without giving rise to pain or uneasiness in the region affected, and that when pain is experienced it is often at a distance from the anatomical seat of the morbid action, in regions which are perfectly healthy. Extensive inflammatory and ulcerative disease of the cervix may, indeed, be present for years without giving rise to pain, or to any well-marked local symptom; the only evidence of its existence, especially to a superficial observer, being functional derangements of the uterus, and the general sympathetic reactions which we shall presently have to investigate. The pain occasioned by inflammation and ulceration of the uterine neck is seldom felt behind the pubis, the anatomical seat of the diseased cervix, but in one or both of the ovarian regions, in the lower lumbar, and in the upper sacral regions. Singularly enough, in nine cases out of ten, it is the left ovarian region alone, and not the right, or both, that is the seat of pain. This localization of the pain produced by inflammation and ulceration of the cervix uteri in the left ovarian region is, perhaps, connected with some peculiarity of the distribution of the uterine nerves, but I have hitherto been unable to discover any anatomical reason for the preference thus shown. The fact, however, is undeniable, and renders the existence of a dull, aching, constant, circumscribed pain, in the left ovarian region, all but pathognomonic of inflammatory disease of the cervix uteri. The pain in the back is of the same dull, aching character. It is sometimes scarcely perceptible, only amounting to what the patient calls a "weakness;" except, perhaps, after fatigue. In many instances, however, it is very severe, and may be perfectly agonizing, incapacitating the patient for any exertion. She feels, she says, as if the back were broken, and she can neither stand nor sit erect with comfort. When there is pain in the region of the uterine neck, it is experienced behind and above the pubis. It is seldom circumscribed, like the ovarian pain, but radiates all over the lower hypogastric region.

These three pains, the lumbo-sacral, the ovarian, and the lower hypogastric, (I name them in the order of their relative frequency,) may exist conjointly or separately. They are produced alike by inflammation without ulceration, and by inflam-

mation with ulceration. They are, however, much more marked when there is ulceration, more frequently severe, and much more constant. The uninterrupted persistence of one or all of these pains, even when slight, is an important feature in their character. They may be better or worse; better after rest, and in the interval of the menses; worse after fatigue, and at the menstrual epoch; but they are always present to a certain extent. The patient may forget their existence for a time, under the influence of mental excitement; but if she analyzes her sensations, night or day, she finds that the pains have not left her—"*hæret lateri lethalis arundo.*" When backach, on the contrary, is the result of general debility only, it is essentially intermitting, coming on after fatigue or exertion, and disappearing after rest. The ovarian and hypogastric pains, which are often felt during menstruation by healthy females, likewise disappear entirely during the catamenial interval.

The local pains of inflammation of the cervix have been confounded by many writers with neuralgia of the uterus; and owing to this circumstance, the descriptions which are given of this latter form of uterine disease are obscure and imperfect. In real uterine neuralgia, the pain is principally situated in the uterus itself, to which it is referred by the patient throughout the attack. This pain, generally speaking, comes on suddenly, without being preceded by any premonitory symptom, unless it be slight numbness. A few minutes before and after the attack, the patient may be perfectly well, and free from pain; whereas, during its existence, she is often rolling in agony on the bed or the ground. Real neuralgia is essentially intermitting in its character, returning for a limited time, at stated intervals, during the twenty-four hours. Sometimes the attacks only occur once in the twenty-four hours, sometimes oftener. They last from an hour or two to ten or twelve. An attack is composed of a series of paroxysms, each of which is followed by a period of comparative freedom, of variable duration. During the attack, pains are also felt in the lumbo-dorsal, ovarian, and other uterine regions; and there may be exquisite cutaneous sensibility of the entire abdominal region. All these pains, however, disappear along with the uterine tormina, as soon as

the attack ceases. The patient then rallies, and, in some cases, loses so completely all painful sensations, that, were it not for the recollection of the past, and the fear of the future, she would scarcely know there was anything amiss with her. On examining a patient who presents these symptoms during the interval of the attack, the cervix and the body of the uterus are sometimes found healthy and free from all morbid sensibility. Occasionally, however, some lesion is discovered, which is evidently the origin of the neuralgic symptoms; such as a fibrous tumour developed in the tissue of the uterus, or an ulcerated state of the cervix. In these cases we find the neuralgic attacks co-existing with the symptoms which are peculiar to these morbid states.

In addition to the lumbo-sacral, ovarian, and hypogastric pains which more peculiarly characterize inflammation and ulceration of the uterine neck, there are often other pains present, which must be attributed to the same cause. Thus the patient sometimes complains of pain in the hip, round the crista of the ilium, in the groin, and down the thigh; posteriorly along the course of the sciatic nerve and its divisions; and anteriorly and internally along the course of the anterior crural and the obturator nerves. These pains are evidently either the result of the direct pressure of the enlarged uterus on the origin of the nerves, and on the sacral plexus in the cavity of the pelvis, or they are sympathetic, like that of the back. The lumbo-sacral backach appears to be principally located in the ultimate divisions of the spinal cord, as they pass through the sacrum and the lower lumbar vertebræ. The lumbo-sacral pain may also partly proceed, like the ovarian, from the sympathetic nerves and plexuses. A dull, aching pain seems to be the characteristic form in which pain manifests itself in the sympathetic system of nerves. It is the character of the pain produced by irritation and chronic inflammation in the heart, the stomach, the liver, the bladder, and the other organs supplied by this system of nerves.

The pains which have just been described are all referable to the diseased cervix uteri. They may be complicated by those which accompany irritability of the bladder or rectum. When

such is the case, the local sufferings of the patient are often very great.

FUNCTIONAL SYMPTOMS.

The functional symptoms are those which are afforded by the two great functions of the uterus—menstruation and impregnation. Inflammation, both acute and chronic, nearly always modifying the functions of the organs which it attacks, those of the uterus, as might be anticipated, are generally more or less disordered by the existence of inflammation and ulceration of its neck. These functions, however, being connected with the preservation of the species only, and their integrity not being indispensable for the preservation of the life of the individual, it is not surprising that the aberrations which they present, under the influence of obscure and chronic disease, often attract but little attention.

Menstruation.—Inflammation and ulceration of the cervix seldom exist for any length of time without modifying, unfavourably, menstruation. But owing to the great variations that exist, physiologically, in healthy females, as to pain, periodicity, duration, and amount of sanguinous discharge, it is impossible to establish any precise standard, applicable generally, by which we may judge of the state of menstruation in any given patient, with reference to the existence or the non-existence of inflammatory disease of the neck of the uterus.

It may be safely asserted, however, as a general rule, that under the influence of inflammation developed in this region of the uterus, menstruation usually becomes painful, anomalously scanty or abundant, and irregular both as to periodicity and duration. These variations not being incompatible with health, within certain limits, their presence does not necessarily indicate the existence of inflammatory disease; but we are warranted in suspecting the presence of inflammation whenever menstruation, *previously easy*, becomes laborious and irregular, or whenever its natural difficulty becomes much increased. In a word, the existence or non-existence of morbid symptoms in connexion with menstruation, must be ascertained by the analysis of the entire

uterine life of the patient, and by the comparison of the present with the past. It is with herself only, *when in health*, that we can compare her, if diseased.

The *pain* experienced during menstruation, when the cervix uteri is inflamed and ulcerated, is greatest for the first few hours, or for the first day or two, like the physiological menstrual pains. Unlike the latter, however, it often persists with great severity during the entire period, and for some time after. Occasionally it is most agonizing and continued; so much so as to confine the patient to her bed, and to render sleep impossible for several days and nights. It is then nearly always accompanied by nausea and sickness, and by some degree of general febrile reaction. The pains are of the same nature as those experienced during the menstrual interval, lumbo-sacral, ovarian, and hypogastric. The dorsal, uterine, and ovarian pains are, generally speaking, alike intense. They are constant, but diversified by occasional uterine tormina. The entire lower abdominal region is painful in these extreme cases, and often so sensitive as scarcely to bear the pressure of the bedclothes. Even then, however, the sensibility is greatest in the ovarian regions. The pain is often so distressing as to lead to the administration of very large doses of opium. I have repeatedly had patients who have gradually been obliged to increase the dose of laudanum at first given, until they took a wineglassful or more at a time.

The great increase of the pains occasioned by inflammatory ulceration of the cervix during menstruation, is owing, partly to the congestion that accompanies menstruation distending the more than usually sensitive tissue of the cervix and body of the uterus, and partly to temporary exacerbation of the local inflammation. I often compare the exacerbation that occurs at this period to the pain which is experienced in an inflamed finger, if it is held down, so as to allow the blood to gravitate into and distend the inflamed tissues. In patients thus suffering, there is evidently at each monthly period a revival and an extension of the local uterine inflammation. A large proportion of the cases of severe dysmenorrhea, generally supposed to be merely functional, are, without any doubt, cases of this description.

The *periodicity* of menstruation is very frequently modified by the existence of local inflammation of the cervix. The menses either return too frequently, or are retarded in their manifestation. Thus, instead of appearing every four weeks, the ordinary physiological time, they appear every three weeks, or even more frequently, or are delayed from a few days to several weeks or even months. The influence of inflammation and ulceration of the cervix in retarding the appearance of the menses after parturition is very remarkable. When the cervix is thus diseased, the return of the menses is often retarded for two, three, or four months, although the patient be not nursing.

The *duration* of the menstrual flux is also morbidly modified by the local disease. It may be either increased, lasting two or three times as long as in health, or diminished, in the same ratio. It is most frequently, however, diminished. The flow of blood sometimes ceases for a day or more, to return again for a longer or shorter period. Occasionally, also, it appears to be prolonged for several days by a sanguinous exudation from the ulcerated surface. This is proved to be the case by the cauterization of the ulceration putting a stop to the discharge.

The above remarks apply equally to the *quantity* of the sanguinous discharge, which may be increased or diminished, but is most frequently diminished. These changes in the amount of blood excreted during menstruation are, apparently, the result of extreme congestion, occasioned by an anomalous determination of blood to the uterus, under the influence of local irritation. The uterus thus congested may be unable to relieve itself of the blood that distends it, or may, on the contrary, pour it out too freely. That such is, in most instances, the cause of these morbid changes in the amount of blood secreted during menstruation, is shown by the fact, that the application of leeches to the cervix, or even the abstraction of blood from other parts, will often increase the discharge if it is too scanty, bring it on if retarded, and diminish it if too abundant.

The quantity of blood lost may be so great as to constitute flooding. This more especially occurs when the uterine neck is the seat of very vascular ulcerations. I believe that in these cases part of the blood excreted escapes from the diseased surface

itself, although in the healthy state the menstrual secretion evidently takes place from the lining membrane of the uterine cavity. These menstrual floodings, the result of inflammatory ulceration of the cervix, are more especially observed when the menses first return after abortion or parturition, and at their final cessation.

On the other hand, the quantity of blood excreted may be so small as merely to tinge the patient's linen for a few hours, or for a day or two only. When this occurs, and even sometimes when the flow of blood has been free, the uterine circulation does not return at once to a normal condition, but remains for a longer or shorter time, after the cessation of the catamenia, in a state of congestion. This state of uterine congestion may perpetuate itself during the entire menstrual interval, unless it be artificially relieved; feeding as it were the local disease.

This post-menstrual congestion will often continue to show itself for months, or even years, after the removal of all uterine disease. It would appear, in such cases, as if the womb, weakened by inflammation, had not the power to expel the menstrual blood after the cessation of the catamenial flow. This form of congestion exercises a most unfavourable influence on the state of the patient, keeping up all the uterine sympathetic reactions, if not relieved by treatment.

The morbid uterine congestion that generally accompanies and follows menstruation in inflammatory ulceration of the cervix exercises an unfavourable influence on the disease. In most instances the inflamed and ulcerated surface will be found more tumefied, more irritable, more angry-looking than usual on the first examination after the catamenial discharge has ceased; and sometimes it takes a week or more to bring the diseased parts into the state in which they were before menstruation set in. When this is the case, it may really be said that the patient suffers a relapse every month or three weeks, and that we have in each month only ten or fourteen days available for treatment. Occasionally, on the contrary, even in the most severe cases, menstruation does not appear in the slightest degree to interfere with the curative process, which progresses during its presence as rapidly as at any other time. The inflammatory congestion

which I have described as subsequently existing is then but seldom observed.

Impregnation.—Menstruation is a function preparatory only to impregnation; its office being periodically to prepare the uterus to receive, retain, and nourish, the product of conception. Reflection alone might lead to the conclusion that inflammatory and ulcerative disease of the cervix must modify, more or less, this the principal function of the uterine system; and experience shows that such is really the case. Inflammation of the cervix is by far the most frequent cause of sterility, both in originally sterile and in previously fruitful females. The great majority of originally sterile females by whom I am consulted, present some obscure inflammatory affection of the uterine neck, which can nearly always be traced to the period immediately following marriage, and in some to an epoch antecedent to marriage. Not only does inflammatory disease appear, generally speaking, to strike with sterility those whom it attacks who have never conceived, but it also frequently renders sterile for a time, or even permanently, women who have previously borne children. This is so frequently the case, that if a female, in the prime of life, who has previously been fruitful, suddenly stops childbearing, without any evident cause, and if her general health fails, or she presents the slightest uterine symptoms, we may at once suspect the existence of inflammation of the cervix.

Some females, however, present so great a susceptibility to conception, that inflammatory disease of the uterine neck, however extensive, does not appear to prevent it. When impregnation takes place under these circumstances, the pregnancy is generally painful and laborious, and frequently terminates in abortion. Thus, I have ascertained local disease to be all but invariably the cause of the successive abortions that occur with some females in the first few years that follow marriage. It is also one of the most frequent causes of the abortions that occur in childbearing women. I must, however, refer to the section in which I treat of inflammatory ulceration of the cervix in pregnant women, for information on this very important subject.

It is difficult to determine, precisely, in what way inflammation and ulceration of the neck of the uterus occasion sterility,

although careful and lengthened observation enables me to assert most confidently the fact. No doubt, the ways in which the disease operates are manifold, varying with the peculiarities of each case. The very existence of inflammation, or of inflammatory ulceration of the cervix and its cavity, may so far modify the vitality of the uterus as to render it unsusceptible, in many females, of receiving or retaining the ovum. The presence of an abundant muco-purulent secretion in the cavity of the cervix, or at its external orifice, may oppose a mechanical obstruction to the penetration of the semen into the uterus; or the thickening and hardening of the deep structures of the cervix, occasioned by inflammation, may so far diminish the cervical canal as to all but close the communication between the uterine cavity and the exterior, giving rise, on the one hand, to dysmenorrhea, and on the other, to sterility.

This cause of sterility may be removed, by curing the inflammatory disease to which it owes its origin. Although impregnation does not always follow its removal, I can safely say that the cases in which sterility is occasioned by the existence of this cause are by far the most favourable for treatment. I continually succeed in effecting the cessation of sterility, which has existed for many years in young married females, by removing the local disease that evidently occasioned it; and I am continually seeing patients, who have ceased childbearing for years, owing to the existence of inflammatory disease of the cervix, recover the power of conception when the local affection is cured. Sometimes patients who have thus been temporarily sterile, become pregnant even before they are quite well, in which case they seldom miscarry, even if the treatment is suspended, although the pregnancy be often laborious.

Uterine Inertia.—Uterine inertia, or the diminution or absence of the sexual appetite or feelings, is another important functional symptom of inflammation and ulceration of the cervix, as also of uterine inflammation generally. This symptom is very frequently met with; indeed, it may be said to be generally present when the disease is severe, and is often one of the first indications of the existence of uterine inflammation. Uterine inertia is sometimes carried to such an extent as not only to be

attended with an entire absence of all natural sensations, but as to inspire feelings of disgust and loathing; and that independently of any physical pain. The cause of this change in the feelings of the patient not being understood, or even suspected, great unhappiness often ensues in married life. The change is attributed to loss of regard and affection, whereas it is solely the result of physical disease. This is more especially likely to occur when the local symptoms are obscure or absent, as is so frequently the case, and when the uterine disease only manifests its existence by thus modifying the functional vitality of the uterine organs, and by debilitating and impairing the general health. As the inflammation subsides under treatment, the uterine system gradually returns to a physiological state, and this return is one of the most satisfactory and conclusive indications of a radical cure having taken place. In some exceptional cases, so far from inertia being the result of uterine inflammation, the sexual feelings are exaggerated. Indeed, I have known this exaggeration carried so far as to constitute a kind of nymphomania. When this is the case there is often clitoric enlargement, and its sequela, local irritation.

When the cervix is inflamed and ulcerated, congress is often painful. The pain may be either experienced at the time, for a few hours after, or on the following day. It may be situated at the vulvar orifice, or behind the pubis at the very site of the disease, or there may be merely exacerbation of the usual ovarian and lumbo-sacral pains. Sometimes general weakness, or mental depression only, is subsequently experienced. In cases of ulceration, congress may be followed by the discharge of a few drops of blood, or even by considerable hemorrhage. Not unfrequently, although the neck of the uterus be extensively inflamed, enlarged, and ulcerated, it is unattended by pain. I have often been surprised to learn from patients whose uterus presented a mass of ulceration and disease, that they have been living with their husbands, just as usual, without inconvenience, until the time they consulted me. This remark, however, applies equally to other forms of uterine disease—polypus, uterine tumour, and even to cases of advanced ulcerated cancer.

Another functional symptom in inflammatory disease of the

cervix which is frequently met with, is sympathetic pain and swelling of the breasts. The breasts may be constantly swollen and painful, or only become so before and during menstruation. They are hard and tender to the touch, and the areola round the nipple may increase in size, and become darker, as in the first stage of pregnancy, the sebaceous glands also enlarging and becoming prominent.

SYMPATHETIC OR CONSTITUTIONAL SYMPTOMS.

The constitutional reactions produced by inflammation and ulceration of the neck of the uterus, which form one of the most important features of the disease, have not hitherto been clearly elucidated. These reactions taking place principally through the sympathetic system of nerves, may be aptly designated the sympathetic symptoms.

The researches of modern anatomists have proved, as we have seen, that the uterus is freely supplied with nerves, and that these nerves belong principally to the sympathetic system. As a necessary consequence of the anatomical connexion which thus exists between the uterus and the various organs of animal life, —all of which are placed under the control of the sympathetic system of nerves,—the uterus is seldom long diseased without the functions of these organs becoming impaired. This fact may be said to be the keystone to the constitutional reactions of the disease we are studying. The general symptoms which inflammation and ulceration of the cervix uteri produce, are nearly all indicative of the impaired activity of the functions of animal life and of subsequent defective general nutrition. The local disease is too limited in extent, too isolated, and, generally speaking, too chronic, to give rise to the febrile symptoms which usually attend inflammatory affections in a more acute form in other parts of the body.

Digestion.—The influence of inflammation and ulceration of the uterine neck on the functions of digestion is perhaps the most marked, the most important, and the most common of all the sympathetic reactions which we have to study; nor can we be surprised when we consider how intimate is the connexion

between the uterus and the stomach in the physiological state. As an illustration of this physiological connexion, I would again recall to mind the sickness that generally accompanies the increased vital activity of the uterus during the first months of pregnancy.

The *extent* to which the functions of digestion become morbidly modified varies very considerably in different individuals, although the intensity and duration of the disease may otherwise be the same. With some, digestion is merely weakened; but with the majority it soon flags, and gradually becomes more and more disordered, a host of morbid symptoms supervening. Indeed, the dyspeptic, gastralgic symptoms frequently assume such an intensity as entirely to obscure all others, completely misleading both the patient and her medical attendants with reference to the real nature of her sufferings.

These symptoms seem, generally speaking, to be more the result of difficult or depraved digestion than of irritation or inflammation of the mucous membrane of the stomach. The appetite may be diminished, but it is quite as frequently exaggerated. In the latter case, there is generally a continual sinking, or craving for food which nothing appears to satisfy. Nausea is not unfrequently present, especially during the menstrual periods. The ingestion of food is often followed by a sense of weight and oppression at the pit of the stomach and in the chest, or by the sensation of a foreign body in the throat. It may also be followed by the eructation of flatus, with which the stomach is often very much distended, or by the return into the mouth of tasteless or acid fluid, or of partly digested food. The occasional return, however, of small portions of partly digested tasteless food into the mouth, without nausea or effort, by a kind of rumination, is not so much a symptom of disordered as of weak digestion. I attend several persons now in perfect health, who ruminate their food in this manner; they are all persons who have formerly suffered from dyspepsia. In some cases, vomiting constantly takes place after food. When this is the case, the body of the uterus is often implicated, and all remedies may fail permanently to arrest the vomiting until the uterine disease be subdued.

There is frequently pain in the region of the stomach, under the false ribs on the left side, in the pit of the stomach, in the chest, and underneath the left breast, in the region of the heart. The pain is of the dull, aching character which seems to characterize it in organs supplied by the sympathetic nerves. There is often considerable cutaneous sensibility in the regions where the pains exist, which is nearly always increased by pressure. At times, the patient can scarcely bear the pressure of her stays. These pains are principally situated in the gastric branches of the solar plexus, from which they radiate to the pneumogastric and cardiac plexuses, all branches of the sympathetic system. They are evidently produced by the morbid condition of the stomach, and not *directly* by the disease of the uterus, for when the functions of the stomach are not modified by the uterine inflammation, and the stomach evidently remains free from disease, they are scarcely ever observed. They are, on the other hand, equally common in cases of idiopathic dyspepsia existing apart from uterine disease.

As a result of this disordered state of the stomach, we generally find the tongue covered with a white or yellowish fur, especially at the back part, and parched and dry in the morning. Rest is uneasy, unrefreshing, interrupted, and disturbed by disagreeable dreams. The patient also complains of heaviness and headach. The headach may be frontal, above the eyes, or at the upper part of the head, a very common form of cephalalgia.

In addition to these more prominent symptoms of dyspepsia, another very valuable indication of its existence is to be found in the examination of the secretion of the kidneys, the morbid state of which I have already cursorily noticed in treating of the irritability of the bladder. The state of the urine is often a much more delicate test of the integrity of the functions of digestion, under all circumstances, than the symptoms which I have enumerated. Indeed, I am surprised that so little attention should have hitherto been paid to the state of this secretion in dyspepsia, even by those pathologists who have written professedly on the subject, as the changes that take place afford most valuable indications, not only for diagnosis, but also for treatment and for the regulation of the diet.

When the stomach is healthy, and the functions of digestion are performed in a healthy manner, in the absence of any disturbing cause, such as cold, fatigue, &c., the urine, both on being excreted and after cooling, is perfectly clear and free from deposit. This is the case both during and after digestion, as well as when no digestive process has taken place; the "urina sanguinis" and the "urina digestionis" are equally free from all turbidness or deposit. When the stomach has suffered either primarily or secondarily, and the functions of digestion are disordered, the urine is morbidly modified in various modes. The condition most frequently observed in uterine patients, as I have stated, is the existence of large quantities of the urate of ammonia. As we have seen, if the lithates are too abundant to be held in solution by the warm urine, it is turbid from the first. If they are all dissolved by the urine whilst warm, but too abundant to be held in solution when it is cold, the urine becomes turbid as it cools.

When the digestive and nutritive processes are very much impaired, these changes in the urine may be observed at all times; whenever it is examined. If they are less deeply disordered, it is only two, three, or four hours after the ingestion of food—according to the length of time it takes to digest—that the urine contains the anomalous salts, and is turbid, or becomes so on cooling. When such is the case, the turbid state of the urine soon ceases to be observed, provided the stomach remain empty; again to become present for a limited time, after the digestion of a fresh supply of food. If the digestion is still less affected, the lithates only appear in the urine after the ingestion of animal substances, or of an article of food of difficult digestion, or when digestion has been disturbed by some kind of stimulant, such as wine, spirits, high seasoning, &c.

From the above facts, it is evident that in these instances the presence of the anomalous salts in the urine is all but entirely the result of depraved digestion; or at least in the two latter classes of cases. Owing to the weakened, morbid state of the stomach, the chyle is imperfectly elaborated, unfit for the purposes of assimilation and nutrition; and on its being absorbed by the lymphatics, and passing into the blood, the kidneys eliminate

and throw out the effete matter in the shape of urate of ammonia, triple phosphates, oxalate of lime, &c. Is it surprising that nutrition should flag, and that the entire economy should suffer, and fall into a state of debility and prostration, when we find the very source of life thus poisoned—when we see the food ingested, however light and digestible, often so imperfectly chylified, that the presence of the chyle in the blood obliges the kidneys instantly to set to work to eliminate it, as they would a morbid substance, thus acting as safety-valves to the system, temporarily poisoned by the products of diseased digestion?

The emunctatory duties which have to be performed by the urinary system are not always unattended with evil to the urinary organs themselves. Thus we find patients complaining of pain in the region of the kidneys, along the course of the ureters, and in the region of the bladder, and of its neck. These pains appear sometimes to be connected with irritation and congestion of the substance of the kidneys, but they are more frequently the result of irritation of the mucous membrane lining the urinary passages, which I have already fully described (p. 92), when treating of the local symptoms of inflammatory ulceration of the cervix uteri. This state of things, no doubt, occasionally lays the foundation for organic disease of the kidneys.

Most writers on female diseases have remarked the coincidence between leucorrhea and dyspepsia, but they have often erroneously attributed the origin of the leucorrhea to the dyspeptic affection; in other words, they have considered the uterine symptoms to be the result of the depraved state of the digestive functions. A more complete error could not be made. I do not mean to say that dyspepsia, by debilitating the economy, may not render any part of it, the uterus included, more liable to disease; but I have no hesitation in asserting that it is very rarely indeed that obstinate leucorrhea can be traced to such an origin. The dyspeptic symptoms observed in obstinate leucorrhea are *nearly invariably* the result of the sympathetic reaction on the stomach of the inflammatory disease of the uterine neck, in the great majority of cases the real, although unrecognised, cause of the leucorrheal discharge.

Inflammation of the cervix generally modifies the digestion unfavourably in the course of a short time; the extent to which it becomes modified depending, in a great measure, on the vitality of the patient. If the stomach is naturally a weak organ, it is sooner and much more seriously affected than would otherwise be the case. So continually do I observe dyspepsia under these circumstances, that the very existence of severe disorder of the digestive functions in a young female, which resists rational treatment without any apparent cause, always induces me to question narrowly the state of the uterine functions; and I have thus often been led to discover the presence of extensive local disease in cases in which scarcely any local symptoms were present. Some persons, however, seem to be endowed by nature with such strong powers of vital resistance, or there is with them so little sympathetic connexion between the uterus and the stomach, that they overcome the reaction of the local affection, and the digestion remains sound, or nearly so, notwithstanding the neck of the uterus has long been the seat of inflammation and ulceration. When this is the case, the existence of uterine disease is not attended by the general debility which obtains in the patients in whom digestion and nutrition give way. Thus it is that we see females apparently in good health, although presenting severe uterine disease, and racked with local pains. With them the digestive functions not having failed, the general nutrition remains unimpaired. Although, however, they may thus resist the influence of the local disease for many years, digestion and nutrition all but invariably break down sooner or later; and I often remark, that the longer the previous immunity, the more difficult it then is to rally the powers of the system.

From what precedes, it must be obvious that the examination of the urine is calculated to be of great assistance in estimating the extent to which the uterine disease has reacted on digestion and on nutrition. It is also a valuable mode of ascertaining, week by week, how far these functions have rallied under the means of treatment used. Owing to the intimate connexion which thus exists between imperfect chylification and the presence

of lithates, &c., in the urine, and the facility with which their presence may be ascertained, if the attention of the patient is directed to the urinary secretion, and the nature of the changes that take place is briefly explained to her, she is put in possession of a most simple and efficient means of regulating her diet, both as to quality and quantity. No dietetic rules will ever constitute so valuable a guide, or so efficacious a check on the appetite, as the individual experience of an intelligent patient in her own case. She soon learns that by noticing the state of the urine, two, three, or four hours after the ingestion of food, according to its degree of digestibility, she can tell whether the meal has been properly digested or otherwise, and thus becomes able to diminish or change her diet as may be required. The information thus obtained is the more valuable, as a dyspeptic patient may not be apprised of the food she has taken not having properly digested by any appreciable symptom. Generally speaking, it is only after the digestive functions have been imperfectly performed for several days, that cardialgia, chest oppression, headach, and other symptoms of indigestion, supervene, and give the alarm. These remarks apply with equal force and truth to some of the most ordinary forms of dyspepsia when existing without any uterine complication.

The most ordinary result of the depraved state of the digestion which we meet with in uterine disease is deficient nutrition, and consequent emaciation. The patient is thin, pale, weak, anemic. This, however, is not always the case. An abundant deposit of fat may take place on the abdominal walls, or generally, and then again a false appearance of health is produced. The stomach not having the power to transform food into chyle susceptible of assimilation with the more vitalized elements of the human economy, flesh and bone, a lower degree of nutrition only is obtained, and fat is formed. Thus is explained the positive corpulence of some females suffering from uterine disease—corpulence which they erroneously look upon as a sign of health, whereas, in reality, it is only an additional evidence of the depraved state of the digestive organs.

Biliary Derangement.—The functions of the liver often participate in the depraved state of the digestive system, but seldom

to the same extent as those of the kidneys. The secretion of bile may be deficient, or it may be too abundant, owing either to sluggish secretion, or to anomalous activity. These conditions, however, are generally temporary, and soon give way to appropriate treatment, so that I am not in the habit of attaching much importance to slight derangements of the biliary functions. I look upon them, in most instances, as symptoms only of the general disordered state of the digestive system — symptoms which do not require any special treatment, but gradually disappear when it is restored to a more healthy condition.

Sometimes, however, the morbid state of the biliary functions assumes a very prominent feature in the history of the case, so much so as to obscure all other symptoms. The patient is seized at intervals with severe bilious attacks, characterized at first by pain in the right hypochondrium, a yellowish tinge of the skin, and bilious headache; and subsequently by the vomiting and purging of bile in large quantities. These attacks appear to be irregular in their manifestation, but, on careful investigation, it will nearly always be found that they are connected with menstruation. They may occur either immediately after menstruation, or one, two, or three weeks subsequently. In the latter case, however, although the vomiting and purging are thus deferred, the pain in the side, and the other premonitory symptoms, generally commence with, or soon after, the menstrual epoch. In these patients the catamenia are often scanty, and on examination great congestion of the uterine system is met with. It would seem as if, with them, the congestion gradually extended through the portal system, until it reached the liver. This organ, in its turn, becoming the seat of great congestion, its functional activity is increased to a morbid state, until it relieves itself by throwing off the superabundant bile, which occasions vomiting when it reaches the stomach—purging, when it reaches the intestines. The congested condition of the abdominal nervous system in these cases, and the intimate connexion of the abdominal veins with the uterine circulation which then exists, is proved by an important practical fact which deserves especial attention: the positive hemorrhage that often follows the application of leeches to the neck of the uterus. I am now so accustomed to find the

application of leeches to patients presenting liver congestion followed by scarcely controllable hemorrhagic bleeding, that I expect it, and never entrust the operation to nurses. The only two occasions on which I have been obliged to plug the vagina to arrest hemorrhage, after leeching, was in cases of this description. In some instances, the congestive connexion between the morbid condition of the uterus and the hypersecretion of the liver cannot be traced; the latter evidently taking place under the influence of sympathetic irritation.

In both classes of cases, the uterine origin of the bilious symptoms is seldom recognised when the latter are severe. Nearly all the patients thus affected whom I have met with, had been long treated solely for disease of the liver. The mistake is the more pardonable, as the uterine symptoms are often very obscure, and are nearly always quite thrown into the shade by those connected with the functional derangement of the liver. When once the liver has become accustomed, as it were, to these periodical attacks of hyper-activity, it is often very difficult to modify and eradicate the habit of disease; even when the uterine affection in which it first originated is quite cured. This is more especially the case if the uterus remain diseased, or subject to morbid congestion at the menstrual epoch. The liability to these bilious attacks constitutes a serious complication of the uterine complaint. They leave the patient in a very debilitated state, from which she is always a considerable time in recovering; and the digestive system generally remains for some time in a deranged state.

In several instances I have found the liver enormously enlarged, hypertrophied, or congested, in patients labouring under chronic disease of the uterine neck. In one case, that of a married sterile female of thirty, who had been suffering evidently from ulcerative inflammation of the cervix uteri for some years, the liver descended more than two inches below the false ribs, as low as the umbilicus, and nearly as low as the crista of the ilium. There were no lobes, nor any unevenness of surface, the tumour appearing to be a simple enlargement of the substance of the liver. The patient was not aware of the state of the organ, nor of the existence of uterine inflammation, although she had been long under medical treatment, and had had a pain in the region

of the liver for many months. She was slightly jaundiced, and in bad health. The enlargement gradually diminished as the uterine disease got better, under the influence of blisters, and the administration of the iodide of potassium. In the course of about nine months it entirely subsided, although the uterine affection was not then quite removed. She has since perfectly regained her health. I am rather at a loss how to characterize this form of enlargement. It has always appeared too solid to be merely the result of congestion, such as we observe in obstruction to the venous circulation from cardiac disease; and yet we could scarcely expect real hypertrophy of the liver entirely to give way to treatment in so limited a period.

In the form of uterine disease which we are studying, the functions of the upper portion of the large intestine are frequently affected, and inaction of the bowel ensuing, occasions obstinate constipation. In this form of constipation the fæces do not reach the rectum, but remain in the sacculi of the cæcum or colon, and when they are expelled, come away under the form of small hardened masses, or scybala. When such is the case, the rectum is found empty on examination. This form of constipation, however, may exist simultaneously with that in which it results from the extension of the atmosphere of the uterine inflammation to the rectum, which has already been described.

Respiration.—The pains felt in the region of the stomach often irradiate, as I have stated, along the various sympathetic nerves that constitute the solar plexus or emanate from it, and more especially along the pneumogastric nerves. Hence we not unfrequently observe severe pains underneath the sternum, or extending all over the chest. These pains are sometimes so severe as to interfere with the action of the lungs, and to render respiration rather difficult and painful. Their presence is nearly always a source of great anxiety to the patient and her friends, leading them to fear the existence of pulmonary or cardiac disease, especially if these diseases have existed in their families. If the careful examination of the lungs and heart demonstrates the integrity of these organs, we are warranted in considering the pains as merely sympathetic. Severe thoracic pains, dyspnœa, and other chest-symptoms, however, are sometimes present in

females suffering from uterine inflammation, as the result of pulmonary disease. I have repeatedly seen patients debilitated by ulcerative inflammation of the cervix, attacked with pulmonary consumption. Indeed, phthisis may be said to constitute one of the dangers to which this form of uterine disease indirectly exposes those whom it attacks, owing to the extreme general debility which it so often occasions.

Circulation.—Inflammation, and inflammatory ulceration of the cervix uteri, if limited to the uterine neck alone, seldom give rise to any febrile reaction, whether acute or not. Sometimes the patient becomes rather feverish in the latter part of the day, but even this is rare. It is, indeed, partly owing to the absence of the febrile reaction which generally characterizes inflammatory diseases in other regions, that inflammation of the uterine neck has passed unobserved until so very recently. A practitioner who is not previously acquainted with the history of the disease would never for a moment suspect that the pale, languishing, debilitated female, by whom he is probably consulted for weakness, has been reduced to this state of anemia by an inflammatory disease of the womb, still in active existence.

Although the pulse be seldom accelerated by fever, it is generally modified in other ways. Thus, it is often miserably small and feeble, quick and irregular. When this is the case, the pulse partly reflects the debilitated state of the system, and partly a direct sympathetic reaction from the uterus on the central organ of circulation.

General Nutrition.—As we have seen, it is through the influence exercised by uterine inflammation on the sympathetic nervous system, with which the uterus is so intimately connected, that the various functions we have examined are disordered. These functions,—digestion, respiration, and circulation,—being those which control assimilation and nutrition, cannot be long in a morbid state without the general nutrition becoming impaired. The patient loses flesh, becomes emaciated, pale, sallow, languid, and weak; falls, in a word, into a more or less marked anemic state. Anemia, the result of depraved nutrition from sympathetic reaction, is so general in this form of uterine disease, that it may be said to characterize it in its advanced

stages. Thence it is that the term "weakness" has been, and is still, used, both popularly and medically, to designate obstinate leucorrhea, one of the most prominent symptoms of this state.

All constitutions do not, however, as I have already remarked, give way equally soon to sympathetic reaction. Occasionally we meet with patients who have evidently been suffering from inflammatory ulceration and hypertrophy of the cervix for many years, and yet their strength and general nutrition are but slightly impaired. Much depends on the original strength of the patient's constitution, and on the integrity and power of the digestive system; the general health of a weak or dyspeptic female soon giving way, whilst that of a more robust person, with strong powers of digestion, will resist much longer the morbid sympathetic influence.

Cerebral and Spinal Symptoms.—Inflammation of the cervix does not only react on the sympathetic nervous system—but also on the cerebral and spinal nervous systems, and often to an extreme extent. The principal cerebral symptoms are, intense headach, great depression and lowness of spirits, and groundless terrors, experienced not only during the night, but even during the day. The cephalalgia may exist in any part of the head, but it is principally observed, as I have stated elsewhere, at the summit, and over the forehead. The pain felt at the top of the head is often compared to a heavy weight pressing on it. The mental depression experienced by the patient is often extreme, and not unfrequently accompanied by delusions or hallucinations, and by the fear of insanity. This fear is not altogether unfounded where insanity exists hereditarily; the uterine disease, *if unchecked*, in such cases sometimes terminating in a temporary wreck of the mental faculties. I say temporary, because insanity thus produced nearly always gives way when the local disease is cured, and the health of the patient is restored.

Generally speaking, the mental depression is much greater during menstruation, and sometimes it is only experienced at that epoch. It may be carried to a great extent, and be attended by irresistible weeping for hours and days together, independently of any other hysterical manifestation. In some instances, slight general debility, along with great lowness of

spirits and languor during menstruation, are nearly the only indications that the patient presents of the existence of the uterine inflammation from which she is suffering.

The special senses are not unfrequently affected, and principally the sight and hearing. The sight may be merely impaired, rendered weaker by the reaction of the uterine disease; but it may also be more deeply affected, amaurosis supervening. The connexion between the two morbid conditions, as cause and effect, is rendered evident by the cure of the uterine disease at once arresting the onward progress of the amaurotic affection, when everything else has failed. Unfortunately, however, the ground lost is not always entirely regained; and vision sometimes remains permanently impaired in one or both eyes.

The hearing is less frequently affected. I have, however, met with many cases in which uterine inflammation had evidently occasioned partial deafness. This form of deafness is also generally arrested by the treatment of the uterine disease, but occasionally the hearing of the patient cannot be entirely restored.

The cutaneous sensibility is sometimes much exaggerated all over the body, in isolated regions, or on the left side only. When this is the case, pain is experienced on the slightest contact. This exaggerated sensibility may be confined to the pelvic region only, and be attended by a very distressing sensation of internal soreness. It appears to be generally, but not always, connected with spinal irritation.

The difficulty in walking and standing which is often observed when the uterus is the seat of inflammation, even of a chronic character, must in some instances be referred to modifications of spinal innervation, as it may persist long after the entire removal of the local disease.

The various nervous manifestations to which the term hysterical is familiarly applied, are frequently met with in patients suffering from chronic inflammatory disease of the cervix. But hysteria as a disease, characterized by convulsions, is only occasionally observed.

This clinical fact is of itself sufficient to establish as a pathological truth, that hysteria is not a uterine affection, but a malady of the cerebro-spinal nervous system, which is not neces-

sarily connected with the uterus and its morbid states, although uterine disease, by its reaction on the cerebro-spinal system, often becomes an exciting cause of convulsive hysteria. The slight nervous manifestations usually termed hysterical are merely the result of over-stimulation of the cerebral system, occurring primarily or sympathetically; or owing to the undue prominence of the nervous system which follows great general debility, however induced.

When convulsive hysteria is really produced by the existence of inflammation of the cervix, it generally presents itself in a very severe form. The convulsions occur principally during menstruation, and may be so severe and so continued as to be followed by paralysis and to threaten life.

But little refreshing sleep is obtained by a person labouring under this disease in a severe form, especially when the digestion is much impaired. The state of suffering in which she is, reacts on the brain, renders sleep imperfect and interrupted, and occasions disagreeable dreams, and nightmare. The patient often awakes in great fear, sometimes screaming in an agony of apprehension. This is principally the case when the sympathetic nerves of any of the viscera, ovaries, uterus, stomach, heart, &c., are the seat of the constant, dull, aching pain which I have repeatedly described. Existing as it does during sleep, as well as during wakefulness, by its continued reaction on the cerebrum, it effectually "murders rest." When these pains are absent, or slight, the sleep is often very good; sometimes, indeed, too prolonged and heavy.

Summary of Symptoms.—In the above description of inflammation, ulceration, and induration of the neck of the uterus, I have fully considered all the symptoms, both local and constitutional, to which it may give rise. It must not, however, be supposed that all, or even the greater part, of these symptoms, are present in every patient. Sometimes it is so, but most frequently a few only are observed, and in many instances merely one or two are met with. It is this circumstance that frequently renders it so difficult to recognise positively the existence of disease, unless digital or instrumental examination be resorted to.

It may, for instance, give rise to marked local symptoms,

such as pain in the lumbar and ovarian regions, bearing-down, and a more or less abundant vaginal discharge; and yet there may be scarcely any constitutional reaction, the patient remaining apparently in good health. This complete immunity from sympathetic reaction, however, is rare, except in the early stage of the existence of the disease. When it is observed, it must be considered, as we have seen, to indicate a strong constitution, and unimpaired digestive power, which enables the patient to resist the morbid influences.

On the other hand, the local symptoms may be absent, or nearly absent, and the uterine malady only reveal itself by the constitutional or sympathetic reactions. This so frequently occurs, that whenever in a female we find the digestion and the general nutrition and health much disordered, and careful examination of all other organs fails to reveal an adequate cause for the change that has taken place, we are authorized to *suspect* the existence of some chronic uterine inflammation, even in the absence of decided uterine symptoms. In such cases, we must minutely investigate the uterine history of the patient, and the slightest morbid change in the functions of the organ, or the existence of the slightest morbid symptom, may often be taken as probable evidence of disease. We are thus authorized to *suspect* the cervix to be affected from the isolated existence of any of the following symptoms: sterility; increased pain during menstruation; a great change in the duration or amount of the menstrual secretion; slight or severe continued pain in the lumbar or ovarian regions; bearing-down; a permanent vaginal secretion; pain in congress; modified uterine sensibility, &c. Indeed, any one of the various symptoms which I have enumerated and described, may exist alone, in a slight form, as the sole local indication of the presence of inflammation and ulceration.

Such being the case, the extreme delicacy of the task which often devolves on the medical practitioner, when called upon to decide as to the existence or non-existence of this disease, can easily be appreciated. A digital examination would, generally speaking, at once enable him to decide the question, if he is familiarized with the investigation of this class of affections; but this kind of examination is so repugnant to the feelings of all

females when not actually in the pangs of labour, that nothing can warrant its being proposed but a tolerably fair presumption, on general grounds, of the actual presence of disease. This presumption, as we have seen, may be arrived at, in most instances, without difficulty; but in some, all the tact and care that can possibly be brought to bear are necessary, in order to guide the practitioner in his conduct.

Progress.—The progress of inflammation of the cervix is very variable both in its local and in its general manifestation. Sometimes inflammation rapidly leads to ulceration, the cervix speedily becomes hypertrophied, and the bladder and rectum soon become involved in the inflammatory action. The sympathetic reactions being also soon experienced, the patient, in the course of a few months, falls into a state of extreme debility. This latter condition may speedily supervene, even when the local disease is very limited in extent and intensity.—In some instances, on the contrary, years elapse before the general health is seriously affected, even when there is extensive disease. Inflammation, ulceration, and hypertrophy may, indeed, exist during a considerable portion of the life of the patient,—for ten, twenty, or even thirty years, for instance,—without destroying life, although producing a constant valetudinarian state.

Termination. — Inflammatory ulceration of the uterine neck may be said not unfrequently to terminate in the death of the patient. When, however, this is the case, death all but invariably occurs *indirectly*. The debility occasioned by the reaction of the inflammatory disease of the uterus on the functions of organic life, coupled with the pain and irritation caused by the local symptoms, may, no doubt, be carried so far that the patient at last sinks under their influence. Such a termination, nevertheless, is scarcely ever witnessed by the practitioner who is acquainted with the disease and with the treatment it requires; for he has it in his power to arrest its progress, and to rally his patient, however low she may be reduced, provided no necessarily fatal complication have appeared. Although I have repeatedly seen and treated patients who, it appears to me, must have died from sheer debility and exhaustion had they been left to themselves, yet I cannot recal to mind a single instance in which

death has actually taken place, under my eyes, from these causes alone. In one or two instances in which this has appeared to be the case, the post-mortem examination has revealed sufficient chronic disease in other organs satisfactorily to account for death.

The principal danger of the disease we are studying consists in its reducing the powers of the economy to so low an ebb that any cachexia, or tendency to cachexia, which lies dormant in the system, is liable to be called into action, and that the patient is both more exposed to accidental disease, and less able to resist its attacks. Thus, if there is any hereditary predisposition to disease in the constitution, it is very likely to develop itself under these circumstances, and an extreme liability to epidemic influences frequently becomes apparent. A considerable proportion of the patients labouring under uterine disease under my care at any given period, are always attacked by the reigning malady or epidemic, and often in a very aggravated form. This is more especially the case with those who are unable, from social position, thoroughly to protect themselves from atmospheric influences. There can be no doubt, therefore, that inflammatory ulceration of the uterine neck, although seldom directly fatal, is a disease which brings very many females to a premature grave; and that when the existence of the malady is generally recognised by the medical profession, not only will a vast amount of suffering be spared to humanity, but a great number of valuable lives will be saved, that now fall an indirect sacrifice to its influence.

A very important question, and one which is often raised by patients, is, whether or not this disease leads to cancer. It is now well known to pathologists, that there is no immediate connexion between inflammation and cancer; that cancer is not, as was formerly believed, merely a modification of inflammatory action. Although, however, the two diseases are essentially different, and the one, inflammation, cannot in any way be considered as merely constituting the first stage of the other, yet it is probable that the long-continued existence of inflammation in the cervix uteri occasionally leads to the production of cancer. It may contribute indirectly to develop the cancerous cachexia, by depressing the organic vitality of the patient, and then directly determine

its localization in the neck of the uterus; in the same way as the chronic irritation occasioned by a blow on the breast, will determine the development of a cancerous growth in that organ, in cases in which the constitutional predisposition previously exists.

As a general rule, however, inflammatory ulceration of the cervix seems to me to have very little tendency to degenerate, and patients labouring under cancer very seldom present inflammatory antecedents. We may therefore conclude, that although the possibility of cancerous degeneration is to be entertained, it ought not to be considered a probable result of the disease, especially when the latter has been brought under the influence of rational treatment. This view of the question is certainly contrary to the generally received opinions of uterine pathologists; but as it is the result of my experience, I am bound to enunciate it. In a subsequent chapter of this work, that on the Diagnosis of Cancer of the Uterus, I shall fully discuss this important pathological point.

Prognosis.—The prognosis of this affection, once it is recognised and under treatment, may generally be considered favourable, provided the patient be not labouring under any incurable complication. No matter how great the debility, exhaustion, and emaciation —no matter how severe the pelvic irritation, or how intense the sympathetic reactions, all *may* be subdued in time, and the patient restored to health. There are few diseases, indeed, in which medical treatment is capable of effecting a greater change in the state of the patient. Females who have been for years racked with aches and pains, and are in a state of the most extreme exhaustion, gradually rally, and again become fresh and blooming. Nor is this surprising, when we reflect that they are not reduced to this melancholy condition by any necessarily fatal disease, or cachexia, but by a malady which in most instances is amenable to therapeutic means, and which only produces debility and weakness by reacting, through the sympathetic system, on the functions of organic life. When the disease has been subdued, and the incubus thus taken off the system, these functions often recover all but spontaneously. Digestion, assimilation, and nutrition, again become healthy, and the patient is generally, in the course of time, restored to the full integrity of life.

This complete recovery, however, is often a slow process; in severe and chronic cases, it may take years to accomplish, and in some instances it may never occur. The powers of life may have been too much depressed by the long-continued influence of the local affection, to rally, even when all disease has been removed, and the patient, although better, and freed from much disease, discomfort, and danger, may remain languid, weak, and a prey to a host of functional disturbances. Happily such cases are exceptions. Again, the most judicious and persevering treatment may fail entirely to remove all morbid changes, especially when the body of the uterus is involved, and thus some of the local symptoms may also be perpetuated.

Diagnosis.—Were all the symptoms which I have described as pertaining to inflammation and ulceration of the cervix present in every patient, the diagnosis would always be easy. Such, however, as we have seen, is far from being the case. The characteristic ovarian and lumbar pains may be absent, or very indistinct, as likewise all the other local symptoms, and the constitutional symptoms presenting nothing which specially characterizes them as dependent on uterine inflammation, their origin may be easily overlooked. The diagnosis, therefore, being often extremely difficult, even to one who is thoroughly acquainted with the history and symptoms of the disease, it is not surprising that inflammatory ulceration of the cervix should nearly always be overlooked; especially when we consider that its very existence, as a disease of frequent occurrence, is still a mystery to the medical profession in this country, or, at least, was so a few years ago, when I first directed attention to its pathology and extreme frequency.

It would be useless again to enumerate the various symptoms which characterize the affection we are studying, in order to distinguish it from other diseases, as inflammation and inflammatory ulceration of the uterine neck do not present a single symptom, with the exception of those furnished by physical examination, which absolutely and solely belongs to it. The diagnosis must be based on the study and comparison of all the symptoms presented by the patient, tested by a knowledge of disease generally, and of this disease in particular. With a view to prove

how necessary it is to bring to our assistance a thorough acquaintance with pelvic affections in cases of this description, I will mention a few of the most common errors, and show how they may be avoided.

The vaginal discharge which women who are labouring under inflammatory ulceration of the uterine neck often present, is, all but universally, supposed to be the result of constitutional weakness. This error is, perhaps, the most inveterate and the most general of all, and has been sanctioned during centuries by the writings of innumerable men of eminence. At the same time, it is founded on the grossest disregard of every-day experience, and of the laws of pathology. A large proportion of the female inhabitants of towns present for a short time before and after menstruation, or after excitement or fatigue, a more or less abundant white vaginal discharge; and yet their health remains perfectly good. This circumstance alone satisfactorily proves that a mere mucous vaginal secretion does not, of itself, produce the constitutional debility which is often observed when there is a leucorrheal discharge, and which it is supposed to occasion. The study of the laws which regulate the functions and diseases of mucous membranes generally leads us to the same result. A copious mucous hypersecretion, apart from inflammation, may exist for years from the nares, lungs, or intestinal canal, without the supervention of general debility and emaciation. Both experience and pathological analogy thus prove, that if great constitutional debility exists along with a vaginal discharge, and if there is no other local disease or cachexia to account for it, the uterine system must be the seat of some more serious lesion than a mere mucous hypersecretion.

This remark applies still more forcibly when the vaginal discharge is not merely mucous, but purulent. The presence of pus is conclusive as to the existence of some internal inflammation. And yet there are many practitioners who still believe that even a discharge of this kind is merely the result of weakness. The absurdity of such an opinion cannot be better demonstrated than by applying it to other organs. What medical man in his senses would think of attributing the daily expectoration of a considerable quantity of pus from the lungs, or its discharge from the intestinal canal, to mere debility?

The sensations of weight, dragging, and bearing-down, which characterize partial prolapsus of the womb from inflammatory hypertrophy of the uterine neck, are generally supposed to be the result of the womb falling, from weakness or laxity of the uterine ligaments. This is a most disastrous error; for not only does the practitioner neglect to adopt proper means to ascertain the real nature of the case, and omit to resort to correct means of treatment,—impressed as he is with an erroneous notion of the state of his patient,—but the pessaries and physical means of support that he adopts nearly always aggravate the disease. I am continually meeting with cases in which great mischief has evidently been done by the use of physical means of sustentation in cases in which inflammation is the real cause of the morbid symptoms.

The pains in the lower part of the back, and in the hips and thighs, are also generally mistaken for indications of constitutional weakness. Indeed, as these pains nearly always accompany the vaginal discharge in the cases in which extreme debility occurs as the result of uterine inflammation and ulceration, they have become popularly connected with leucorrhea. Thence it is that backach and whites are considered, not only by the public, but even by the profession, as symptomatic of constitutional debility existing as a primary affection.

The pain in the ovarian regions, and especially that on the left side, the most characteristic of all the local symptoms that ulceration of the cervix occasions, is often erroneously supposed, by the medical attendant, to be the result of inflammation or other disease of the ovary. This error is one which all the older writers fall into; but even of late there has been a decided tendency to reproduce and exaggerate it, as we shall see when speaking of subacute ovaritis. When the pain occurs on the right side, it is frequently referred to the liver, and supposed to indicate disease of that organ.

If the cervix or body of the womb is enlarged and retroverted, so as to press on the rectum and to offer an obstruction to the passage of the fæces through the bowels, the obstacle is sometimes mistaken for stricture of the rectum. This is more especially the case when the lower bowel really is, simultaneously,

the seat of inflammation. I have repeatedly known females martyrized for a lengthened period by attempts to dilate a supposed stricture of the rectum, when nothing of the kind in reality existed.

When the irritation about the bladder is very great, the attention of the practitioner may be directed almost exclusively to it, and the uterine disease may thus be overlooked. This is a mistake which is not unfrequently committed. I have met with patients thus suffering who had been examined for stone over and over again, or treated for years for idiopathic cystitis.

Such are the principal errors of diagnosis to which the local symptoms give rise, when they are sufficiently marked to attract the attention of the patient or of her medical attendant. If this is not the case, if the local symptoms are slight and indistinct, and the general symptoms only are well-marked, the real nature of the disease is still less likely to be discovered.

It is the more difficult to avoid being led astray by the functional symptoms which generally exist in this disease, as they respectively represent an actually disordered state of the stomach, liver, heart, brain, &c. We are therefore inevitably deceived if we confine our attention to the dyspeptic, bilious, cardiac, or cephalic symptoms which the patient presents, and do not carry our investigations farther, and endeavour to ascertain whether the morbid conditions observed may not be merely symptomatic of disease in the uterine organs.

An accurate analysis, however, of the uterine history of the patient, and of the functional and other symptoms which she presents, and of their origin and progress, will nearly always enable the practitioner to form a tolerably correct surmise as to their idiopathic or symptomatic nature.

It is owing to the general non-recognition of the facts contained in the above description of inflammatory ulceration of the uterine neck, that the opinion has hitherto prevailed in the profession, that extreme general debility frequently supervenes constitutionally in the female, without any absolute disease; and that this opinion has been generally adopted by pathologists, although in direct contradiction to the laws of pathology. The

general health and nutrition of the system do not give way and sink in the female, *any more than in the male*, without some tangible reason. For all, or nearly all, the functions of the economy to become depraved, and for the patient to sink into a state of emaciation and debility, there must be some cachexia present, or some serious local disease, or she must be exposed to very bad hygienic conditions, or to some serious mental cause of distress.

Pathological Anatomy.—Inflammatory ulceration of the cervix uteri not being, *per se*, a fatal disease, we only have an opportunity of examining after death the changes produced by it when persons suffering under it die from some accidental disease. I have frequently been able thus to examine the state of the cervix, and have merely found those anatomical modifications which the ocular examination of the parts during life would lead us to anticipate. Where ulceration exists, the mucous membrane is either slightly corroded or entirely destroyed. In the latter case, the fibrous structure of the subjacent parts becomes distinctly visible, being dissected, as it were, by the process of ulceration. The ulcerated surface itself is not excavated, but on a level, or nearly so, with the surrounding tissues, the margin being perfectly smooth and regular, and presenting no jagged, hardened indentations. The cervix itself, when chronically enlarged, presents all the characteristics of cellular hypertrophy, its tissue being more dense and more resistant than in the normal state.

CHAPTER VI.

INFLAMMATION AND ULCERATION OF THE NECK OF THE UTERUS IN THE VIRGIN FEMALE.

ITS CONNEXION WITH LEUCORRHEA, DYSMENORRHEA, AMENORRHEA, IRREGULAR MENSTRUATION, PARTIAL PROLAPSUS, ETC.

As I have elsewhere stated, the neck of the uterus is susceptible of being attacked by inflammation, and its sequelæ,—ulceration and induration,—at every phasis of the female existence, from the first dawn of menstruation to advanced life—the disease presenting important peculiarities, according to the physiological condition of the uterine organs.

The general description of inflammation and ulceration of the neck of the uterus which I have just given, may be said to apply more especially to married females who have had children. We will now proceed to study it in the other phases of female existence, commencing with the non-married or virgin condition.

The existence of inflammatory ulceration of the uterine neck in the virgin, as a disease of not unfrequent occurrence, was totally unsuspected by all who had written on uterine diseases, even by the most enlightened continental practitioners, when I published the first edition of this work; and I myself spoke of it with doubt and hesitation, as will be seen by the following passage, which I extract from page 7:—

"The opportunities of investigation which I have had, as a "matter of course, not extending to virgin females, I am not "able to state whether inflammation of the cervix is or is not "frequent with them. I am, however, inclined to think that it "is not; and that where it does exist, either as a complication "of general metritis, or as a local affection, it nearly always

" gives way spontaneously. When the mucous membrane of the " vagina is inflamed, with virgins, that of the uterine cervix may " participate, no doubt, in the inflammation, and ulceration may " follow. The numerous mucous follicles, also, which exist on " the cervix, may occasionally inflame and ulcerate, like those " of the mouth. But in both these cases, the inflammation not " being kept up or increased by mechanical irritation, it is pro- " bable that, generally speaking, it soon subsides, and that the " ulcerations heal of themselves, as is the case with aphthæ in " the mouth. Thence, it is most likely that the symptoms " indicating severe inflammation and ulceration of the cervix " uteri are scarcely ever met with in them."

The experience of the last few years has shown me that the above extract contains an error which I have now to correct. Not only *may* inflammation and ulceration of the uterine neck exist in the virgin female, but it *does* exist, and not *very* unfrequently, if I may judge by the results which consultation and dispensary practice have afforded me.

When I wrote, finding nothing on inflammation and ulceration of the neck of the uterus in the virgin, in any of the authors who preceded me; never having heard a remark on the subject escape from the eminent Parisian pathologists whose pupil and assistant I was for many years, and not having met with this form of the disease myself in hospital or private practice—or, at least, not having recognised it—I concluded that when ulceration did exist, it healed spontaneously,—as is often the case in the mouth,—owing to the patient not being exposed to the causes of irritation which obtain in the married condition. Reason told me that the cervix uteri must occasionally become inflamed and ulcerated; but for want of the experience which I have since acquired, I was obliged to surmise that the cure was always, or nearly always, spontaneous. It will be seen, however, by the very guarded manner in which I wrote, how unwillingly I came to this conclusion, and that I foresaw, as it were, the results which subsequent research has developed.

For the last few years, I have very carefully analyzed the state of all the young unmarried females presenting uterine symptoms for whom I have been consulted, with a view to

elucidate this very important question, and have thus ascertained, in the most positive manner, that inflammation and ulceration of the cervix uteri in the virgin are not an uncommon disease, and that to it may be referred most of the severe forms of dysmenorrhea which resist the ordinary modes of treatment, and most of the cases of inveterate leucorrhea in the virgin, which are connected with great general debility and prostration.

Not only have I frequently met with inflammatory ulceration of the cervix in virgin females above twenty, who have menstruated for some years, but I have, in several instances, discovered the disease existing in a most decided form in young females only sixteen and seventeen years of age, in whom menstruation was not even yet fully established. I have now two cases of this description under my care, which I shall give at the end of this chapter. They show, most satisfactorily, that the congestion which precedes and accompanies the establishment of the function of menstruation in the female economy may become morbid, and be followed by the development of ulcerative inflammation. As yet, I have had no reason to suppose that the neck of the uterus is ever ulcerated previous to the age at which menstruation appears. Considering the dormant condition of the uterus when it has not yet been roused into functional activity, I should think it is scarcely likely then to take on severe inflammatory action.

This discovery cannot but be considered of extreme importance, inasmuch as it brings at once within the scope of successful treatment a class of most distressing and intractable cases. At the same time, it must also be admitted that it very much increases the delicacy and difficulty of their management. The manual and instrumental examinations imperatively necessitated by the presence of extensive physical lesions in the deep-seated uterine organs, are at all times repugnant to female delicacy, and their proposal, under any circumstances, can only be warranted by the serious nature of the case; but the scruples of the medical practitioner must be increased tenfold, when the sufferer is a virgin female. If, however, he is satisfied that his patient is labouring under a disease which is destroying the very sources of health, and the disastrous effects of which can only

be arrested by physical examination, it would be a dereliction of duty, as well as a false and culpable delicacy, not, if possible, to overcome all obstacles, whatever may be their nature. No such feeling prevents surgical relief being offered to young females suffering under the diseases of other regions of the economy—the anus, the rectum, or even the external genital organs, for example, where treatment is nearly equally repugnant, —nor should it in this instance.

It is, however, of the utmost importance that no physical examination should be even thought of in an unmarried female, unless there be next to a moral certainty that severe inflammatory lesions of the uterine neck actually exist. Fortunately, a practitioner, familiarized with the disease, may generally acquire this conviction by the oral examination of the patient, and by a careful and judicious appreciation of all the elements of the case.

Causes.—It is principally, but by no means always, in plethoric young women, who present the sanguineous temperament, that inflammation and ulceration of the cervix is met with; and as a necessary result, the disease is generally of a rather acutely inflammatory character. But a predisposing cause of still greater importance is the natural susceptibility of the uterus which I have repeatedly mentioned as characterizing a large proportion of those who are attacked with uterine inflammations. Unmarried females of a more advanced age,—between thirty and forty, or fifty, for instance,—are by no means exempt from the development of uterine disease. It has long been known that they are often attacked with polypi and fibrous tumours, and I have found them equally liable to inflammatory disease of an aggravated form. Indeed, I have frequently been able, apparently, to trace the origin of polypi and fibrous growths to the previous existence of inflammation long neglected.

Symptoms.—The local symptoms of inflammation and ulceration of the uterine neck, when present, are absolutely the same in the virgin as in the married female. They are: pains in the lumbo-sacral, ovarian, and hypogastric regions, as also in the hips and thighs; a white or transparent mucous, a yellow purulent, or a muco-sanguinolent discharge; and pelvic weight and bearing-down. As in married females, a glairy or a purulent

discharge indicates inflammation, and probably ulceration. A *permanent* white vaginal discharge is also a very suspicious circumstance, as it proves the existence, not of general or local weakness, but of permanent uterine congestion—a condition which is, generally speaking, connected with inflammatory ulceration of the cervix, and which, even did it exist alone, would probably be soon followed by inflammatory disease. On the other hand, the absence of a yellow or white discharge is no proof whatever that inflammatory ulceration may not exist.

As in married females, the local pains generally persist *throughout the entire interval* of menstruation, although they are usually much more severe during its existence. Pelvic weight and bearing-down is not often experienced to any great extent by the virgin female, owing to there being less tendency to hypertrophy, and to the vagina being very contractile, and giving so much support to the uterus as generally to prevent prolapsus occurring. When partial prolapsus does take place, it is partly because the vagina becomes relaxed, and loses its tone, and partly from the increased weight of the enlarged cervix. Owing to this natural tonicity and contractility of the vagina in young females, the presence of the feelings indicating partial uterine prolapsus is a very strong presumption that the patient has long been suffering from inflammatory disease of the uterine neck. In such instances, the pessaries and other local means of support, which are frequently resorted to in the blindest manner, are necessarily attended with disastrous results, generally aggravating the inflammation to an extreme extent. The use of pessaries with young females thus suffering is certainly most irrational. A case which I shall narrate will painfully illustrate their injurious effects.

In addition to the local symptoms of ulcerative inflammation of the cervix uteri, there are the general symptoms to be considered, and they will often throw great light on the real nature of the disease. Of all the general symptoms which may be present, extreme debility is the most significant. As with married females, an occasional white leucorrheal discharge—that which I have described as often preceding and following the menses, or any occasional uterine congestion—certainly does not

react to any very great extent on the health, although it is universally considered to do so by writers on female diseases. Such a discharge may exist in young, chlorotic, scrofulous, and phthisical females, merely as the indication of slight uterine congestion, the result of disordered menstruation, itself caused by the general cachectic condition of the individual. In these cases the leucorrhea is only a symptom of disturbed menstruation, brought on by the cachectic, anemic state of the patient; it is not the cause of the anemia. In the absence of some tangible cachexia, I may safely say, that I scarcely ever meet, even in virgins, with extreme general debility and weakness co-existing with leucorrhea, without finding, on a careful scrutiny of the case, that there is inflammation, and generally speaking, ulceration of the uterine neck.

A disordered condition of the digestive system, great mental depression, loss of rest, hysterical symptoms, nervous agitation, spinal irritation, &c., also characterize the disease, and are evidences of its reaction on the general health. I have seen severe convulsive hysteria followed by partial paralysis in the virgin, the evident result of inflammatory ulceration of the neck of the uterus. When convulsive hysteria recognises this cause, the attacks occur principally at the monthly periods, when the uterine exacerbations take place.

In many of the instances which I have seen of ulceration in the virgin female, the most prominent symptom has been dysmenorrhea in a very severe form. Indeed, as I have stated above, I am convinced that most of the cases of extreme and obstinate dysmenorrhea and disordered menstruation, which are at last considered hopeless, and are merely palliated by narcotics, will be found, on careful scrutiny, to be cases of ulcerative inflammation of the uterine neck.

When the cervix is inflamed and ulcerated, the menses, whether they have previously been easy or difficult, generally become painful, sometimes agonizingly so, all the local pains being much exaggerated. It is not, however, the existence of pain during menstruation, as we have seen elsewhere, that indicates the presence of ulcerative disease, some women always suffering pain, even in the absence of uterine inflammation, but

the presence of pain when it did not previously exist, and its increase when it did. Amenorrhea or menorrhagia are also frequently observed. The breasts are often sympathetically affected; they become large, swollen, tender, and painful, and the areola is developed as in early pregnancy.

All the symptoms, both local and general, of inflammatory ulceration are occasionally met with, and then the diagnosis is easy. Sometimes, however, as with married females, there are only one or two symptoms present, in which case the diagnosis is very difficult. Thus I have now under my care an unmarried lady, aged twenty-seven, with whom the only symptoms were excruciating pain for the first day of menstruation, and a slight falling-off in the general health. I was led to connect this state with local disease because the dysmenorrhea had only existed for two years, had resisted all general treatment, and was increasing. On examination, I found extensive ulcerative disease of the cervix. In this case, the moment the necessary local treatment was commenced, all the ordinary local pains, previously absent, appeared —the backach, bearing-down, exhaustion, &c. I have consequently had great difficulty in persuading the patient and her friends that these symptoms were not solely caused by the treatment. I not unfrequently meet with cases in which this difficulty has to be encountered.

It will thus be seen, that by an accurate analysis of the local general and functional symptoms presented by the patient, very fair presumptive evidence of the existence or non-existence of inflammatory ulceration of the cervix uteri may be obtained, in many instances, without resorting to physical examination. Whether the existence of the disease, however, be considered certain or doubtful, an attempt may be made to cure the patient by simple palliative remedies, injections, rest, &c., if the circumstances of the case admit of delay; but if they do not, or if these means have been tried, and have failed, a digital examination of the uterine organs should be resorted to without hesitation. The welfare of the patient is the paramount consideration, and if it becomes absolutely necessary to acquire more information respecting the state of the uterus, all other considerations must give way.

Physical Examination.—A satisfactory digital examination

of the uterus may be nearly always made in a virgin, without injury to the hymen, especially when the vagina and external genital organs have been relaxed by long-continued congestion and inflammation. The hymen is nearly always sufficiently dilatable to admit the index, introduced slowly and with proper care. Generally speaking, the os and cervix are reached with ease, the inflamed cervix not being retroverted, as it is in most married females; and when once the finger has reached the os, in most cases, all doubts are solved. If the cervix is free from disease, it is soft, and the os is closed; if inflamed and ulcerated, it is enlarged and swollen, and the os more or less open and velvety. This open, soft state of the os and cervix may also exist from mere inflammation of the cavity of the uterine neck. If the uterus, however, lies diagonally, from right to left, there may be some difficulty in reaching the cervix.

When the existence of ulcerative disease of the uterine neck has been thus recognised in a virgin, what course must we follow? As it may react so disastrously on the female economy as absolutely to endanger, indirectly, the life of the patient, not to speak of its making her a burden to herself and to all around her; as, likewise, when the disease is severe and confirmed, all non-instrumental means of treatment are totally inefficacious, there can be no room for hesitation. The speculum must be used, if possible without dividing the hymen; but if its introduction is otherwise impossible, the hymen must be carefully divided.

In many cases, as I have before stated, the hymen is naturally very lax, or has been relaxed by disease; I have therefore had a very narrow, small, bivalve speculum made, with which I am generally able, by degrees, and with a little time and patience, to dilate it, and thus to examine the patient, without any preliminary division. The use of injections and hip-baths, by diminishing the vulvar and vaginal inflammation, also greatly promotes the relaxation of the hymen. When, however, the membrane is fleshy or inextensible, which it generally is in females rather advanced in life, it does not yield, and it may become necessary to divide it. This may even be necessary, in order to introduce the finger. In a case in which I was consulted lately, the vaginal orifice was not larger than a crow-quill; the patient, a young

person, aged nineteen, was rather stout and muscular. If it thus becomes indispensable to divide the hymen, the incisions may be made on each side, but that which gives most room is one in the median line, inferiorly, in continuation of the raphé of the perineum, owing to the extensible nature of the soft tissues at the lower commissure of the vulva. This is also the region where the hymen is naturally the most fleshy and the thickest. If possible, it is as well to allow the divided surfaces of the hymen to heal before any attempt is made to use the speculum, in order to avoid giving useless pain to the patient. The healing of the incisions may be promoted by touching them once or twice with the nitrate of silver; unless this precaution be adopted, the cicatrization is sometimes tedious. I very seldom, however, have occasion to divide the hymen, as I find that with patience and gentleness, and the assistance of local antiphlogistic treatment, it may, in most instances, be sufficiently dilated to admit the small speculum which I use.

When the nature of the disease has been once recognised, and its extent instrumentally ascertained, the case falls into the general category. The only important peculiarity which I have remarked in the progress of this disease in virgins is, as I have stated, that it generally presents itself in young females under the acute or inflammatory form. The cervix is enlarged; but it is the swelling of congestion and inflammation, not the chronic nutritive hypertrophy so often observed in married females. The ulcerated surface, which is seldom extensive, is often irritable and vascular. These peculiarities are not unfavourable, as such cases are precisely those which yield the easiest and the readiest to treatment. I occasionally meet, however, with virgin females, rather advanced in life, in whom the cervix is chronically hypertrophied, and in whom the disease generally proves very intractable. In several, above forty years of age, thus suffering, whom I have treated, I have been able to trace back the malady for very many years. Under such circumstances, as we have seen, the uterus is apt to take up other morbid actions. In young females the excoriated or ulcerated surface is often so small that it is difficult to believe that so slight a lesion could occasion so much local and constitutional disturbance; and yet its removal

by treatment proves that it is the cause of all the mischief, inasmuch as the patient loses all morbid symptoms and recovers her health, after having in vain sought relief from all other modes of treatment. Indeed, it is more especially in young virgin females that we find exemplified the important fact, that in inflammatory and ulcerative affections of the cervix uteri there is no traceable connexion between the *extent* of the local disease and the *amount* of the local and constitutional suffering. The most trifling lesion may occasion extreme disturbance, whilst in other cases extensive disease will scarcely give any evidence of its presence.

I am aware that the foregoing details will be read with considerable surprise even by those practitioners who have paid the most attention to uterine diseases. They are, however, the expression of facts, and, as such, must necessarily be accepted, eventually, by the profession. When this is the case, a great amount of suffering, now unrecognised and unremedied, will be alleviated. I have by me the notes of very many cases of severe ulcerative inflammation of the uterine neck in virgins, which I have observed and treated within the last few years, some of which have occurred in private practice, and others in public practice. In most of these cases the patients had been ill for years, the symptoms which they had presented having resisted every attempt at treatment. Many had been under the hands of very able and experienced practitioners, who had brought to bear on their cases all the information of which the profession is at present in possession. Nevertheless, their sufferings had gone on increasing, their general health had become more and more debilitated, and it is certain that some must have perished, victims to the disease, if the real cause of their illness had not been discovered and remedied.

Experience having thus taught me that severe ulcerative inflammation of the cervix uteri is occasionally met with in unmarried females; that it is then the cause of great functional uterine disorder, and of extreme general debility; and that by physical examination only can the disease be fully recognised and treated; I have no hesitation in stating, that such an examination, *in these exceptional cases,* becomes imperative. As,

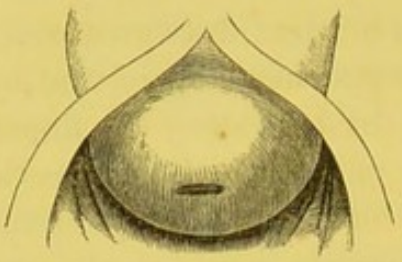
however, an investigation of this nature is a serious matter, and must be equally repugnant to the feelings of the medical attendant and of his patient, it should only be resorted to as an extreme measure—as a last resource. No practitioner who has not acquired an accurate knowledge of these forms of uterine disease in married females, ought, in my opinion, to resort to it on his own responsibility, as he may, by so doing, unnecessarily expose his patient and her friends to great mental distress, through his ignorance of the real meaning of the symptoms which she presents. It is only by educating the finger by the eye that it acquires that delicacy of tact which enables the medical attendant to discover ulceration of the cervix by digital examination. Indeed, I cannot too strongly insist on the practical importance of the fact, hitherto overlooked in this country, that the information afforded by digital examination is alike obscure and useless, until the finger has been educated, and its errors corrected, by the eye.

Notwithstanding all that I have said above, I must not be considered to assert that this disease is a very common one in the virgin female. On the contrary, I believe it to be exceptional; but I also believe that all practitioners engaged in the consultation-practice of uterine disease will recognise it frequently, as I do, if they bear in mind the facts which I have pointed out. I may say, without exaggeration, that since I called the attention of the profession to the existence of the disease in virgins, not a month has passed without my being consulted in cases of severe inflammatory disease of the cervix in virgins, having resisted years of general treatment; and that I have thus been instrumental in restoring to *perfect health* many young females who, when I first saw them, were mere wrecks, and had lost all hope of recovery. When such a disease is once known to exist, it would be an opprobrium to medical science to allow it to remain unchecked from motives of false delicacy.

I shall conclude this account of the symptoms presented by inflammatory ulceration of the uterine neck in virgins, by narrating several interesting cases which may be considered typical of the disease. I must first, however, draw attention to the

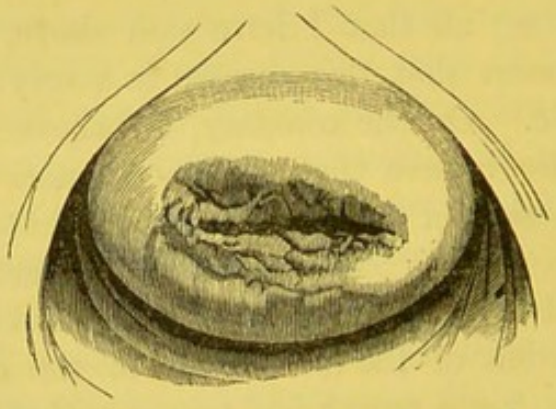
accompanying figures. Figure 1 represents the cervix uteri of the menstruated virgin in the healthy state; figure 2 represents an ulcerated and hypertrophied virgin cervix in my possession. This interesting morbid preparation I owe to the kindness of Mr.

Fig. 1.



The virgin cervix.

Fig. 2.



The virgin cervix, inflamed and ulcerated.

Anderson, my colleague at the Western Dispensary. The female from whom it was taken was a young lady (attended in private practice by that gentleman), who died from an acute chest-affection, at the age of nineteen. She was previously in apparently robust health. Mr. Anderson was not able to tell me whether she had presented any uterine symptoms previous to her fatal illness, although they no doubt had existed.

On making a post-mortem examination, he found the hymen small and intact. The cervix uteri, however, was much hypertrophied and extensively ulcerated, as will be seen in the

woodcut. I may mention that the drawing, which is mathematically correct, was taken from the diseased cervix after it had been macerating for many months in alcohol, and that consequently the ulcerated neck must have been even larger in the fresh state. This engraving is a very accurate representation of the condition of the uterine neck as to hypertrophy and ulceration, in many of the cases which I have seen in the virgin; in some, the ulceration is more, but in most it is much less extensive. It will be easily understood that the finger of an experienced practitioner, passing over such a cervix, could not fail to recognise the gaping, open state of the os uteri, so different from that depicted in fig. 1.

Case I.

Extensive Inflammatory Ulceration of the Uterine Neck in a young person, aged Twenty-four, accompanied by partial Prolapsus of the Uterus, and much aggravated by the use of a Pessary.

In April, 1846, I was consulted by a lady from the North of England, respecting her daughter, aged twenty-four, who had been suffering for some time from falling of the womb. On questioning the mother and the daughter, I elicited the following details:—Menstruated early in life; she had always been so regularly every four weeks. The secretion usually lasted four or five days, and was generally accompanied by more or less pain during the first two. She had often whites a day or two before and after menstruation, but not at other times; health generally good. At twenty-two the whites became more abundant, and she began to suffer from increased pain during menstruation. She also experienced from that time considerable pain in the lower part of the back. Her general health subsequently flagged; she became low, nervous, dyspeptic, and thin. About nine months previously, she began to feel great dragging and bearing-down in the pelvic region. This sensation was more especially felt when standing or walking. The vaginal discharge had then been yellow for some time, and the back and other pains were much increased; the general health had also become

worse. Under these circumstances, her mother, being alarmed, consulted an experienced accoucheur. The young lady was examined digitally, and told that the womb had fallen, owing to laxity of its ligaments; that there was no other disease, and that she would soon feel quite well if the womb were properly supported. In order to effect this, a boxwood ring pessary was introduced into the vagina, although with great difficulty, and pushed up against the cervix. She was promised that she would soon be able to walk out,—which for some months she had been unable to do,—if she persevered in using the pessary. The wooden supporter thus introduced was regularly pushed up once or twice a week, for a period of three months. The introduction of the pessary was immediately followed by a very great increase in the local pains, as also by an increase in the vaginal discharge, which from that time was frequently tinged with blood. For some weeks previous to my seeing her, the pains in the back and lower abdominal and ovarian region had often been agonizing, especially during the monthly periods. The hypogastric region was painful to the touch. She could scarcely walk across the room, could not sit upright, and had an abundant yellow vaginal discharge, generally mixed with blood. She was sallow and emaciated; became hot and feverish every afternoon, and was very weak and hysterical; the appetite was bad, the bowels constipated; her nights restless, and the urine loaded with lithates. Notwithstanding these symptoms, and although the pain experienced when the pessary was pushed up, or even touched, was indescribable, her medical attendant kept repeating to her that she must be better, and would soon get well. The impression, however, on the mind of her friends was, that he had given her up as incurable—an impression confirmed by his having, of his own accord, all but ceased his attendance.

On passing the index into the vagina, I found both the external and internal parts very lax and moist. The pessary was low down, but wedged, as it were, in the soft parts, so that I had to use some force to extricate it. On then examining digitally, I found the cervix low, very voluminous, and presenting a certain resistance to pressure, without being indurated; the hypertro-

phied lips were very open, so much so as to admit the first phalange, and presented a soft mossy surface, both internally and externally. The uterus was rather enlarged, especially posteriorly, and very sensitive to pressure. Posteriorly, where the cervix passed into the body of the organ, there was a groove, or sulcus, in which the posterior circumference of the ring pessary had been lodged, and which had been formed in the inflamed uterine tissue. Here the pain on pressure was very great. The uterus was perfectly moveable. On introducing a bivalve speculum, which I was able to do from the extreme laxity of the parts, and their previous distension, a really frightful amount of inflammatory and ulcerative disease became apparent. The vulva and vagina were painful to the touch, vividly congested, and covered with sanies. The cervix, low and voluminous, was of a livid red, covered with sanies, and ulcerated both around the open os, and as far within its cavity as the eye could reach, on the lips being separated with the speculum. The ulcerated surfaces were most unhealthy in their appearance, and bled on the slightest touch. It at once became evident to me, that the patient had been primitively affected with inflammation of the cervix; that the prolapsus of the womb, which had alone attracted the attention of her medical attendant, was merely the physical result of the inflammatory enlargement of the organ; and that the treatment adopted had aggravated twenty-fold the gravity of the disease. I began the treatment by applying the nitrate of silver freely to the ulceration, and by the application of eight leeches to the cervix uteri, which were repeated a few days later. She was confined to her bed, and cold linseed vaginal injections with tepid hip-baths ordered night and morning. The bowels were kept open by cold-water injections and mild laxatives, and a very light mild diet, without stimulants of any description, was prescribed. Under the influence of these measures, the acute inflammatory symptoms presented by the uterine organs rapidly gave way, and in less than ten days there was already a considerable change for the better. The extreme sensibility of the vagina, cervix, and posterior uterine region, had much diminished, and she suffered much less in the lower part of the back, and in the abdominal and ovarian regions. The

afternoon febrile attacks had given way, and she had become less restless and feverish at night. The ulceration, which was still very unhealthy, was then cauterized with the acid nitrate of mercury, and astringent (alum) injections substituted for the emollient ones previously used. A saline mixture only was given internally.

From this time forward, under the above treatment, and the periodical cauterization of the ulceration, either with the nitrate of silver or the acid nitrate of mercury, the patient continued to improve, although slowly. It was nearly two months before the ulcerated surfaces of the cervix and its cavity assumed a thoroughly healthy appearance, and ceased to secrete more or less sanious discharge. Before this period, however, the process of cicatrization had commenced, and it continued to extend itself, the cervix at the same time gradually diminishing in volume. As this decrease in size progressed, the cervix rose in the vagina, and the sensation of falling became less distressing. The general health also rapidly improved, the rest became good, the bowels regular, the appetite returned, the urine ceased to be loaded with lithates, and the general nutrition began to rally.

It was not, however, until the end of August—that is, nearly five months from the commencement of the treatment—that I could pronounce the patient cured. The ulceration was then completely healed, both inside the os and out. The lips of the os, formerly so open, were quite closed; and the cervix, not more than a third of the size it first presented, had risen into its natural position in the pelvis. It was at least two inches and a half higher than when I first saw her. The mucous surfaces were perfectly healthy, and there was no morbid secretion of any kind. She could walk a mile or two without fatigue, and sit erect. Menstruation was easier than it had been for years, slight pain only being experienced the first day. The appetite was good, bowels regular, urine clear, complexion healthy, and she had gained flesh. I sent her to the seaside for a month or two. On her return, the health was still further improved, and has continued very good ever since. I saw this young lady some time after,—a full year from the cessation of the treatment,—and ascertained that she had had no return whatever of the pro-

lapsus, or of any other uterine symptom. She was in perfect general health.

Remarks.—This case is peculiarly instructive, not only as an illustration of inflammatory ulceration of the uterine neck in the virgin female, but also as illustrative of my views respecting the real nature and cause of partial prolapsus uteri in a large proportion of cases, and of the very erroneous notions entertained on this subject by practitioners of deserved eminence in the profession. There can be no doubt whatever that this young lady was attacked with inflammation of the uterine neck at the age of two-and-twenty, as evidenced by the dysmenorrhea, the permanence of the whites, the permanent back-pain, and the general symptoms. The partial falling of the womb which subsequently took place was the physical result of the increased weight of the inflamed and hypertrophied cervix, and not of laxity of the ligaments, as erroneously supposed. It is not, indeed, without great difficulty that I can understand how the numerous and evident symptoms of uterine inflammation which the patient presented could possibly have been so entirely overlooked. To me it appears marvellous that the exacerbation of all the symptoms, both local and general, which followed the introduction of the pessary, did not reveal the real nature of the case. The preconceived idea of its nature was, however, too strong to be removed, and the poor girl was thus martyrized by the very means resorted to relieve her. When the inflammatory nature of the disease was discovered, and rational antiphlogistic measures were adopted, the pains, discharges, prolapsus, and other symptoms, gradually diminished, and she was eventually restored to perfect health. The connexion between the local uterine lesions and the general and local symptoms, as cause and effect, was admirably illustrated by the total disappearance of the latter when the inflammatory affection of the uterus was cured. The dysmenorrhea, also, which had previously been a prominent symptom, entirely disappeared, along with the uterine disease.

Case II.

Inflammation and Ulceration of the Uterine Neck in a young person, aged twenty-three, the cause of very severe Dysmenorrhea, and of great general Debility; great Irritability of the Bladder and Rectum; Treatment; Dilatation of the Cavity of the Cervix.

Whilst in the south of England, in September, 1846, I was consulted respecting a young lady, aged twenty-three, who had been long suffering from dysmenorrhea, for which she had been treated unsuccessfully by various experienced medical practitioners. I found the young lady confined to her bed, and ascertained the following details:—Of sound constitution, and sanguineous temperament, she enjoyed good health as a girl. Menstruated at fourteen; she continued to be so regularly from that time, every four weeks, the secretion lasting four or five days. From the first, menstruation was rather painful, the pain continuing sometimes nearly the entire period; the flow of blood was rather abundant. Sometimes she had a slight white vaginal discharge for a few days after the period, but not sufficient to attract much attention. In other respects her health continued good. At the age of twenty menstruation became much more painful; the pains were more severe and more continuous, and incapacitated her from any exertion whilst they lasted. Occasionally she kept her room; at other times, as it were in despair and to escape from pain, she would take long walks, but such exertion was invariably attended with an increase in the local symptoms. The white leucorrheal discharge likewise became more continued and copious; she, however, generally rallied during the interval of menstruation, although not always. About a year previous, she had had to bear very great fatigue, during several months, whilst attending the sick bed of a near relative, whom she eventually lost. Under the combined influence of fatigue and grief, the above-mentioned symptoms became much more marked. The pains which she experienced during the monthly period, and for some days before and afterwards, increased to such an extent as generally to confine her to

bed. They were no longer limited to the uterus, but radiated all over the lower part of the abdomen, and extended to the back, persisting in the latter, and in the ovarian regions, *during* the interval of the menstrual period. The leucorrheal discharge was much more abundant, and often presented the appearance of matter; the menstrual periods became irregular, more approximated, and the flow of blood more considerable, and she suffered from nausea all the time they lasted. At the same time, the general health, which had long been indifferent, rapidly gave way; she lost all desire for food; the bowels became very constipated; she suffered from continued cephalalgia, alternate chills and flushing, and interrupted rest. This state of things obliged her, in the previous February, to apply for medical relief, for the second or third time. After careful digital examination, she was pronounced, as on previous occasions, to be labouring under functional dysmenorrhea, and was treated in accordance with this view. The only local means used appear to have been, the application of leeches to the abdomen during the monthly exacerbations, rest in bed, and sedative suppositories introduced into the vagina.

Notwithstanding the measures enumerated, all the symptoms continued to increase until I saw her. She had then been nearly constantly in bed for some weeks, owing to the great pain she experienced in the back and hypogastrium on the slightest motion. Although complaining of so much pain, the general nutrition did not appear to have suffered to any very great extent, and owing to a flushed state of the countenance the expression of the physiognomy did not at first appear to be that of a person labouring under serious disease. She told me, however, that her sufferings were but just bearable in the interval of menstruation; and that at that period she experienced such severe and continued agony that she was left nearly powerless, and unable to move. As the menses also appeared every three weeks, lasting seven or eight days, she had scarcely time to rally from one attack before she was seized with another. She suffered continued pain in the back and side, great tenderness of the lower part of the abdomen, constant cephalalgia, had little appetite, was constipated, in the habit of passing a good deal of slimy

mucus from the bowel; and had not enjoyed a good night's rest for months. During the menstrual period she suffered much from continued nausea, and constant desire to pass water; but the nausea usually disappeared with the menses.

On examining digitally, which I had some difficulty in doing, owing to the presence of a thick, unyielding hymen, I found the vagina hot, moist, and exceedingly tender. The cervix was enlarged, but soft throughout its entire extent; the os open, and surrounded by a well-marked, velvety surface. The uterus did not appear much enlarged, but was exceedingly sensitive to the touch. Pain was distinctly felt every time the velvety surface around and inside the os was pressed upon by the finger.

This examination was sufficient to reveal the nature of the case. It was evident that the patient was labouring under confirmed inflammatory ulceration of the cervix, and that this was the principal cause of the painful menstruation and general disturbance. The dysmenorrhea was merely a symptom of the local inflammatory disease, which as yet had never been efficiently treated. I exp'ained these facts to the relatives, as also my views respecting treatment, and it was at once determined that she should be placed under my care, to be treated as I considered advisable. The sufferings of the patient were so great, that she was herself ready to submit to anything to obtain relief. A few weeks later, therefore, she came up to town. In the meantime menstruation had again occurred, and with the same intense suffering as before, notwithstanding the continued use of warm hip-baths, warm poultices to the abdomen, opiated injections to the rectum, coupled with appropriate general treatment.

I again saw her ten days after this menstrual period, on October the 5th. She was still in considerable pain; the local symptoms were the same, and there was even greater tenderness in the hypogastric region; the journey had occasioned great fatigue and exhaustion, and an increase in the uterine and sacral pains; every afternoon, for some hours, she became hot and flushed. I determined without delay to apply leeches to the uterine neck. This I did, after deeply incising the hymen in two different directions—opposite the perineum and on the side. I was thus enabled to ascertain, by the speculum, the state of the

uterine organs. The vulva and vagina, especially the latter, were of a vivid red hue, and evidently much inflamed; the cervix was swollen, red, inflamed, and ulcerated. I merely obtained, however, a view of the superior third of the cervix, owing to its only partially entering into the small, conical speculum which I used to apply the leeches. The slightest motion of the instrument occasioned so much pain, that I did not attempt to embrace the entire cervix, and contented myself with uncovering the upper part of the ulcerated surface. The leeches bled very freely, and their application was followed by considerable relief. Astringent vaginal injections were then employed in the usual manner, and with the usual precautions; tepid hip-baths night and morning, a cold rectal injection every morning, and a saline aperient; rest in bed, and light diet, without stimulants.

Under the influence of these means, the local pains soon considerably diminished, as also the abdominal tenderness; the afternoon heats ceased to appear, and the rest had become more refreshing than it had been for some months, when, on the 12th, the menses appeared. During the five or six days that they lasted, she suffered very great pain, but rather less than on previous occasions. All local treatment was of course suspended, with the exception of a warm water vaginal injection, once in the four-and-twenty hours. Two days after they had ceased, I again applied eight leeches to the uterine neck. The incisions of the hymen not being quite healed, the introduction of the speculum was still painful. The vagina was very red and congested, but not so much so as on the former occasion. The cervix was rather less swollen, and entered more fully into the extremity of the speculum, so as to reveal a greater portion of the ulcerated surface around the os. The leeches bled well, but by no means so freely as before. A few days later, the ulceration was cauterized with the nitrate of silver. The former treatment was resumed.

25th.—The incisions of the hymen being healed, I used for the first time, a bivalve speculum, with a view to completely uncover the cervix. This I was at last able to do effectually, and found on the inflamed cervix an ulceration around the os,

and dipping into its cavity, rather larger than a shilling. The granulations of the ulcer were large, rather spongy, and covered with pus, which had to be wiped off before the diseased surface could be seen. The cervix was voluminous, but soft. The ulceration was touched with the acid nitrate of mercury, and the same local and general treatment as before pursued.

From this time, the amelioration became gradually more and more decided. Within a month or five weeks the ulceration began to heal, and the vaginitis was completely subdued, the leucorrheal discharge having nearly entirely disappeared. At the next monthly period, in order to modify the morbid uterine congestion which appeared to come on at the time of menstruation to a perfectly morbid extent, I applied leeches the day before the menstrual flux was expected. I was unsuccessful, however, in preventing very severe pain from appearing along with it, and persisting. Laudanum, injected in the bowel, produced little or no effect: it only appeared to increase the headach and nausea. On the second day, the flow of blood ceased, and the pain diminished. This was what generally occurred; but the menstrual secretion always began again to flow on the third day, and the pain was then often worse than at first, for the two or three days that it lasted. I therefore again applied leeches. They bled freely, and when the flux returned it was with comparatively little pain. The congestion of all the uterine tissues was intense, and as it still persisted a week after the menses had entirely ceased, as also the nausea, I again applied six leeches with the best possible effect. Although they bled freely each time they were applied, they did not weaken the patient, the only sensation experienced being that of relief from pelvic pain, weight, and heaviness.

At the beginning of February, four months from the commencement of the treatment, the ulceration was quite healed, both inside the os and out; the cervix had returned pretty nearly to its natural size, and was quite free from inflammatory disease, as also the uterus and vagina. There was still pain in the lower hypogastric region, just above the pubis; but this pain was evidently referrible to the neck of the bladder only. On exercising pressure between the hand, applied over the pubis,

and the index applied internally, quite anteriorly to the uterus, the pain was distinctly felt by the patient to be limited to the tissues thus circumscribed, that is, the neck of the bladder. This sensitive state of the bladder corresponded with other very decided symptoms of vesical irritation—viz., frequent desire to pass water, pain in the urethra, and numerous epithelial scales in the urine. The urine was otherwise nearly clear, and healthy. The digestive functions had in a great measure recovered their tone, and the rest was good. She was beginning to walk a little, and could sit up on a sofa during the greater part of the day. The pains in the back and side had disappeared. The general health had rallied amazingly; she was stronger and better than she had been for many months.

I thought the patient was cured, and anticipated nearly entire freedom from pain at the next menstrual period. To my surprise, however, the menses, this time uninterfered with, were still attended with very great pain, and with great tenderness of the lower abdominal region, and I was induced to apply leeches to the cervix on the third day, in order to relieve the evident uterine congestion which existed. It became evident, therefore, that there must be some additional cause for the dysmenorrhea, as it persisted, although in a very modified degree, after the entire subdual of the inflammatory disease. Thinking that there might be a physical obstacle to the passage of the blood from the uterine cavity, from partial closure of the cavity of the os, I determined to dilate it with the sponge-bougies or tents. The uterine sound could not pass through the os internum, nor could I introduce even a much smaller wax-bougie.

In accordance with the above view, I immediately commenced dilating the cervical canal, and succeeded in three weeks—that is, before the next monthly period — in so dilating it as to be able to pass a tolerably sized wax-bougie into the uterus. This time the menses passed off nearly without pain; she suffered only two or three hours, and had no abdominal tenderness.

The treatment having been thus brought to a close, the young lady returned to her family, and has since ceased to suffer at the monthly periods, except for a few hours at the onset. She has

entirely got rid of all the old uterine symptoms, and can walk with ease. The digestion has become healthy, she has lost the vesical irritation, and is, in fact, perfectly restored to health. She says, indeed, that she can scarcely remember menstruation having ever been so free from pain as at present, certainly not since she was eighteen years of age.

Remarks.—The above case may be considered a model one, containing, as it does, nearly all the elements of a description of the disease. We have present, all the local results of inflammatory ulceration of the cervix, along with extreme rectal and vesical irritation,—symptoms which, although very frequent, are not invariable,—the constitutional and functional sympathetic reactions, and intense dysmenorrhea. The latter symptom was so prominent, that it overshadowed all the rest, and was alone noticed, as occurred with the prolapsus uteri in the former case. That the inflammation was the principal cause of the dysmenorrhea no one can doubt who reads attentively the history of this poor girl's sufferings, although there appears to have existed in her that congenital susceptibility of the uterus to which I have so repeatedly alluded. The contraction of the cavity of the cervix, which I had to remove by dilatation, was not congenital, I believe, but occasioned by the swelling and enlargement of the inflamed cervix, the effects of which persisted even after the inflammation had been subdued. Had it been congenital, menstruation would have been very painful from the first, whereas it only became distressingly so at the age of twenty, subsequently to the appearance of the uterine symptoms. When dysmenorrhea is thus occasioned by contraction of the natural passages, the contraction will often be found, on careful investigation, to be the result of previous inflammation.

The bare perusal of these two cases cannot fail to do away with any objections that may be entertained, on the score of delicacy, to the application of the doctrines which I have broached and of the practice which I have recommended. I have no hesitation in saying that it is my firm impression that both these young ladies would have been brought to an early grave, by the disease under which they were labouring, had not its

nature been discovered, and prompt and energetic measures been adopted. The first was sinking into a state of marasmus and febrile excitement, which must have terminated fatally before very long. The second, a prey during ten days out of every twenty, to the most agonizing pain, was all but bed-ridden, and her strength and constitution were evidently rapidly failing; indeed, she had been given up by her friends and relations; and, considering that she had lost an elder sister from consumption, was, indirectly, in great danger. When such sufferings as these, such dangers as these, are in question, and medical science possesses the means of averting them, and of restoring the sufferer to health and society, where is the person who could for a moment maintain that the physician ought to avert his eye, and refuse all assistance from scruples of delicacy. Such a supposition even is preposterous. Once such facts as the above, now for the first time laid before the profession, are brought to light, and proved, the deduction is inevitable—viz., that duty and humanity oblige the medical attendant to encounter and overcome all difficulties, whatever be their nature and magnitude.

The two following cases will illustrate the fact, that this distressing disease may appear at a very early period of female life, during the struggle which so often takes place for the establishment of the menstrual function.

Case III.

Incipient Menstruation; severe Inflammation of Vulva; Uterine Symptoms; Inflammation and Ulceration of Cervix.

Mary S——, a strong, robust girl of seventeen, was brought to me, at the Western General Dispensary, Nov. 21, 1848, by a married sister. The latter told me that her sister was suffering so much from local inflammation, that she could scarcely walk, and had been obliged to leave her place some time before. Her friends had consulted no one, because they thought the pains were connected with the coming-on of menstruation, and that if she rested, they would give way.

This girl had been brought up in the country until ten. For the last four years she had been in service, and her health had been excellent until about a twelvemonth ago. At that time she began to experience occasional pains in the lumbar and hypogastric region, and frequent headach, as is often the case previous to menstruation. Four months previous, a copious flow of blood took place for the first time, after an effort. It lasted for an hour or two, and then ceased suddenly. From that time there had been no return of the menstrual flux, and she had never felt well. The lumbar and hypogastric pains soon become worse, and she was seized with an abundant white discharge. Two months previous, a number of boils appeared on the labia majora, and gave her a great deal of pain. The breasts were constantly swollen and tender. The general health had suffered considerably. She was weak, low, and languid; the tongue was white, the bowels were confined. On examining the vulvar region, I found the labia majora and the nymphæ inflamed, swollen, and enlarged, and secreting a quantity of muco-pus. The hymen was perfect in every respect, but inflamed and swollen, the inflammation evidently passing into the vagina.

Under the influence of local antiphlogistic measures, and of appropriate general treatment, the vulvar inflammation rapidly subsided, and the general health improved. In the course of a fortnight, although there appeared but little inflammation left externally, the patient continued to complain of the same lumbar and hypogastric pains, of bearing-down, and to experience a profuse white vaginal discharge. Suspecting the possible existence of further disease, I gently dilated the hymen with the index, and passed it up to the cervix. I then at once discovered the cause of the inflammatory attack, the *fons mali*. The cervix was inflamed, enlarged, prolapsed, and evidently ulcerated. After using emollient and astringent injections for a few days, to diminish the irritability of the vagina, I was able to pass the small bivalve speculum, without injury to the hymen, and ascertained the correctness of the previously-formed opinion. The ulceration was very irritable and rather extensive. This patient rapidly got well under the usual treatment. The menses again appeared,

the breasts ceased to be tender and swollen, and she soon lost all the local uterine symptoms.

Case IV.

Incipient Menstruation; Abscess in Vulva; Uterine Symptoms; Inflammation and Ulceration of Cervix.

Sarah F——, a thin, diminutive girl, sixteen years of age, but not looking more than thirteen, was brought to me, Nov. 15, 1848, at the Western General Dispensary, by her mother, for a swelling in the vulva. I learnt from the latter, that her daughter was a very sickly child, but had enjoyed good health for some years, with the exception of the last few months. Nine months previously she went into service, and about that time began to experience pain in the lumbar and left ovarian regions. Six months previous she had a slight show for a few hours; and again three months afterwards. Since that time she had seen nothing, but the pains had been gradually increasing. A fortnight past she was attacked with inflammation in the left labium; an abscess formed, and burst. This occurred while she was in service, and without the knowledge of her mother. As soon as the latter was made acquainted with what had occurred, she brought her to me.

On examination, I found the vulva rather swollen and inflamed generally, and the trace of an abscess in the left labium. Thinking the patient was merely suffering from difficulty in the establishment of the menses, accompanied by slight local inflammation, I did not pursue the investigation any farther, but merely resorted to general treatment, coupled with emollient local applications.

In a few days all trace of vulvar inflammation disappeared, and the menses came naturally. She subsequently, however, continued to suffer as much as ever from the lumbar and ovarian pains, and from bearing-down. These symptoms, indeed, were so marked, that she could scarcely walk across the room. Under such circumstances, I felt called upon to examine the state of the uterus digitally. This I easily effected, the hymen being

dilatable, although perfectly intact. In this case, as in the former, I found the cervix enlarged, sensitive, and the os open and velvety. The use of the small speculum also brought into view a well-defined inflammatory ulceration penetrating into the cavity of the cervix.

This patient rapidly got well under the usual treatment of the disease from which she was suffering.

Had not my attention fortunately been directed in these cases to the uterine symptoms, owing to the co-existence of vulvar inflammation, the disease of the uterine neck would probably not have been recognised. The symptoms indicating uterine disease, if complained of at all, would have been attributed to difficulty in the establishment of menstruation, and as the local affection was so severe as to render its spontaneous cure very unlikely, the health of the young females might possibly have been ruined for life. I am, indeed, continually meeting with instances of severe inflammatory disease of the cervix uteri at a later period of life, in which I am able to trace the commencement of the morbid condition to the very origin of menstruation.

CHAPTER VII.

INFLAMMATION AND ULCERATION OF THE NECK OF THE UTERUS DURING PREGNANCY.

ITS INFLUENCE AS A CAUSE OF LABORIOUS PREGNANCY, HEMORRHAGE, OBSTINATE SICKNESS, DEATH OF THE FŒTUS, MOLES, ABORTION, ETC.

The discovery of the frequent existence of inflammatory ulceration during pregnancy is one of vital importance, inasmuch as it affords a key to most of the accidents and morbid symptoms of the pregnant period. It appears to have escaped the notice of all the continental writers—such as Lisfranc, Duparcque, &c.—who have recently paid attention to uterine diseases, and no English work or publication on midwifery or the diseases of women contains *the most distant allusion* even to the possible existence of such a disease during the pregnant state.

My attention was first drawn, in the year 1840, to inflammatory ulceration of the cervix uteri in pregnant females, by M. Boys de Loury, one of the physicians of St. Lazarre, an hospital-prison in Paris, where women of the town labouring under syphilis are confined and treated. The speculum being used with all the patients, as a means of exploration (with those who are pregnant as well as with those who are not), M. Boys de Loury thus discovered that ulcerative inflammation of the cervix is not uncommon in pregnant women, and that when left to itself, it frequently occasions abortion. I believe that I am authorized to attribute to M. Boys de Loury this important discovery, as I certainly never heard any other practitioner allude in the most cursory manner to the subject, and I am not acquainted even with a hint respecting it in the entire range of medical literature. M. Boys de Loury's discovery was briefly noticed, in 1843, by one of his house-physicians, M. H. Cos-

tilhes, in a thesis sustained before the Paris Faculty of Medicine. M. Costilhes' cursory notice was the only one that had appeared of this pathological fact in any language, when the first edition of the present work was published. Since that time I have devoted great attention to the elucidation of inflammatory ulceration of the cervix during pregnancy, and have ascertained that it is of frequent occurrence, that it is the key-stone to the diseases of the pregnant state, and the most general cause of laborious pregnancy, obstinate sickness, moles, abortions, miscarriages, and hemorrhage. The results of my researches on these points, as contained in the present chapter, were read before the physiological section of the British Association at Southampton, on September 11th, 1846.

Valuable corroborative evidence has since been brought forward by Mr. Whitehead, of Manchester, whose laborious and interesting investigations on this subject are contained in the treatise on abortion which he published the following year, in 1847.

When inflammatory ulceration of the cervix exists during pregnancy, a minute inquiry into the previous uterine history of the patient will generally prove that it existed *previous* to the pregnancy. I formerly believed that the disease mostly originated subsequently to conception. This opinion, however, subsequent experience on a wider field has shown me to be erroneous. Although it sometimes thus originates, in the great majority of cases it is evident that the cervix is diseased previous to conception. The recognition of this fact has necessarily led me to modify my opinion with reference to the influence of inflammatory ulceration of the uterine neck as a barrier to conception. In most instances, it has this effect, rendering women sterile who have never conceived, and arresting conception in those who have. This rule suffers, however, many exceptions, especially with the latter class of females. The disease generally produces sterility when it attacks young married females at the onset of their married life, but does not so generally arrest conception when they have already conceived, and have previously had children.

Local and Anatomical Symptoms.—The local symptoms of

inflammatory ulceration of the uterine neck existing during pregnancy are mostly the same as those which are observed during the non-pregnant state, but more or less modified and obscured by the changed condition of the uterus. These symptoms may be briefly enumerated as follow:—Continued pain in the lower part of the back, and in the hypogastric region above and behind the pelvis, in the ovarian regions, and more or less over the entire abdomen; a muco-purulent vaginal discharge; and a sensation of great pelvic weight and bearing-down. To these we may add the data furnished by the touch, and by instrumental examination, which we will first notice.

The sensation afforded to the touch differs considerably from that which is perceived, under similar circumstances, in a non-pregnant female, owing to the changes that pregnancy itself produces in the cervix. As is well known to accoucheurs, the healthy uterine neck in the pregnant female undergoes successive changes as pregnancy advances, and as the uterus increases in size—changes which may be said to consist in its gradual enlargement and softening, in the gradual opening of the os, and in the change of its position; for instead of being nearly in the direction of the axis of the lower outlet of the pelvis (its usual position), as the uterus ascends into the abdominal cavity, the cervix becomes retroverted, and partially assumes the direction of the axis of the upper pelvic outlet. On the other hand, it will be remembered that increased volume in the cervix, an open state of the os, and retroversion, coupled with a velvety surface, are the principal characteristic indications, to the touch, of inflammatory ulceration of the uterine neck in the non-pregnant condition.

This partial similitude between the changes, appreciable to the touch, produced in the cervix by inflammatory ulceration, and by pregnancy, renders it much more difficult to recognise ulceration of the neck of the uterus by digital examination in pregnant than in non-pregnant women. The distinction may, however, still be made, even in the early stage of pregnancy, through the following data, by an accoucheur whose touch has been thoroughly educated. When inflamed and ulcerated, the non-pregnant cervix is usually more or less indurated, whereas in the first months of pregnancy, even when inflamed and

ulcerated, it is generally, but not always soft; the ulcerated os is much more open than is consistent with the period of the pregnancy; and instead of presenting a smooth surface, it has a very peculiar feel, of which the word velvety scarcely conveys an idea. Its surface appears fungous to the touch, and in a more advanced period of pregnancy, of a quaggy, pultaceous consistency. In the midst of this fungous surface may sometimes be felt small, moveable indurations, of the size of a large pin's head, constituted by indurated and hypertrophied mucous crypts. On withdrawing the finger, it will generally be found covered with muco-pus, and sometimes tinged with blood; indeed, the vagina generally contains a great quantity of muco-pus, especially in its upper region.

On examining with the speculum, the vulva and vagina are found red and congested, as is the case in pregnancy; but the congestion is carried to a greater extent than it naturally would be, and the redness is much more vivid. The cervix being directed backwards, after the first few months of pregnancy, it is often rather difficult to bring it fairly into view: the difficulty may, however, always be overcome, by using either the conical bivalve or a large conical speculum, according to the case. When the cervix has been brought fully into view, it will be found tumid, congested, of a livid hue, voluminous, soft, or only partially indurated; and on one or both lips, generally penetrating into the cavity of the os, is seen a more or less extensive ulceration, sometimes covered with large fungous granulations. This great development of the granulations, this luxuriant fungosity of the ulcerated surface, is so marked in some cases, and so seldom observed in the non-pregnant state, that when it is found it may be said in itself to constitute a symptom of pregnancy. I have, in several instances, recognised the gravid state of the uterus from the peculiar appearance alone of an inflammatory ulceration of the cervix. The ulceration is generally covered with a great quantity of muco-pus, and often bleeds very readily, owing to the luxuriance of the granulations. Its fungosity is sometimes so great that it might occasion, in the minds of persons unacquainted with the above facts, the impression that the patient is affected with malignant ulceration of

the organ. I have generally found ulceration of the cervix in pregnant women begin to assume this fungous character about the end of the third or fourth month of pregnancy. The vagina often presents marked hypertrophy of the mucous follicles.

If the cervix has been previously hypertrophied and indurated, it begins to soften about the third month, the softening first taking place in the interval of the segments, if the induration is lobular, and subsequently pervading the entire cervix. This gradual softening of the hypertrophied and indurated cervix, which appears to take place under the influence of the changes that occur in the uterus during pregnancy, no doubt accounts for induration of the os at the time of labour being so very rare, when compared with its frequency in females who present it as the sequela of chronic inflammation. The softening itself is the immediate result of the gradually increasing vitality of every part of the uterine system during pregnancy—a physiological condition which also explains the luxuriance of the ulcerations.

The pains in the lumbar region are generally very severe, and often referred directly to the sacrum itself. They are of a continued character; not merely occasioned by fatigue or over-exertion, but always to be perceived, night or day, on the patient analyzing her sensations,—a very important distinction in ulceration of the cervix,—the lumbar pains of weakness being occasional or intermitting only. The pains in the hypogastrium, and in the ovarian regions, are also often very severe, and ascend high in the developed abdomen, so as to occupy all, or a considerable portion, of its lower half. The purulent secretion is generally profuse; but as there is often a considerable white flux from the congested cervix and vagina, the pus from the ulcer becomes mixed with it, and loses its characteristic appearance. The patient thus appears merely to have a white leucorrheal discharge, unless a digital examination be resorted to, when the finger is withdrawn covered with pus. I have known some cases of ulceration in incipient pregnancy, in which there has been no leucorrheal discharge, the pus secreted by the ulcerated surface being absorbed in the vagina.

Patients thus affected often suffer from hemorrhage from the

ulcerated surface. This hemorrhage may be periodical, and simulate menstruation. Indeed, it is, I believe, principally the existence of a periodical hemorrhage of this kind, that has given rise to the opinion that menstruation may continue for some months after conception. Females themselves always connect any periodical show of blood which may present itself, with the idea of menstruation, whether after conception or not. Their medical attendants, also, not being aware that the neck of the uterus may be extensively ulcerated during pregnancy, and that blood frequently exudes from the ulcerated surface, have fallen into the same error. We may, however, admit, that although the hemorrhage cannot be assimilated to menstruation, as it occurs from a diseased surface which is not naturally the seat of the menstrual exudation, its periodical appearance during the first months of pregnancy is connected with the persistance of the periodical molimen hemorrhagicum which accompanies menstruation. Whether it be so or not, I have no hesitation in saying, that in a large proportion of the cases in which hemorrhage occurs repeatedly during the first months of pregnancy, without being followed by abortion, it is connected with and caused by ulceration of the cervix. When this is the case, it is characterized by being slight, by occurring after congress or fatigue, and by being unaccompanied by uterine pains. The hemorrhage which precedes abortion, and is occasioned by separation of the membranes, takes place in the uterine cavity, is more severe, more continuous, and is generally accompanied by severe uterine pains.

General Symptoms.—The natural and inevitable result of such a state as the one above described is, that the general health suffers deeply. The patient, racked with pains, which, even when not very severe, are most harassing from their continuance, loses appetite, rest, strength, and flesh; she becomes pale and thin, a prey to cardialgia, constipation, cephalalgia, and palpitations. Feeling easier in the reclining position, she lies down a great part of her time, and awaits her delivery, as the only probable termination of symptoms which she—and, generally speaking, her medical attendant—attributes to the pregnancy alone; whereas they are, in reality, the result of local uterine inflammation, susceptible, in most cases, of a speedy cure.

One of the commonest and most distressing of the general symptoms is an extreme aggravation of the sickness, which is naturally present during the first months of pregnancy. The existence of inflammatory ulceration of the cervix will, indeed, I firmly believe, be found to be the key to those cases of obstinate sickness which occasionally defy all medicinal aid, reduce the patient to the brink of the grave, and sometimes even render it necessary to bring on abortion, in order to save the life of the mother. At least I have found such to be the case, in nearly every instance of the kind in which I have been consulted, for many years—since my attention has been directed to the subject.

The symptoms which I have enumerated, and which are generally considered—although erroneously as we have seen—merely to characterize a weak state of the health, are also those which are known to precede abortion. And so it is in reality: the inflammatory affections of the lower segment of the uterus, which I am now describing, I have found to be a most frequent cause of abortion; indeed, they are, without doubt, the unsuspected origin of a very large proportion of the abortions and miscarriages that occur. It stands to reason that the existence of ulcerative inflammation of the uterine neck must often occasion such an amount of inflammatory congestion of the entire uterine system, as to be incompatible with the development of the fœtus, even during the first months of pregnancy. Hence the death of the fœtus, repeated hemorrhage, diseased placenta, the formation of moles, and finally, abortion. If the patient escape during the first months of pregnancy, the gradual dilatation of the inflamed tissues of the cervix which takes place in the latter months, causes irritation, and exciting the uterus to contract by reflex spinal action, may occasion abortion or premature labour. A patient whom I lately attended, a young married woman of four-and-twenty, labouring under severe inflammatory ulceration of the cervix, miscarried five times successively within the first four years of her marriage, at the end of the sixth or at the beginning of the seventh month. I am continually seeing similar cases.

In some instances, notwithstanding the existence of severe inflammatory ulceration of the cervix, the patient goes her

full time, and is safely delivered. But the fact of extensive ulceration existing at the uterine neck is a most unfavourable complication to labour, rendering the patient much more liable to metro-peritonitis, and to the accidents which occasionally follow parturition.

Once under the influence of appropriate treatment, the ulceration, generally speaking, soon assumes a healthier, less luxuriant appearance, then begins to cicatrize, and finally heals. When the process of cicatrization has fairly set in, and the irritability of the ulcer and of the surrounding tissues has been subdued, there is little fear of abortion taking place. But until this be the case, abortion is imminent, and may, indeed, be feared daily. In some instances, the morbid change which the disease has occasioned in the uterus and its contents has progressed too far before the treatment is commenced, and in spite of all our efforts, and even of progressive amelioration, abortion takes place from some of the causes enumerated above. It is necessary, therefore, to apprize the patient, under all circumstances, of the danger she encounters, as she would otherwise be certain to attribute the miscarriage to the instrumental examination. This leads me to say a few words respecting the use of the speculum in these cases.

The only circumstance which can explain the fact of the frequent existence of ulcerative inflammation of the uterine neck during pregnancy having hitherto passed unperceived by the accoucheurs and pathologists who in France freely resort to instrumental examination in uterine disease, is the general impression among them that the use of the speculum in pregnant women is dangerous, and likely to give rise to abortion. Such a notion, however, is most unfounded, as I have ascertained from my own experience. A careful instrumental dilatation of the vagina in a pregnant female is of itself perfectly harmless, as the slightest reflection will show. On the other hand, it is only by combining instrumental treatment with the other means employed, that the ulcerative disease can be cured; and I have found the chances of abortion taking place under the influence of the local affection itself so great, as to render it

imperative on the medical attendant to adopt *every* curative means in his power.

Now that I have shown the existence of inflammatory disease to be the real cause of many, indeed of most, of the diseases and accidents of pregnancy, I trust that practical accoucheurs will throw aside groundless fears, and investigate the subject for themselves, as a duty which they owe to their patients. The facts which I have brought forward are certainly calculated deeply to modify the existing state of pathology respecting the diseases of pregnancy and the causes of abortion, as also the treatment of the morbid phenomena which precede and follow abortion in a large proportion of the cases which occur in practice.

The following cases will illustrate the description of the disease which I have given above.

CASES IN WHICH ABORTION WAS PREVENTED.

Case V.

Extensive Ulcerative Inflammation of the Neck of the Uterus existing during Pregnancy, and subdued without Abortion occurring.

On the 24th of April, 1846, I was consulted, at the Western General Dispensary, for leucorrhea, by Anne E——, aged twenty-nine, a physician's patient. The following was the uterine history of this young woman:—

The catamenia appeared at the age of eleven, and thenceforth returned irregularly every fortnight or three weeks, lasting from five to seven days. The flow of blood was always very abundant, and accompanied by great pain during the entire period. In the interval, she was generally subject to a slight white vaginal discharge. Her general health was very indifferent, and she was nearly always under medical treatment. Married at nineteen, she became pregnant immediately, and had a tedious and difficult labour, the forceps having been used; the child was stillborn. She rallied slowly: the menses returned about a month after her

confinement, and she again became pregnant. She subsequently had two natural labours, and then three miscarriages; one at three months, one at nine weeks, and one at ten weeks. During this latter period she suffered from an abundant yellow vaginal discharge, with bearing-down, and severe pain in the hypogastric, lumbar, and ovarian regions; the intervening catamenia were also very painful. After passing three months at the sea-side, the symptoms above enumerated diminished considerably, and on her return to town she again became pregnant. She was confined at her full period eighteen months ago, and nursed the child for a twelvemonth. During this pregnancy she was very poorly, had severe pains in the uterus, and was made to apply leeches repeatedly to the left inguinal region, where she felt continued pain. Whilst nursing, and since, the menses have appeared regularly, with great pain, and very abundantly. In the interval of menstruation she has had an abundant yellow vaginal discharge, and has suffered greatly, as before, from bearing-down, and from pain in the lumbar, hypogastric, and ovarian regions. Within the last few months, the yellow discharge in the interval of menstruation has often been mixed with blood, especially after congress. The latter has always been painful since the first period of marriage, but has become unbearable within the last five or six months. Her general health has gradually been giving way for the last three or four years. She is now wan, emaciated, sallow, and presents the appearance of a person labouring under confirmed organic disease. She bends forward, and can scarcely hold herself upright. The tongue is white; no appetite; the stomach so irritable that it rejects nearly everything, and she lives entirely on rice and arrow-root; constipation, rest bad, extreme weakness. The last time she menstruated regularly was at the latter end of February; the flow of blood then lasted six or seven days, and was very abundant, amounting nearly to flooding: she has since had repeated sanguinolent discharge, which she thinks may have been in the menses, but she cannot be certain.

By digital examination, the following was found to be the condition of the uterine organs:—Cervix voluminous, indurated, especially the anterior lip; velvety fungous sensation around and

in the os, more especially marked on the inferior lip; cervix very much retroverted.—Speculum: vagina very congested, containing pus; cervix attained and exposed with difficulty, even with the bivalve speculum, owing to extreme retroversion; the anterior lip presents considerable chronic hypertrophy and induration, but is only ulcerated in the immediate vicinity of the os; the inferior lip and circumference of the os present a fungous, bleeding, ulcerated surface; uterus slightly enlarged.

The great and rather dark congestion of the vagina, the fungous character of the ulcer, and the absence of any considerable flow of blood since the end of February, inclined me at first to suspect the existence of pregnancy; but I almost discarded the idea on reflecting that she had evidently been suffering from ulceration of the cervix for years; that, as she had been subject for some months to continued bloody discharges from the ulceration, the existence of menstruation might have passed unperceived, and that the vaginal redness might be merely the result of inflammation. I determined, however, to be cautious in the treatment, as there was some doubt as to the exact nature of the case. The nitrate of silver was freely applied to the ulcerated surface; weak sulphate of zinc vaginal injections were prescribed, as also a light diet, perfect rest, the infusion of diosma, with carbonate of soda internally, and an occasional mild purgative.

May 1st.—The free application of the nitrate of silver was attended with but little uneasiness or pain, but was followed by rather severe pain for the two ensuing days. On the third day there was a considerable discharge of blood, and from that time she was easier. The nitrate of silver was again used, the other means of treatment being continued, the general state remaining the same.

15th.—The ulceration still presented the same fungous appearance, and excreted blood continually: she had had a sanguinolent discharge for the last week, without intermission. The nitrate of silver, although freely employed, being evidently powerless to modify the ulceration, I applied the acid nitrate of mercury. Much more pain was experienced than on the previous cauterization, the patient nearly fainting: same treatment.—The flow of blood was arrested for two days, and then came on again, only

lasting, however, three days. Subsequently, the vaginal discharge assumed a yellow purulent character. On my next examination, I found the character of the ulceration favourably modified; it was no longer so irritable and disposed to bleed on being touched. The acid nitrate of mercury was again applied.

June 4th.—Great pain was experienced after the last cauterization; the pains being, as usual, principally in the lumbar and ovarian regions: she was now much easier, more so, indeed, than before the treatment was commenced. There was an abundant yellow vaginal discharge, but no blood; mucous membrane of vagina less red; ulceration beginning to present a healthy appearance, and to heal at the circumference. On examining the uterus attentively, I found that it had evidently much increased in size, and was rising from the cavity of the pelvis. Since I had attended her there had been no continued show of blood which she could consider equivalent to menstruation, although she had been losing blood, more or less, nearly every day. She had lately, also, fainted repeatedly, which had never before occurred, except during pregnancy. The above data led me at once to conclude that the patient was pregnant, and that, consequently, my first surmise was correct. Such proved to be the case, the uterus continuing to increase, and all the symptoms of pregnancy becoming gradually more and more decided. She was still, at this time, so weak, that she could scarcely walk into the consulting-room; the tongue, however, was more natural; she was beginning to feel a slight return of appetite, and could keep a little fish on her stomach. Considering that the system would be able to bear a more tonic medication, I ordered her the citrate of iron, continuing the periodical application of nitrate of silver to the ulcerated surface, and the use of the astringent vaginal injections, tepid hip-baths, &c.

From this time, under the above treatment, she continued to progress favourably. The lumbar, ovarian, and hypogastric pains gradually diminished, as did also the leucorrheal discharge; the cicatrization of the ulcerated cervix advanced with slow but sure steps, the circumference of the ulceration healing first, and then the cavity of the open os. The induration of the anterior lip of the cervix gradually gave way as pregnancy progressed, the

entire cervix becoming perfectly soft to the touch. The general health improved as the local inflammation subsided. At one time she had for several days strong uterine bearing-down pains, similar to those which she had experienced previous to her miscarriage. They were, however, subdued by rest, and by repeated injections of laudanum into the rectum.

July 23rd.—The ulceration completely healed, scarcely any leucorrheal discharge, what little existed being principally mucus. The cervix soft throughout, but rather more voluminous than it naturally is at this period of pregnancy. The general health was very much improved in every respect; the fainting fits had ceased; the appetite was better; the irritability of the stomach had disappeared; and the general nutrition was improving. She still felt occasional pains in the loins and uterus, and was very weak. She had not felt the child, and fancied it was dead, of which, however, there was no other evidence.

Under these circumstances, she asked me if she might go to Brighton. As I considered the uterine inflammation to be quite subdued, and the symptoms under which she laboured to be merely the result of general debility, likely to be benefited by change of air, I consented. On her return at the beginning of September, I found that the general health had rallied amazingly; she was quite a different person. The pregnancy had favourably progressed, and the fœtal heart was heard pulsating vigorously. The cervix, which I again examined instrumentally, I found perfectly healthy; there was no vaginal discharge, except a little mucus; and the lumbar and uterine pains had almost entirely disappeared. The pregnancy continued to progress most satisfactorily towards its termination; she had not, indeed, been so well, she stated, for years; and at the proper time she was safely delivered of a healthy child.

Remarks.—The above is an interesting illustration of the vitally important facts which I have described, and shows what a decidedly practical bearing they have upon obstetricy. Nor is this a rare case, selected to give importance to my previous statements. I have always under my care a number of patients similarly suffering; and have no doubt that there are in this

country, at the present time, thousands of females whose health and offspring are similarly endangered.

In looking over the uterine history of this patient, we find that she had menstruated early, and that menstruation was, from the first, irregular, painful, and abundant. Married early in life, her first labour was instrumental, but does not appear to have left any recollection of subsequent morbid symptoms in her mind. Two other natural labours follow, and then three miscarriages. During the entire period occupied by these miscarriages, severe uterine symptoms were present, as also a profuse yellow vaginal discharge, and uterine and lumbar pains, accompanied by great general debility. From that time she had never been free from these symptoms. Her general health improved during an absence from town—a fact which I daily observe in all forms of chronic uterine inflammation—but the improvement, as is usual, was only temporary. She again became pregnant, and was in a very bad state of health during her entire pregnancy, daily expecting to miscarry, and obliged repeatedly to have recourse to the application of leeches, owing to the intensity of the uterine pains which she suffered. From the time of her confinement until I saw her, she gradually became worse, and when she applied to me was in a most deplorable state of pain, weakness, and debility. She had evidently been labouring under inflammation and ulceration of the cervix for years, and the existence of the uterine disease was no doubt the cause of the miscarriages and of the last laborious pregnancy. It would probably have been impossible, when she consulted me, to prevent abortion again occurring, possibly with flooding and other serious results, had not the local disease been subdued. On the other hand, how could any but energetic local treatment modify a large fungous bleeding surface, such as the one I have described?

The gradual softening of the indurated tissues as the pregnancy advanced, and as the inflammation subsided, is remarkable and important. This softening, as I have stated, nearly always takes place during the progress of pregnancy, and accounts for the rarity of inflammatory induration of the neck of the uterus in confinements. As the local disease diminishes, we see the general health rally, and the pregnancy become more normal;

until, a short time after all inflammation has disappeared, the patient loses nearly all her pains and morbid symptoms, and her health becomes better than it has been for years. Considering the amount of disease, the duration of treatment was not long. The ulceration was healed, and all uterine inflammation subdued, within two months. This would not have been the case, I think, in the non-pregnant state, with the same extent of disease; but inflammatory ulceration of the neck of the uterus, although apparently so much more formidable with pregnant than with non-pregnant women, seems often to heal more rapidly in the former than in the latter. This case also shows that very extensive disease of the uterine neck does not always prevent impregnation.

Case VI.

Extensive Inflammatory Ulceration of the Neck of the Uterus existing during Pregnancy, and subdued without Abortion taking place. Cure of the disease, but Death from Metro-peritonitis after a favourable Confinement.

June 26th, 1846.—I was consulted at the Western Dispensary by Eliza T——, a pale, sickly-looking, young married woman, aged twenty-three. Her uterine and general antecedents were as follow:—Menstruated at sixteen; she continued to do so regularly every three weeks, until she married, four months ago, at the end of last February, just after menstruation. The menses were usually abundant, lasting four days, during the first of which she was generally in an agony of pain; they were followed by a white leucorrheal discharge, which lasted for some days. Her health, however, was very good, until about a twelvemonth ago, when the whites increased in intensity, lasting during the entire menstrual interval, and she became weak and poorly. She also experienced severe pain in the back, and occasionally in her side. After her marriage, the first attempts at intercourse were followed by such severe uterine pains, that she was obliged to return home to her family, and was confined to bed for above a week. The same symptoms afterwards occurred on every similar occasion, and were always accompanied, as at first, by the loss of more or less blood.

The leucorrheal discharge, which she recollects to have been then of a decidedly yellow character, was occasionally streaked with blood, even in the absence of the cause mentioned. There was never any flow of blood, however, which could be considered menstrual. Her general health gradually became more and more affected. When I saw her, she was pale and sallow, although rather stout, and felt very weak and ill. Tongue white, no appetite, bowels constipated, cephalalgia, cardialgia, rest bad, disturbed by dreams, frequent hysterical and fainting fits.

On examination, I found the uterus enlarged, rising in the abdomen several inches above the pubis, as in the fourth or fifth month of pregnancy. The cervix, although voluminous, was not much indurated; the os was very open, and around and within it the spongy sensation of an ulcerated surface was distinct. On withdrawing the finger, it was found covered with pus tinged with blood. On using the speculum the vagina appeared much more florid than is generally the case in the first months of pregnancy; it was lax, and contained a considerable quantity of pus. The cervix was voluminous, congested, of a florid red hue, and presented an extensive fungous bleeding ulceration existing on both lips of the cervix around the os, and extending into the cervical cavity. The ulceration was freely cauterized with the nitrate of silver; alum injections were prescribed, perfect rest, an occasional saline aperient mixture, and very light diet.

July 3rd.—The application of the caustic was followed, for several days, by an abundant sanguineo-purulent secretion. On the disappearance of the blood, the discharge diminished in quantity. The patient feels easier; the uterine and lumbar pains are less intense; the ulceration has a less fungous and more healthy appearance. Treatment the same as before.

10th.—The ulceration is diminished to half its original size, and is healthy-looking; vagina less injected; pains in uterus and back very much better; leucorrhea less; alum injections, cauterization with the nitrate of silver.

17th.—Ulceration healed, except in the cavity of the open cervix, and immediately around it. Leucorrheal discharge, white, no longer purulent; the fainting fits are less frequent, and the general health is much improved. Continue same treatment.

August 10th.—On examining the cervix, I found the ulceration completely healed; the redness of the vagina and uterine neck was merely what is usually present at this period of pregnancy; the pains in the back and uterus had almost entirely left her, as had also the leucorrheal discharge. The general health had rallied in a very marked manner. She had not felt so well, she said, for months before her marriage.

On the 1st of September, I again ascertained, instrumentally, the perfect integrity of the cervix. I continued, however, to see her at intervals. She remained quite free from her former uterine symptoms, gradually recovering health and strength, although rather weak. When I last saw her, in the eighth month of her pregnancy, she did not present an unfavourable symptom, and appeared in good spirits. She had latterly had a severe attack of acute bronchitis, from which, however, she had quite recovered. I then lost sight of her, and only heard, some months afterwards, that she had entered Queen Charlotte's Lying-in Hospital, for her confinement, which took place favourably, but that she was attacked with metro-peritonitis, and died a few days afterwards.

Remarks.—This unfortunate young woman had, from the commencement of menstruation, presented that peculiar susceptibility of the uterine system which was also noticed in the former case. A year or more previous to her marriage, in addition to the symptoms indicating a nearly permanent congestive state of the uterine system, others supervened, which render it all but certain that inflammatory disease had established itself in the vagina and cervix. Marriage, as is usually the case with such patients, was followed by an immediate and marked increase in the intensity of the inflammatory symptoms. The presence of an ulcerated surface after marriage was proved by the loss of blood that invariably followed congress, and by the streaks of that fluid frequently found in the vaginal discharge. The ulcerative inflammation increased rapidly as pregnancy advanced, and the general health became more and more debilitated and depressed by the combined influence of pain, purulent discharge, and sympathetic reaction; thence severe hysteric accidents,

and the whole train of symptoms which I noticed when I first saw her.

The patient was young, and of a naturally good constitution, which had not yet had time to suffer any very great deterioration; consequently, no sooner was the necessary local treatment resorted to, than she began to rally. The cicatrization of the ulceration at once commenced, the symptoms of uterine irritability diminished, the hysterical symptoms lessened, the general health improved, and within seven weeks—an extremely limited period, considering the great extent of the disease—the ulcerated surface was healed, and all trace of inflammation had subsided; her health had also partially recovered, although but very few and simple general therapeutic agents had been administered. Her death from metro-peritonitis may have been accidental. It is impossible, however, not to feel that the inflammatory disease of the uterus, from which she had suffered so much, although cured long before the delivery took place, may have left her more exposed to puerperal uterine inflammation than other females who have not been so affected.

CASES FOLLOWED BY ABORTION.

In the cases which I have given above, the ulcerative inflammation of the cervix, although severe, and occurring in pregnant females, whose constitutions had been much debilitated by long-continued suffering, was entirely subdued without the course of the pregnancy being disturbed. Such is generally the result obtained by judicious local treatment, especially if the existence of the inflammatory disease is discovered during the early months of pregnancy. The irritability of the ulcerated surface being modified, and the intensity of the local inflammation subdued, all danger of abortion disappears. Occasionally, however, the most judicious and careful treatment fails in preventing the occurrence of abortion, which may be produced in various ways. In the early months of pregnancy, as we have seen, the uterine inflammation sometimes seems incompatible with the life of the fœtus, the expulsion of which is generally preceded by flooding. It may also occasion disease of the ovum or placenta, and thus

occasion the formation of moles and their expulsion. Sometimes abortion only takes place in a more advanced stage of pregnancy. It then often appears to occur under the influence of the contractility of the developed uterine fibre, called into play by reflex action.

The following case is an illustration of severe ulcerative disease of the cervix during pregnancy, followed by abortion soon after its discovery, notwithstanding treatment:—

Case VII.

Ulcerative Inflammation of the Uterine Neck, recognised in the sixth month of Pregnancy; Abortion; Four previous Abortions at the same period of Pregnancy; ultimate Recovery.

April the 12th, 1846, I was requested, at the Western Dispensary, to sign a midwifery letter, by Elizabeth G——, a married woman, aged twenty-eight, six months gone in her fifth pregnancy. On inquiring as to the present and past state of her health—a precaution which I generally take under similar circumstances—I was told that she felt very unwell; that she had miscarried four times since her marriage, within the last four years; that the last three miscarriages had occurred at six or seven months, the period of pregnancy at which she had then arrived; and that she then experienced all the symptoms which had preceded the former miscarriages. This statement induced me to examine more minutely into her history, when I ascertained the following details. Tall and rather thin, her health had been always delicate; she was born and brought up in town. Menstruated at seventeen, she was irregularly unwell, but without pain, for a year; the menses then disappeared for two years, during which time she was very poorly. At twenty, they returned, and continued to appear regularly until she married, at the age of twenty-four. She became at once pregnant, and aborted at three months, cause unknown. Her second abortion, which occurred at six months, as likewise the subsequent ones, was preceded by a week's flooding, and she was confined to her bed for a fortnight. Since that epoch, she has always had a yellow

leucorrheal discharge. As a girl, she often had "the whites," but the discharge was never yellow. Her abortions were never preceded by any circumstances to which she could ascribe them; uterine pains, sometimes accompanied by flooding, came on a few hours or days previous, gradually increased, and terminated in the expulsion of the fœtus. During the present pregnancy, she had been much weaker, and more generally indisposed than before; so much so, that she had not been able to work at all, which was not the case in her former pregnancies. She had had throughout severe pain in the lumbar region, and occasionally slight pains in the ovarian and hypogastric regions. The leucorrheal discharge has been for some months more abundant, and thicker. For the last two months she had experienced severe cephalalgia, accompanied by extreme heaviness. The appetite, however, was tolerably good; bowels costive; rest indifferent. She had been much troubled latterly by nausea and acidity. Pulse very full.

By digital examination, I found the abdomen developed, the uterus rising above the umbilicus, as in the beginning of the seventh month of pregnancy. The vagina was moistened by an abundant secretion. The cervix, in its usual position, more voluminous and softer than it is normally at this period of pregnancy, formed a quaggy mass; its surface, of a fungous softness, presented, more especially round the os, which was very open, numerous small indurations, about the size of large pin-heads. On withdrawing the finger, it was covered with thick whitish pus. This pulpy, fungous state of the cervix, along with the partial indurations, the purulent discharge, the general symptoms, and the previous history of the case—all indicating the existence of extensive ulcerative inflammation of the cervix, I proposed an instrumental examination. This, however, the patient would not consent to; I therefore ordered her to be bled to twelve ounces, and gave her a mild purgative.

On the 21st, I saw her again. The bleeding had slightly relieved the cephalalgia, and softened the pulse, but all the other symptoms were present, and had more attracted her attention since I had so minutely questioned her. On my again pointing out the necessity of instrumental examination, she no longer

offered any objection. The vulva was congested and swollen; the vagina red, tender, and bathed with pus. On getting the cervix between the expanded blades of the conical bivalve speculum, I found that it presented a large, fungous ulceration, covered with pus, and readily bleeding on being touched. The entire cervix was covered with luxuriant granulations; and presented a very different appearance to that which ulceration offers in the unimpregnated state. It was a fungous ulceration softened and broken up as it were. From the regularity of the surface, however, from the absence of uneven, deep-seated induration, and the frankly purulent nature of the secretion, the ulceration was evidently of an inflammatory nature. I therefore touched the entire diseased surface with the nitrate of silver, and ordered astringent vaginal injections with the sulphate of zinc night and morning; mild aperients, and a tonic antacid mixture, (infusion of gentian, and carbonate of magnesia;) light diet; complete rest.

28th.—The application of the nitrate of silver was followed by a slight oozing of blood for three days, but by no increase in the local pains. The latter are still severe in the lower segment of the developed abdomen and in the loins. The yellow discharge is very abundant. She has the same bearing-down pains which preceded her other miscarriages. Same treatment.

May 4th.—I was summoned to Mrs. G——'s residence, and found that she had miscarried, during the previous night, of a seven-months' child, which lived a few hours only. The bearing-down uterine pains had never left her from the time I last saw her. The previous afternoon they had been succeeded by regular labour-pains, and the delivery was completed in the course of eight hours, without anything unusual having occurred. I continued to see her for the first two weeks after delivery, during which period no unusual symptom appeared. She suffered, however, more than is generally the case, from uterine pain; and the lochial discharge was more than usually abundant.

June 3rd.—She was examined with the speculum. The vagina was very red and congested, and contained pus. The cervix was voluminous, not very hard, and presented an ulceration as large

as a half-crown. The ulceration had a florid fungous surface, but did not present the pulpy appearance which characterized it during pregnancy. She had still the old pains in the back and in the hypogastric and ovarian regions, and an abundant yellow discharge; appetite bad; tongue white; feels very weak. The ulceration was touched with the nitrate of silver, injections with a solution of alum prescribed, and a saline mixture; light diet; rest in the recumbent position.

This, the usual treatment which I pursue in such cases, was persevered in during the month, the ulcerated surface being regularly cauterized once a week with nitrate of silver or the acid nitrate of mercury. The menses returned at the beginning of the month, and lasted four days. Their manifestation was attended with considerable pain. Towards the latter part of June, she had an attack of diarrhea, then very prevalent, which proved obstinate.

July 31st.—The ulceration was healed; the cervix was still more voluminous than natural, but soft throughout. On opening the lips of the os, and examining its cavity in a good light, there was still seen, however, vivid redness of the internal mucous membrane lining it, which was touched, for the last time, with the nitrate of silver. Slight white leucorrhea only. The vaginal mucous membrane was of a deep-red colour, the body of the uterus rather voluminous, the breasts large, the areola prominent. She had not menstruated since the beginning of June, and was probably pregnant. She stated that she had never been so well since her marriage; she ate and slept well; had no headach, and felt strong. Six weeks later I again examined this patient instrumentally, and found the cervix and its cavity perfectly sound and healthy. There were no morbid phenomena, local or general. The pregnancy was then manifest. It continued to progress favourably: she had no aches nor pains, no vaginal discharge, and continued well throughout its course; very different to what she had been in any of her previous pregnancies. At the full period she was safely delivered of a healthy child, and has since done very well, remaining perfectly free from uterine symptoms.

Remarks.—The subject of the above narrative presented, previous to marriage, the peculiar susceptibility of the uterine functions which I have so often noticed. The menses appeared late, and were at first irregular, and occasionally painful. She was at times subject to whites. After marriage she miscarried in the third month of her first pregnancy, without any appreciable cause. From that time symptoms of inflammation and ulceration of the uterine neck appear to have been present; a yellow leucorrheal discharge, pains in the back, and in the ovarian and hypogastric regions, with general falling-off in the health. These symptoms persisted during the three next pregnancies, which all terminated by miscarriage in the sixth or seventh month, gradually becoming more intense in each. When I first saw her, she was suffering from the same symptoms which had on former occasions immediately preceded the abortion. The cause of these symptoms became at once apparent on the discovery of the extensive ulcerative inflammation which existed in the lower segment of the uterus. Notwithstanding the most prompt and careful treatment, I did not succeed in preventing the early occurrence of abortion. Nor was I surprised to fail in the attempt. The extent and intensity of the local inflammatory disease were so great, that it is only singular that the development of the uterus and of the contained fœtus could have proceeded so far.

The existence of the ulcerative disease does not appear to have exercised any great influence over the labour, which was easy. She was, however, rather long in rallying, and suffered more from uterine pain subsequently than is usually the case. When once the abortion had taken place, and the uterus had returned to its normal size, or thereabouts, the case became an ordinary one of ulcerative inflammation of the cervix, and was treated accordingly, with the usual success. This woman evinced a great susceptibility to conceive; for before the cure could be considered perfect, she became pregnant for the sixth time.

It will have been remarked that the inflammatory hypertrophy of the cervix, which was considerable, nearly completely subsided under the treatment resorted to subsequently to delivery. This fortunate result I attribute partly to the fact of the previous

pregnancies having prevented the hypertrophied cervix from acquiring that hardness of tissue which is so often met with in cases of chronic disease apart from the pregnant state.

Case VIII.

Ulcerative Inflammation of the Neck of the Uterus recognised in the first stage of Pregnancy; Expulsion, at the third month, of a morbid ovum, or mole; ultimate Recovery.

On the 23rd of June, 1846, I was consulted, for leucorrhea, at the Western General Dispensary, by Mrs. T——, a young married woman, pale, thin, and sickly-looking, aged twenty-seven. She menstruated at fifteen, and was regularly unwell until she married, at three-and-twenty. The menstrual flux usually lasted four days, was sometimes attended with pain in the back, and was preceded and followed by a slight white discharge; but she was always free from these symptoms during the interval of menstruation, and her general health was good.

She became pregnant immediately after marriage, and continued to enjoy good health during her pregnancy. The labour was tolerably easy, but she says that part of the placenta was retained in utero for three weeks, and she was confined to her bed for nearly a month, ill, but able to nurse. From that time forward she had a yellow discharge, and pain in the back. These symptoms persisted during the nine months she nursed, as also after the return of the menses, which took place, without any usual pain, soon after she had weaned her child. This she had been induced to do early, from excessive weakness.—Seventeen months after her confinement she again became pregnant. During this pregnancy she was very ill; she had constant sickness, bearing-down, and pain in the back and ovarian region, and was so weak she could scarcely stand. The labour was easy: she nursed this child thirteen months, although in a wretched state of health all the time. The yellow discharge, the pain in the back and lower abdominal regions persisted, and she became gradually weaker and more emaciated. After wean-

ing, the menses appeared for a time or two, but have now missed twice. She suffers great pain in the lumbar, hypogastric, and ovarian regions; has considerable bearing-down, and an abundant yellow discharge, often streaked with blood. She is pallid and emaciated, so weak that she can scarcely walk; the tongue is white, no appetite, bowels confined; sleeps tolerably well, has no headach.

By digital examination, I found the cervix soft, fungous, voluminous, rather anteverted; the os open; the fundus of the uterus low in the pelvis, and rather large, as in the first stage of pregnancy. The speculum showed the vagina to be red, congested, tender, containing a great deal of pus; the cervix was anteverted, presenting a large fungous ulceration, covered with pus and dipping into the cavity of the os. The cervix was attained with difficulty, owing to its partial anteversion, and to a rather narrow and constricted state of the vaginal outlet.

The treatment adopted consisted in periodical cauterization with the nitrate of silver; astringent vaginal injections; mild saline purgatives; light diet without stimulants; rest in the recumbent posture.

Under the above remedial means, the local inflammation soon began to subside, and the ulceration to heal. The pains diminished in intensity, the leucorrhea became much less profuse, the tongue cleaner, the appetite better, the bowels regular, and the general debility less marked. At the latter end of July, the ulceration had two-thirds healed, when flooding came on, and after lasting four days, notwithstanding the means used, (opium, mineral acids, and cold drinks,) ended in the expulsion of what was evidently a diseased ovum. The membranes formed a sac about the size of the fist, filled with coagulated blood, in which, however, I could find no trace of the fœtus.

The patient rallied rapidly, and after a month's interval, at the end of August, I was able to continue the treatment. I found the ulceration just as I had left it, except that it appeared smaller. This was owing, no doubt, more to the cervix having naturally diminished in size, after the expulsion of the contents of the uterus, than to the process of cicatrization having advanced.

The same treatment was pursued, with some slight variations in the medicinal agents, with rapid improvement in the state of the patient. In the course of a few weeks, the sore healed externally, —there being merely a relic of ulceration in the cavity of the cervix,—the leucorrheal discharge ceased, the pains in the back all but disappeared, and the general health improved in a marked manner. In this stage of the treatment, the patient ceased to come to me at the Dispensary, and I have since lost sight of her. Owing to the narrowness of the vaginal outlet, to which I have alluded, the use of the speculum was always attended with some pain; and this probably induced her, finding her health so much improved, to discontinue treatment. There was then, however, so little disease remaining, that Nature most probably did the rest.

Remarks.—In this case we find that decided symptoms of inflammation of the uterine neck followed the first labour, produced perhaps by the retention of part of the placenta. From the nature of the symptoms, which persisted from that time forward—viz., yellow vaginal discharge, and pains in the back and side, it is very likely that ulceration existed even thus early. The subsequent pregnancy was laborious, owing, no doubt, to the existence of chronic inflammatory disease of the cervix; and subsequently, the uterine symptoms became still more prominent. Their existence did not, however, prevent conception again taking place; for she was about two months gone in her third pregnancy when I first saw her. The inflammatory ulceration of the cervix had, in a great measure, subsided, and partial cicatrization had already taken place, when flooding set in, and abortion ensued about the end of the third month. As the ovum was deeply diseased, the abortion, in this instance, can scarcely be attributed directly to the inflammation of the uterine neck. Indirectly, however, the inflammation was the cause of the abortion, as it occasioned the early death of the fœtal germ, and the formation of a "mole," instead of a healthy ovum.

This case, therefore, illustrates one of the modes in which

ulcerative inflammatory disease of the cervix uteri reacts on the product of conception. I firmly believe, as I have stated, that most of the abortions which occur in the early months of pregnancy from diseased ova and placentæ, as well as those which are preceded by flooding and death of the fœtus, are in reality the result of inflammatory disease of the neck of the uterus.

CHAPTER VIII.

INFLAMMATION, ULCERATION, AND INDURATION OF THE NECK OF THE UTERUS DURING AND AFTER ABORTION AND PARTURITION.

ITS CONNEXION WITH RIGIDITY OF THE OS DURING LABOUR; WITH LACERATION AND ABRASION OF THE CERVIX; WITH FLOODING; AND WITH THE MORBID SYMPTOMS THAT FOLLOW NATURAL AND DIFFICULT LABOUR.

The study of inflammatory ulceration and induration of the neck of the uterus during and after abortion and labour, throws very considerable light on the morbid phenomena which often characterize these conditions. Indeed, the facts which I have to lay before my readers are calculated completely to alter existing ideas respecting the pathology and treatment of many of the morbid manifestations of the puerperal state.

A mere inflammatory ulceration, even when extensive, if unaccompanied by induration, does not appear to modify, to any considerable extent, the phenomena of labour. Its presence seems to be only indicated by slight hemorrhage, and occasionally by a greater amount of uterine pain than previously experienced by the patient if she has had other confinements. Induration, on the other hand, is seldom met with when a female reaches the full term of pregnancy, owing, as I have stated, to the indurated and hypertrophied cervix nearly always softening, melting, as it were, under the influence of the progressive development of the uterine tissues which takes place during pregnancy.

Inflammatory induration and enlargement of the uterine neck may, however, exist during both premature and normal parturition. In abortions it is frequently met with, the indurated

tissues not having had time to soften when the fœtus is expelled.

Whether complicating an abortion, a premature confinement, or a natural labour, this form of rigidity of the uterine neck is a most untoward event. The uterine neck dilates with the greatest difficulty, owing to the change in its structure, the muscular fibres being bound down by the hypertrophied cellular tissue in which they are imbedded. Indeed, in some cases which I have seen, the hypertrophy and consequent rigidity were so great, that it is a matter of surprise that the cervix should eventually have dilated by the sole efforts of Nature. In abortions the expulsion of the fœtus may be retarded for days by this cause; and as the hemorrhage generally continues until the fœtus be expelled, the patient is gradually reduced to a state of extreme anemia. For the last few years, since I have ascertained that inflammatory hypertrophy of the cervix thus frequently exists as a complication of abortion, I have met with it in nearly all the cases of very severe flooding during abortion which I have witnessed. Sooner or later, however, the indurated neck appears to give way sufficiently to allow of the passage of the ovum or fœtus.

When this state of the cervix exists, it is easily recognised by the finger of one who is accustomed to distinguish these forms of uterine disease, although the accoucheur whose touch has not been educated, with the assistance of the eye, usually fails to recognise the morbid enlargement, and mistakes the case for one of simple rigidity of the os uteri. When the inflammatory induration and hypertrophy of the cervix do not give way as pregnancy progresses, and they are far advanced before labour commences, the patient is subject to some risk. The uterine contractions are so violent, so incessant, and for a long period so totally inefficient, that rupture of the uterus may be feared; indeed, many of the cases of rupture that are recorded have, no doubt, taken place under these circumstances. At each uterine contraction, the indurated cervix is pushed down towards the vulva like a fleshy mass, without any progress being made in its dilatation.

A few years ago I attended a female presenting this form of

enlargement and induration of the uterine neck in the ninth month of her pregnancy, and she was thirty-six hours in continued labour before the os began to dilate. The cervix, in the form of a fleshy tumour the size of a fist, was pressed down to the vulva by each pain. The pelvis being roomy, impaction did not take place, and the indurated tissues gave way at last, the os dilating sufficiently to admit of the passage of the child. This, indeed, has always occurred in the cases I have seen, however protracted may have been the resistance which the diseased tissues have offered. This patient had had several previous confinements, all of which had been prompt and natural. On inquiry, I found that she had been suffering the usual symptoms of inflammatory ulceration of the cervix since her last labour, which had occurred some years previously.

In these cases, the dilatation of the indurated neck, however, does not always occur easily and regularly. Sometimes the cervix is not so much dilated as burst open, and then the lacerations, radiating from the centre, divide it into segments, which can be traced both with the finger and the eye, at a subsequent period. Thus it is that the foundation is laid for still more severe disease. We must recollect, however, that laceration of the cervix does not take place only when the cervix is indurated, but that it may also occur when it is quite healthy, during the most natural confinement.

Instrumental and difficult labour is very frequently accompanied by laceration of the neck of the uterus in the absence of any morbid state. This is satisfactorily proved by the great frequency of inflammatory disease of the cervix after confinements of this description. In such cases, the cervix generally presents deep fissures, caused by the lacerations. Fissures of this description are more especially observed when turning has been resorted to, and the hand of the accoucheur has been passed through the os before its full dilatation. These lacerations compromise the substance of the cervix, dividing it more or less deeply into segments or lobes. In some instances, as I have elsewhere stated, the mucous membrane lining the cavity of the cervix is lacerated and bruised during labour, even when the substance of the cervix remains entire.

When the cervix is thus lacerated or contused, there is sometimes rather more blood than usual lost after the expulsion of the fœtus. This, however, may not occur, and if it does, the cause is not recognised at the time. The lacerations or abrasions may heal in the course of a short period, under the influence of the reparative process set up in the uterus after labour. On the other hand, under the influence of a general febrile condition, or of local inflammation, and often from the operation of causes which it is impossible to appreciate, these lesions, whether slight or severe, do not heal, and thus a confirmed inflammatory ulceration of the cervix uteri becomes established.

Inflammatory ulcerations, originating in abortion or labour, unless accompanied by extensive lacerations, are nearly always at first small, and limited to the cavity of the cervix, extending into it more or less deeply. Unless, therefore, the lips of the os be opened, and the cavity of the cervix be examined, the very existence of the ulcerated state of its mucous lining may be passed over unperceived, even when an otherwise careful instrumental examination is made. I have repeatedly known this to occur. If the disease progresses, the ulceration creeps out of the os, and the external surface of the cervix becomes involved. In the cases in which the ulceration existed during pregnancy, not only the cervical cavity, but the cervix itself will generally be found inflamed and ulcerated from the first.

After parturition there may be a complete absence of any symptoms indicating local disease, whether the ulceration be small or large, and whether it be confined to the cavity of the cervix or not. When, however, the ulceration is extensive, and often when it is slight, there is generally a train of symptoms present, which enables the practitioner to form a tolerably accurate surmise as to the existence of the uterine disease. Although very decided and significative, these symptoms have been hitherto overlooked, partly by Continental, and entirely by British accoucheurs.

The most prominent of all the symptoms occasioned by the presence of inflammatory ulceration of the cervix during the puerperal state and after abortion, is hemorrhage. Under ordinary circumstances the sanguinolent discharge which follows

parturition soon becomes modified, and ceases in the course of a few days, being replaced by the ordinary lochial secretion. When there is ulceration, the flow of blood often continues, in greater or less quantity, for three, four, six, eight, or more weeks. The blood thus excreted may be pure, or it may be mixed with muco-pus. This hemorrhage generally resists the action of all the usual anti-hemorrhagic remedies, its continuance frequently producing excessive debility and anemia. When the hemorrhage ceases, it is sometimes replaced by a profuse purulent discharge; or there may be no hemorrhage, the flow of blood from the uterus stopping at the usual time, and the purulent discharge immediately following. This is sometimes the case even when there is an extensive ulcerated surface.

The pain experienced in the lower dorsal, lower hypogastric, and ovarian regions, is often very acute from the time of the confinement, much more so than after an ordinary labour, as the patient perceives if she has had other children. These pains are at first general, but they gradually become localized, and assume more and more the character which they usually present in this disease.

When the patient first attempts to rise and walk she feels a sensation of weight and bearing-down, which, instead of diminishing, gradually increases. If the hemorrhage and purulent discharge are continued and abundant, and the uterine pains are very severe, several weeks often elapse before she is able to leave her bed; and when she does, she remains weak, languid, and is unable to make the slightest exertion.

These facts are of extreme importance in connexion with the pathological history of the puerperal state, and will, I trust, be borne in mind by all who read these pages. If so, a great amount of suffering will be spared to the unfortunate patients whose state I describe. The symptoms I have enumerated are very frequently met with after parturition and abortion, and as their true cause has not hitherto been recognised, the means of treatment at present adopted are totally inefficient. Thus, after months of suffering, chronic disease of the neck of the womb of a severe character is allowed to establish itself, and the health and constitution of the female is deeply injured. I have no

hesitation in saying, that when hemorrhage continues after parturition for weeks beyond the usual time, there will *nearly always* be found some inflammatory and ulcerative lesion of the cervix, and that an instrumental examination is indispensable. When once the real nature of the disease is ascertained, the hemorrhage may, generally speaking, be immediately stopped by the cauterization of the ulcerated surface, from which it appears in these cases principally to proceed.

In the course of from four to ten weeks, when the inflammatory disease is left to itself, the hemorrhage seems to cease spontaneously, and the case lapses into one of an ordinary character. The cessation of the hemorrhage is generally supposed to be the result of the remedies used, but is probably to be accounted for by the changes which have occurred in the anatomical state of the uterus. Rapid absorption has taken place, and the organ having gradually regained, at least to a certain extent, the condition which it presented before impregnation, it has become less liable to hemorrhagic action. It is more especially in these cases that the inflammation of the cervix propagates itself to the body of the uterus, and that the latter is found tender on pressure, larger than in the normal condition, and retroverted.

The presence of inflammatory disease of the cervix in many cases, appears to arrest, independently of any diseased state of the body of the uterus, the natural process of absorption which occurs after parturition, before the uterus has regained its natural size and weight. Thus, instead of diminishing in weight until it has reached an ounce and a half or two ounces, as it would do under normal circumstances, the uterus remains at three, four, or six ounces. This morbid size and weight of the organ is generally attended with displacement, mostly retroversive, and often keeps up hemorrhage. It may exist in a passive state, independently of any inflammatory condition of the body of the uterus itself, and be merely kept up by the presence of disease in the cervix. When the latter is removed, nature will often renew the interrupted process of absorption, and slowly restore the uterus to its natural size and position, without any special treatment being resorted to.

As I have elsewhere stated, the presence of inflammatory ulceration of the cervix during the first stage of the puerperal period, has appeared to me powerfully to predispose the patient to puerperal fever, and to abscess of the lateral ligaments. The uterus seems to retain a predisposition to inflammation in the puerperal state, even in the cases in which ulceration, having existed during pregnancy, has been cured before parturition occurred. I have met with repeated instances of puerperal fever under these circumstances, one of which, a fatal one, is narrated at page 171.

Inflammatory ulceration of the cervix is so commonly developed after abortion, that I always look for it when the patient does not rally, but presents the symptoms which I have above described. Indeed, I may safely say, that this form of uterine disease exists unsuspected in nine cases out of ten, in which are observed the hemorrhagic, febrile, and inflammatory accidents that so frequently follow abortion, and that often occasion so much anxiety and trouble to the medical attendant, as well as to the patient and her family. It is easy to understand, that in the first months of pregnancy, the cervix uteri, not having time to soften and expand, is more exposed to contusion, and even to laceration, than at a later stage.

In the preceding pages abortion has been principally alluded to as the cause of inflammatory disease of the cervix. We must not, however, forget that abortion itself is very frequently caused by the existence of inflammation and ulceration of the cervix, developed spontaneously, or under the influence of other causes. This, indeed, is so much the case, that, as we have seen, when abortion occurs without any adequate reason, and especially if several successive abortions take place, we are quite authorized in suspecting the existence of ulcerative disease of the cervix uteri.

The two following cases will illustrate the effects produced in the puerperal state by the existence of inflammatory ulceration of the uterine neck.

Case IX.

Abortion at an early period, preceded for some months by symptoms indicating Ulceration of the Uterine Neck, and followed for two months by uncontrollable Flooding; extensive ulcerative Inflammation recognised and treated; rapid Recovery.

On the 6th of June, 1846, I was consulted, at the request of her ordinary medical attendant, by Mrs. L——, a young married lady, aged twenty-two, who had been suffering from continued flooding ever since a miscarriage which had occurred two months previously. On inquiry, I elicited the following particulars: — Of strong and robust constitution, she had enjoyed excellent health until her marriage, which took place at the age of nineteen; menstruated at fifteen, the catamenia had always appeared regularly and easily. She soon became pregnant, but miscarried, without any known cause, at three months; and again, shortly afterwards, at two months. She then became pregnant for the third time, and was delivered of a full-grown child eight months ago. During her pregnancy she was very well; the labour was easy. She nursed her child for two months, when it died. The menses subsequently returned, but were attended with a great deal of pain, and this continued to be the case; she had also yellow leucorrheal discharge, and slight pain in the back and ovarian regions. Four months ago she again became pregnant, and miscarried two months afterwards, without any assignable cause. This miscarriage was much more painful and tedious than the previous ones, and the flooding greater. She remained nearly a month in bed under medical care, constantly losing blood, more or less, notwithstanding the most varied and energetic treatment. On the slightest exertion, the quantity of blood lost became considerable. When I saw her, she was very thin, pale, and weak; pulse small and quick, tongue white, no appetite, great cephalalgia, bowels constipated, rest bad. She had severe pain in the lower part of the back, in the left inguinal and in the hypogastric regions. These pains were but slightly increased by pressure, and the abdomen

was indolent to the hand, except just over the pubis, where pressure was attended with a little pain. On examining digitally I found the vagina lax, and very moist; the cervix low, voluminous, soft, and presenting a spongy surface in nearly its entire extent: the os uteri was open, so as to admit half the first phalanx of the index. The body of the uterus appeared rather larger than normal, and slightly sensitive on pressure. The speculum disclosed the vagina livid, and filled with blood, or a mixture of blood and pus. On wiping the blood and sanies off the cervix, which was not effected without difficulty, I discovered a fungous ulcerated surface, of the size of a half-crown, from which blood oozed on the slightest touch. This state of the cervix at once explained the inefficacy of the treatment that had been resorted to in order to restrain the flooding, viz., opiates, ergot of rye, mineral acids, acetate of lead, administered internally, and cold applied externally.

Treatment.—The following day I freely cauterized the entire ulcerated surface with the solid nitrate of silver, carrying the causter into the cavity of the os, and prescribed tepid milk-and-water vaginal injections, tepid hip-baths, rest in bed, light diet, no stimulants, a saline mixture, and a mild aperient.

10th.—There has been no return of hemorrhage since the cauterization, but there is still an abundant sanious discharge. The cauterization was followed by a little pain, which almost entirely disappeared in the course of the day. The local pains are nearly the same, as also the general state; she feels, however, a little better since the hemorrhage has stopped.—On again using the speculum, I found no blood in the vagina, and I was consequently able to get a better view of the ulceration of the cervix. It appeared rather less fungous and livid than before, but was still unhealthy, bleeding at the slightest touch. After wiping its surface, I cauterized it freely with the pernitrate of mercury. Little pain was felt at the time, or for several hours after; but towards evening, most intense pains set in, principally in the back and in the left side, and also, but with less intensity, in the hypogastric region. They were, the patient stated, as bad as those of labour. I had recommended a warm hip-bath and warm water vaginal injections to be used, in case

severe pains should come on. This was done, but without any mitigation in their intensity; and I was sent for. I found the patient in a state of extreme suffering, but without any febrile symptoms; the abdomen was indolent, and pressure on the hypogastrium not more painful than previous to the cauterization. I ordered a linseed poultice to be applied to the hypogastric region, and fifteen minims of laudanum to be taken in camphor julep. Under the influence of these measures, the pains gradually subsided, and she was able to sleep during the latter part of the night. The following morning they had become very bearable, the pulse and skin were natural, and the abdomen indolent on pressure. The patient was told to resume the vaginal injections, the hip-baths, &c.

17th.—There has been no return of the severe suffering which followed the cauterization; but she still experiences the old pains in the back, hypogastrium, and ovarian reigions. For the last two or three days, the vaginal discharge has ceased to be sanguinolent, and is merely purulent. She has been allowed latterly to sit up on the sofa, and feels much better since the continued discharge of blood has ceased. The cervix appears rather less voluminous to the touch; the vagina has lost the very congested hue which it presented at first; the ulceration of the cervix is of a florid red hue, and covered with healthy pus. Cauterization with the nitrate of silver; same general and local treatment.—This time the cauterization was not followed by any unusual degree of pain. The discharge was sanguinolent for a few days, and then again became purulent.

The hemorrhage was arrested by the cauterizations, and at my next examination I found that cicatrization had fairly commenced. It continued to progress rapidly under the influence of periodical cauterization, and of appropriate local and general treatment. The external ulceration—that which existed on the surface of the cervix and around the os—was healed within a month from its first discovery; and in the course of a few weeks more, that which penetrated within the cavity of the os was also well. At the beginning of August, within two months from the commencement of the treatment, the ulceration was perfectly healed, both inside and outside the os. The cervix had nearly

regained its natural volume and softness, and the uterus had risen to its normal position in the pelvis. The vagina was healthy. There was no leucorrheal discharge, and all the local pains had disappeared. The general condition of the patient had improved as rapidly as the local disease. She could walk easily, and without bearing-down or fatigue. The lips and cheeks had again assumed the hue of health; the head was free from pain: in a word, she was rapidly recovering her former health and spirits. I ordered her to the sea-side; and a month later, I heard that she had had no return whatever of the uterine symptoms, and that she had much benefited by the change of air.

Remarks.—This case presents several points of interest, which we will successively examine. The cause of the first two miscarriages cannot be even presumed, in the absence of any data on the subject. The first time the attention of the patient was directed to the existence of symptoms indicating uterine disease, was a month or two after the death of a child, of which she had been naturally delivered at the full time. This child died two months after her confinement. From that period, until she again became pregnant, some months later, she presented the symptoms which almost invariably indicate inflammatory ulceration of the uterine neck—a yellow leucorrheal discharge, painful menstruation, and permanent ovarian and lumbar pains. She was very unwell during the first two months of this pregnancy, and then miscarried, the abortion being followed by obstinate and repeated flooding, and by a very marked increase in all the uterine symptoms. When I saw her, the flooding and other symptoms had resisted every therapeutic means previously employed. On examining the state of the uterine organs, I found a fungous ulceration of the cervix, freely pouring out blood from its surface, which was clearly the source of the hemorrhage, and the cause of the other uterine symptoms. From the previous history of the case, I consider it most evident, that the inflammatory ulceration had existed since the last confinement, and that it was the cause of the abortion, although only discovered two months after the latter had taken place. The inefficacy of the therapeutic agents resorted to in this and in similar cases is at

once explained, when we know their true nature. What can opium, mineral acids, ergot of rye, &c., do to arrest hemorrhage originating in an unhealthy fungous sore? The immediate cessation of the hemorrhage under the influence of cauterization is worthy of notice. The application of the caustic to the ulcer was followed by very intense pain—a rather unusual circumstance, which may be attributed, in this instance, to the congestion that followed the sudden stoppage of the hemorrhage.

The recovery of this patient was very rapid and complete, considering the extent of the local disease. This we must attribute, in a great measure, to her youth, and to natural vigour of constitution. Very much depends in the treatment of these forms of uterine disease, as in that of all chronic affections, on the constitution and vital energy of the patients. Some seem merely to want the appropriate treatment to recover rapidly and thoroughly. Others, less favourably endowed by Nature, or weakened by long-continued suffering, and by sympathetic reaction, scarcely respond to the most diligent and enlightened treatment, get well with the greatest difficulty, and seem peculiarly exposed to relapse.

Case X.

Abortion at three months, preceded and followed by severe Uterine symptoms.

March 2, 1846, I was consulted by Mrs. H——, a young married lady, aged twenty-three, residing in the south of England. Her history was as follows:—

Of rather delicate constitution, although generally enjoying good health, she menstruated at fourteen. She continued to be regularly and easily unwell every month, during four or five days, until she married, at one-and-twenty. She then immediately became pregnant, and was confined at the full time, of a stillborn child. The labour was exceedingly tedious and difficult, and she was a long time in rallying, having been confined to her room four or five weeks. From that time she has never been well, and has always had a leucorrheal discharge, and lumbar, ovarian, and

hypogastric pains. The menses did not appear for three months, and then less freely than formerly, and accompanied by great pain. This afterwards continued to be the case. Nine or ten months after her confinement she again became pregnant, and miscarried, at the end of three months, about ten weeks previous to my being consulted. During the time she was pregnant she was very ill, all the uterine symptoms enumerated being exacerbated. The miscarriage was preceded and followed by flooding, and she was obliged to keep her bed for several weeks. From that time forward, notwithstanding the most careful and continued medical management, she had been, she stated, in a most wretched state. She had not been examined locally, but her medical attendant suspecting the existence of some serious uterine disease advised her to consult me. Although of rather a full habit, she appeared very weak and debilitated; the lips were pale, the skin sallow, the tongue white; she complained of insomnia, headach, palpitations, cardialgia, and constipation; she had a profuse yellow leucorrheal discharge, often tinged with blood, severe lumbar, hypogastric, and ovarian pains, and a distressing sensation of bearing-down. On examining digitally, I found the vagina moist and relaxed, the cervix low, voluminous, and hypertrophied, but not much indurated; the os open, so as to admit the end of the finger, and surrounded by a soft, velvety surface, which extended over the entire cervix. The uterus itself was enlarged, and painful on pressure. The perineum was deeply torn. The lower half of the vulva, the perineum, and the nates adjoining the perineum, were red, and painful to the touch, and the seat of severe erythematous inflammation, evidently produced by the acrid nature of the vaginal discharge; the vagina was congested, and contained a great quantity of bloody muco-pus. The cervix, of a deep florid hue, presented a large, irritable-looking ulceration, the size of a half-crown.

The treatment consisted in tepid hip-baths night and morning; emollient, and subsequently astringent, vaginal injections, periodical cauterization of the ulcerated surface, mild saline aperients, and subsequently tonics, light diet, and rest in the horizontal position. Under the influence of these means she gradually but

slowly improved. The emollient agents resorted to, the hip-baths and injections, soon subdued all external inflammation; the case then progressed like that first related, without anything unusual occurring. The general health of this patient, however, rallied much slower than that of the former one; it had been much more deeply affected, and the constitution was evidently weaker.

On the 24th of May, nearly three months after I began to attend her, although immeasurably better, she was still weak and delicate. The uterine disease was, however, altogether subdued; the leucorrheal discharge had disappeared, the vagina was healthy, the cervix had nearly recovered its natural volume, and had quite ascended into its normal position in the pelvis, the ulceration was healed, the lumbar and ovarian pains, and the sensation of bearing-down, were no longer experienced, or at least only in a very trifling degree after fatigue, and she could walk with ease and without pain. The general health had also vastly improved; the dyspeptic symptoms had almost entirely disappeared; she could sleep and eat well; the bowels acted regularly; and the skin had lost its sallow hue, although it did not yet present the colour of health.

Mrs. H—— then returned home. I afterwards heard that her health had become more and more consolidated, and that she had experienced no return whatever of the uterine symptoms. The menses were easy and natural, as before her first pregnancy.

CHAPTER IX.

INFLAMMATION AND ULCERATION OF THE NECK OF THE UTERUS IN ADVANCED LIFE, AFTER THE CESSATION OF MENSTRUATION.

Inflammation of the uterus is occasionally met with in women advanced in life, who have long ceased to menstruate, notwithstanding the low vitality of the uterine system at this stage of female existence. Uterine inflammation at this period of life, however, almost invariably assumes the shape of ulcerative inflammation of the mucous membrane covering the lower segment or neck of the organ, and appears, generally speaking, to be the lingering remains of inflammatory disease present at the time the menses ceased. In some cases, however, I have known it evidently to originate spontaneously, and in others it has occurred as the result of blennorrhagia, contracted late in life.

The atrophy of the uterine system, which physiologically follows the cessation of menstruation, exercises unquestionably a very salutary influence over any uterine inflammation which may then exist, many females recovering gradually, without treatment, under its influence, from the unrecognised uterine inflammation, which had for many years inexplicably rendered life a burden to them. Hence, I believe, the origin of the popular opinion, that if a female, previously in bad health, passes safely over the critical period of life, she may rally, and enjoy good health for the remainder of her existence. The forms of uterine disease which I have described not having hitherto been recognised and treated, there must have been at all times a large floating population of females thus rendered confirmed invalids, confined to sofas and couches, stranded, as it were, on the shores of the stream of life, some of whom would reach this age, and be spon-

taneously cured in the way I describe. Indeed, it stands to reason, that if women so situated escape the dangers of accidental disease, and of cancerous degenerescence, the absence of the menstrual flux must materially change the pathological condition. The uterus being no longer subject to the periodical congestions which render its inflammations so difficult and so tedious to subdue, the disease in many cases gradually wears itself out, and thus a natural cure is obtained.

In some instances, this desirable process of natural cure only takes place partially. The gradual atrophy of the uterus, now become a useless organ in the economy, is still called into action; it limits the morbid action, diminishes the size of the hypertrophied tissues, and partly heals the ulceration, but it has not the power completely to cure the disease. The latter still lingers on, giving rise to more or less of the symptoms which are usually observed in this form of inflammation. The most constant and the most prominent, in many cases, is the pain in the sacrum, or lower part of the back;—pains in the ovarian regions, and in the hypogastrium, are occasionally complained of, but by no means so universally. The peculiar backach of uterine diseases has indeed appeared to me frequently more intense in women thus advanced in life than in younger persons, although the latter generally present much more extensive disease. Sometimes a leucorrheal discharge is experienced by the patient, but not always; the ulceration being often small, and there being but little vaginitis, there is no great amount of muco-pus formed, and what little is secreted, is absorbed by the parietes of the vagina. As might be anticipated, the patient seldom experiences much bearing-down. The inflamed cervix, as well as the uterus itself, being more or less atrophied, the latter generally retains nearly its normal position in the pelvis, not falling so much as in younger women when the neck of the uterus is hypertrophied.

On examining digitally and instrumentally, the cervix is found small, indurated, sometimes lobular, but in that case the lobules are regular and their divisions radiate towards the centre; the os is slightly open, and presents sometimes, but not always, within its contour, the velvety sensation of ulceration. The vagina is

in some cases rather rosy and congested, whilst in others it presents a blanched appearance, peculiar to it in advanced life. To the eye, the cervix appears of a vivid red hue, and the ulcerated surface generally seems irritable and angry; the granulations are small; and there is scarcely ever any appearance of luxuriance or of fungosity about them. The cavity of the cervix is closed at a short distance from the external orifice. These, the physical characters of inflammatory ulceration of the cervix at an advanced period of life, are the same, however the disease may have originated. They are often accompanied by considerable sympathetic disorder of the general health, especially when the backach is very continued and severe.

I have found this form of ulcerative inflammation much more intractable, and much more difficult to cure, than that which is met with in younger females. It may be that the very circumstance of the disease having withstood the influence of the changes that take place in the uterine system on the cessation of the menses, stamp it as of an intractable nature; or it may be, that chronic inflammation once established in a mucous membrane in a person advanced in life has a greater tendency to resist treatment and to perpetuate itself, than it would have in a younger subject. Whatever the interpretation, the fact is certain. A small ulceration, the size of a fourpenny piece, resting on an atrophied cervix, will resist the most energetic treatment for several months, giving rise, at the same time, in some patients, to extreme pain in the back and sides.

The following cases will illustrate the peculiarities of this disease in advanced life. I have, however, frequently met with it in much older females than those whose histories are recorded. At the commencement of the present year I was consulted respecting a lady, from the country, sixty-five years of age, who had ceased to menstruate twenty years before. She was deaf and very infirm, and those around her only suspected the existence of something wrong from the presence of a yellow vaginal discharge. The family medical attendant, being in doubt as to the nature of the case, brought her up to town to see me. On examination, I found the cervix extensively ulcerated, the ulceration being evidently of a purely inflammatory nature. This lady

had had a large family thirty or forty years before, but her faculties were so obscured, that we could obtain little or no information from her respecting her uterine health since that time.

I have recently had under my care another lady, above sixty, who presented extensive inflammatory ulceration of the cervix, which evidently dated from a miscarriage that occurred above thirty years previous to my seeing her. She had ceased to menstruate for very many years. The ulceration only gave way, after several months' treatment, to the use of the solidified potassa cum calce. In this case there was no backach or local pain.

Case XI.

Slight Ulceration of the Cervix in a person advanced in life, healing after five months' treatment.

April 3rd, 1846.—Louisa L——, a tall, stout, robust woman, aged fifty-four, was addressed to me, at the Western Dispensary, by one of my colleagues, under whose care she had been for a short time. Menstruated at thirteen, she continued to do so regularly and easily until she married at twenty-three. She subsequently had eight children, the last at the age of forty-three, without ever suffering from any uterine symptom. Two years after her last confinement, and fourteen months after weaning her child, the catamenia stopped for five months, during which time she was very unwell. They returned, and she continued to menstruate as usual, until about eighteen months ago. The show then became scanty, and she was seized with pains in the back and in the hypogastric and inguinal regions. Shortly afterwards the menstrual functions ceased entirely, and the inguinal, hypogastric, and lumbar pains increased; she likewise experienced slight bearing-down and pain in congress. From that time, the symptoms gradually became more severe, until the pain in the lumbar region was so great that she could scarcely sleep or lie; and this it was that induced her to apply for relief. She stated that she had never had any leucorrheal

discharge whatever; her general health had been much impaired during the previous twelve months; she had lost strength, and felt very ill; appetite bad, and bowels costive.

On examining digitally, I found the cervix rather high up, not voluminous, but hard; the os was open, and presented the velvety sensation of ulceration. On using the speculum, the vagina appeared of a natural healthy hue; the cervix was not large, but of a vivid red colour, and presented around the os an ulceration not larger than a fourpenny piece, which penetrated slightly into the cavity of the cervix. The redness of the surrounding tissues terminated rather abruptly before it reached the vagina, and appeared to be the vestige of a former more extensive ulceration. The ulcerated surface was acutely sensible when touched with the forceps or probe; there was but little purulent secretion. On the sore being touched with the nitrate of silver, the agony became so great as to bring on nausea, and every pain she had before suffered became instantly perceptible, with exaggerated intensity. Astringent injections and a saline mixture were prescribed, and rest enjoined.

10th.—The pain of the cauterization, after persisting for the entire day, although much less intense, gradually subsided. Since then all the pains have been less severe, and the bearing-down sensation has quite disappeared. The ulceration is less irritable, and the cauterization is by no means so painful as on the first occasion.

From this time the treatment was pursued on the same principle. The ulceration was cauterized every five or eight days, either with the nitrate of silver or the acid nitrate of mercury, according to the appearance it presented, and to the effect produced. Astringent injections of various descriptions were also used, rest enjoined, and the general health attended to. It was nearly five months, however, before the small ulceration was healed. It soon lost all irritability of surface, and the inflammation of the surrounding surface subsided, the lumbar and hypogastric pains nearly entirely disappearing, but a small portion of the primitive ulceration long remained red and abraded, secreting pus, and refusing to heal.

Remarks.—In this case, a slight ulceration, unaccompanied by much adjoining irritation, resting on a cervix rather small than otherwise, occasioned severe pain and great constitutional reaction. Notwithstanding these apparently favourable features, it was only after the remedial measures resorted to had been persevered in for several months that the ulceration cicatrized, the inflammatory action having been at last subdued. It is impossible to fix the origin of the disease, as during a long "uterine life," she only recollected having once had uterine symptoms before the cessation of the menses, and that was nine years previously. There may, however, have been some obscure chronic inflammatory action of the cervix in existence ever since that time, but which only became apparent at the change of life. The application of the potassa fusa might have healed it sooner, but I was unwilling to resort to this agent, on account of the absence of hypertrophy and the very small size of the cervix.

Case XII.

Inflammation and Ulceration of the Cervix in a person aged sixty-one, the result of Blennorrhagia.

On the 7th July, 1846, I was consulted by a lady, Mrs. M——, aged sixty-one, for a vaginal discharge, from which she had suffered, she stated, for two years. On inquiry, I ascertained that she was married early in life, had had several children, and had ceased to menstruate nine years previously. She had never laboured under any uterine disease to her knowledge, or presented any uterine symptom, until two years ago, when her husband communicated to her a discharge under which he himself laboured at the time. She retained the discharge for several months, without mentioning it to her medical attendant; when she did so, he merely ordered her medicinal agents. Under the influence of this treatment, the leucorrhea diminished, and the heat and scalding on passing water, which she had at first experienced, disappeared. The vaginal discharge, however, although less, persisted, and great and continued pain

in the lower part of the back set in, gradually becoming worse. Her general health, which had previously been very good, also failed her.

On examining digitally, I found the vagina healthy, the cervix small, very hard, and divided into three small radiated lobules; the uterus appeared also very small, and perfectly moveable. The speculum showed the vagina to present the white blanched appearance which I have noticed as peculiar to age, except at its upper fifth, which was rather injected. The small lobular cervix was of a livid red, and was ulcerated over the greater part of its surface. The cavity of the os appeared quite obliterated. The tongue was white, appetite and rest bad, bowels costive.

The disease in this patient was treated, as in the former one, by periodical cauterization, astringent injections, rest, and attention to the general health; but it was not until six months afterwards that I could pronounce her quite cured. The cervix was then cicatrized, and had assumed the same blanched appearance as the surrounding tissues; all pains and discharge had disappeared, and the general health was very much improved.

Remarks.—The decided manner in which so limited an amount of local disease will react on the functions of digestion, even in persons advanced in life, is worthy of notice. In the above case, the patient evidently contracted gonorrheal inflammation of the vagina, which not being subdued, became localized on the mucous membrane covering the cervix, and thus gave rise to the diseased state which I found. The disease was purely inflammatory, and consequently, although obstinate, eventually gave way to treatment.

CHAPTER X.

INFLAMMATION OF THE VULVA, OF THE VULVO-VAGINAL GLAND, AND OF THE VAGINA.

Although inflammation of the vulva and of the vagina mostly co-exist, the difference which their anatomical structure presents considerably modifies their morbid manifestations; we shall therefore examine the disease separately in each of these regions.

Both vulvitis and vaginitis are generally considered to present themselves under two distinct forms: a purely inflammatory or non-specific form, and a specific or blennorrhagic form. The propriety of this distinction has been questioned by some modern authors; but whether a virulent contagious form of inflammation, distinct from simple inflammation, exist or not, it is certain that it is impossible to establish the distinction from a consideration of symptoms alone. After many years' careful study and investigation, I am yet unable to point out any certain data by which the difference can be recognised. I shall, therefore, first describe the disease as it occurs in the cases in which there is no suspicion of contagion, the inflammation being evidently spontaneous, and then briefly discuss the question at issue.

VULVITIS.

Causes.—As predisposing causes of inflammation of the vulva may be mentioned the peculiar delicacy and tenuity of the skin and mucous membrane that cover the organs which enter into its formation; their extreme vascularity and erectile character; the great number of sebaceous, mucous, and hair follicles which it contains; its liability to physiological congestions under the

influence of menstruation, of mental emotions, and of other causes, favoured as they are by the vasculo-erectile structure already alluded to, and the existence of pregnancy and obesity. The influence of these various predisposing causes of disease has been very lucidly pointed out by M. Huguier, the learned Paris surgeon, in an admirable memoir on disease of the vulva, read a few years ago before the Academy of Medicine.[1] In this valuable monograph, M. Huguier very correctly compares the vulva to the face, which presents nearly the same anatomical and physiological conditions, and points out, as a necessary corollary, the fact that the diseases of the vulva present the greatest similarity to those of the face.

As exciting causes of inflammation may be named all those agencies which are calculated to arrest the menstrual function, or to morbidly increase the molimen hemorrhagicum that precedes, accompanies, and follows menstruation; acrid secretions from the uterus or vagina; marriage and parturition; over-exertion in walking in warm weather, especially in pregnant females, or in stout women, in whom the labia are loaded with fat and the follicular secretions abundant; and all local irritations from whatever cause.

Inflammation of the vulva is met with at all periods of female life. It is not unfrequently observed in infants and children, as the result of cold; and occasionally with the latter as the result of onanism; or it is developed spontaneously, owing to the morbid influence of a scrofulous cachectic constitution which predisposes to mucous membrane inflammation. My friend, Dr. Cormack, has seen it complicate or follow scarlet fever, and no doubt this occurs much more frequently than is generally supposed.

The symptoms of vulvitis vary according to the anatomical seat of the inflammation. It may occupy only the proper tissue of the cutaneous and mucous membranes, or the mucous, sebaceous, or hair follicles, or all these structures simultaneously; and it may extend or not to the subjacent tissues. Moreover,

[1] Mémoire sur les appareils secréteurs des organes genitaux externes de la femme, lu à l'Académie Nationale de Médecine. Mars. 1846. Paris. Baillière. 1850.

the various forms of inflammation which are peculiar to the skin may be also met with at the vulva.

When the inflammation occupies the muco-cutaneous surfaces, we find the vulva red, hot, congested, swollen, tender to the touch, and bathed with mucus at first, and subsequently with muco-pus. If it has extended to the cellulo-erectile tissue underneath, the labia and nymphæ often become enormously swollen, so as to present the form of large masses on each side of the vulvar orifice, which appears greatly enlarged. When this is the case, purulent collections may form either in the free cellular tissue or in the larger mucous follicles, and especially in the vulvo-vaginal gland.

The numerous mucous follicles of the vulva are sometimes inflamed separately, or at least their inflammation becomes the prominent feature, that of the tissues in which they are embedded being secondary. At first they present the appearance of numerous small hard specks of coarse sand disseminated over the muco-cutaneous surface. As inflammation progresses they often ulcerate, and then the parts are dotted over with small aphthous-looking sores, secreting muco-pus in abundance. This state of things is generally attended with considerable inflammation and swelling of the surrounding parts, which are matted together by the purulent secretions, and present a very repulsive appearance.

Dr. Oldham has well described a chronic form of follicular inflammation occasionally met with, in which the inflammation principally attacks the mucous follicles of the nymphæ and of the vaginal orifice extending from the meatus to the lower commissure of the nymphæ, and seldom involving, to any extent, the external labia. The small aphthous ulcerations which they form, at first sight rather resemble venereal sores. On a closer inspection, however, their purely inflammatory nature becomes evident. The presence of this chronic follicular inflammation is often attended with spasm of the constrictor vaginæ, and consequent occlusion of the vaginal orifice. Thence extreme pain on any attempt at congress. This form of the disease is generally most intractable to treatment. It may exist independently of any vaginal or uterine inflammation, but has proved in my

practice mostly connected with such disease. Owing to the spasmodically constricted state of the vaginal orifice, it is very difficult satisfactorily to examine the vagina and neck of the uterus, either digitally or instrumentally.

Vulvar inflammation, especially in the chronic form, is frequently accompanied by intense irritation and itching. It may be general in the vulvar region, involving or not the clitoris, or it may be confined to the clitoric region alone. This symptom is a most distressing one, often destroying entirely the rest of the patient, and when carried to an extreme degree rendering her nearly frantic. She is induced, in spite of the strongest determination to the contrary, to rub the part affected, in order to allay the itching, and thus the inflammation is increased, while the local irritation is but temporarily relieved. I am convinced, indeed, that in a large proportion of the children and females in whom onanism exists as a habit, it has originated in this manner. The inflammation and irritation, if unchecked, gradually extend to the outer surface of the labia majora, and when they have reached this region, the irritation becomes more intolerable than ever. The patient often rubs the part with a sort of rage, until it is quite excoriated and covered with blood. When the inflammation has become chronic, and has reached this extent, the mucous folds of the labia majora and the nymphæ, and those which cover and surround the clitoris and the vestibule, assume a whitish or greyish colour, and become thick and hypertrophied. The labia majora themselves may be several times their usual size, and present a very peculiar mottled appearance.

On a careful examination, these chronic forms of vulvar inflammation will generally be found connected with extensive disease of the cervix uteri, and this partly accounts for their extreme intractability to treatment, especially when this is directed to the vulvar element of the disease only, as is usually the case, the disease of the uterine neck, which keeps up the external inflammation, being unrecognised and unchecked.

The vulva, especially at its lower commissure in the vicinity of the nymphæ, is sometimes the seat of most obstinate indolent inflammatory ulcerations the size of a shilling or half-crown; the

patient suffering but little pain, being sometimes scarcely cognisant of their presence. They have been well described by M. Boys de Loury and M. Laurés, the only authors, so far as I am aware, who have alluded to them. When I first met with an ulceration of this kind, I thought it a degenerated chancre. But I afterwards concluded that it was not venereal, from its resisting a course of mercury combined with local cauterization. I now believe, with M. Boys de Loury, that these ulcers are purely inflammatory. They are certainly most rebellious to treatment. The authors I have mentioned have met with cases at St. Lazare which neither the red-hot cautery, nor potassa fusa, nor any other agent, local or general, could modify or heal. I had a case at the Western Dispensary, in which the sore resisted all these active means for four months, and then suddenly healed in a week, after having been for some time left to itself, whilst the patient was under general treatment.

The sebaceous and hair follicles are generally inflamed simultaneously with the mucous follicles, but they may be affected separately. The inflammation usually attacks one region only of the vulva, but it may be general. They also form hard red elevations or papillæ, only to be distinguished from inflamed mucous follicles by their being rather larger and harder, and by the presence of the hair in the centre, when it is the hair follicles that are diseased; and by the fact, that, the inflammation having a greater tendency to assume a chronic character, they do not ulcerate either so readily or so soon. In the course of a few days, if the inflammation does not assume an entirely chronic form, a drop of pus forms at the apex of the small papilla, and on its bursting spontaneously or through the patient's abrading it, a small sore is formed, which may heal immediately or remain open. In the early stage of inflammation a copious secretion of sebaceous matter often takes place, giving rise to a white, creamy, oily film, which forms over the diseased surfaces, and is rapidly reproduced if wiped off. This sebaceous secretion is sometimes poured out in great abundance. As in inflammation of the mucous follicles, if many are simultaneously inflamed, the proper tissue of the vulva is generally inflamed simultaneously, and then presents the characteristics already described.

The inflammatory action may pass into the chronic form, or be chronic from the first. When this is the case, the diseased sebaceous follicle may assume the same character, and pass through the same phases as occur in the face. One or more chronically inflamed follicles, presenting a red tubercular appearance, are found disseminated over the vulva, remain some weeks in an indolent state, suppurating or not, and then gradually disappear to be succeeded by others. Owing to the extreme sensibility of the vulva, they often occasion considerable distress to the patient. They are generally looked upon as small boils, or furunculi.

Occasionally, under the influence of inflammation, or from some other cause, the duct of one or more sebaceous follicles becomes obliterated, and the sebaceous matter collecting behind, a steatomatous cyst, or tan, is formed, varying from the size of a millet seed to that of a nut, or even larger. The proper tissue of the sebaceous follicle may also become hypertrophied, so as to form a small tumour, protruding from the surface. M. Huguier has very accurately described this condition, and has given to it the name of exdermoptosis. Generally speaking, several hypertrophied follicles are observed in the same patient. They are found on the cutaneous surfaces only, appear to be formed by the deeper-seated follicles, and are covered by the superficial layers of the skin which they push before them. As they enlarge, they form a small indolent tumour, of the colour of the skin, at first the size of a pin's head, but which may increase to that of a pea. When it has attained this size, it sometimes becomes pedunculated, so as to adhere to the skin by a pedule only, of variable thickness; in the centre of the small tumour may always be seen a slight depression, the orifice of the follicle from which a certain amount of sebaceous matter may generally be expressed. These characters distinguish it from syphilitical vegetations and mucous pustules, with which the hypertrophied follicles are occasionally confounded. They may remain indolent for any length of time, or become inflamed, soften, ulcerate, and thus be wholly or partially destroyed, leaving a small depression in the skin, or they may wither, so that a minute wrinkled tumour alone remains, as evidence of the disease.

The vulva may present all the special forms of cutaneous inflammation, such as erythema, herpes, ecthyma, psoriasis, &c., offering the usual characters of such affections.

M. Huguier has also described at considerable length (Mémoires de l'Academie, vol. xiv., 1849) a fortunately rare form of disease, which he has only met with in hospital practice, to which he gives the name of esthiomene, and which he assimilates to lupus in the face. As in the face, this fearful malady presents itself under several forms. It may be serpiginous or extend in surface, perforating or extending in depth, or hypertrophic, that is, be attended with hypertrophy of the surrounding tissues. These three varieties of the disease often exist in the same individual. It generally commences on the cutaneous surface of the labia majora, and is principally observed in adult females, although M. Huguier has met with an instance of it in a scrofulous girl only twelve years of age, who had also lupus of the face. The superficial or serpiginous form is characterized by small livid tubercles, or indurations, lying on thickened integument, and presenting at their base, or in their vicinity, where the skin is exposed to the air, greyish epidemic scales, as on the face. These tubercles generally accompany or surround the other more serious forms of the disease. They soften and ulcerate, forming small ulcerations, which may extend, destroy the entire thickness of the skin, healing on one side, as they progress on the other, and leaving thin, uneven, shining cicatrices, of a whitish or reddish colour. The course of the disease is essentially chronic; it may last for years; is attended with little or no pain or constitutional disturbance in its early stages, and does not then interfere with the accomplishment of the functions of the organs. In the perforating form, the ulceration extends in depth, so as to produce a frightful destruction of parts, sometimes passing between the urethra and the pubis, or the rectum and the pubis, so as to partially separate the vagina from its attachments, and extending to the vagina, anus, and rectum. When this is the case, the parietes of these organs become thickened, and form folds and duplicatures, separated by deep sulci, ulcerated or not. When the hypertrophic element is added, the parts attacked, and the surrounding tissues, become

enormously enlarged, and give to the external organs of generation, and to the entire vulvo-anal region a most frightful appearance. It then constitutes a mass of hypertrophied tissues, thrown irregularly into thick folds, covered with tubercles and ulcerations, in which all trace of the natural conformation of the parts, or of the natural outlets of these organs, is lost. When disease is carried to this extent, a very considerable amount of local distress is necessarily experienced; the patient falls into a state of marasmus, and sinks exhausted by diarrhea and constitutional irritation. This disease, as in the face, is very rebellious to treatment. The characters given above will distinguish it from the various forms of vulvar inflammation, and from cancer, with which it has no doubt hitherto been confounded.

Inflammation of the Vulvo-vaginal Gland.—It is also to M. Huguier that we are indebted for the first full and complete account of inflammation of this gland. It is contained in the work to which I have already so repeatedly alluded, and is an important contribution to the pathology of the uterine organs.

Inflammation of the vulvo-vaginal gland is principally met with between the ages of eighteen and thirty. This we might naturally conclude would be the case, as the gland is physiologically destined to secrete mucus for the purpose of lubrication, with reference to the sexual functions, which are most developed at that period of female life. Women of a nervous or lymphatic temperament, in whom sexual feelings appear as a rule, more intense than in those of a robust and plethoric, or sanguineous temperament, are the most liable to be attacked by this form of glandular disease. Menstruation may also be considered a powerful predisposing cause, and sedentary occupations of all kinds, from their tending to occasion local congestion. The attack of inflammation itself, however, is mostly induced by positive local irritation.

The influence of these causes, both predisposing and immediate, sometimes produce a state of exaggerated vitality of the gland, followed by hypersecretion of mucus, which can scarcely be considered a diseased condition, although it verges on it, and is often the immediate precursor of inflammation. This state is

characterized by the constant flow, under the influence of the slightest exciting cause, of so large a quantity of glairy mucus, as to prove a source of annoyance to the patient. Pressure exercised on the gland, enlarged, distended, and easily perceptible to the touch, will itself expel a certain amount of mucus, either transparent or turbid. Sometimes, under the influence of dreams, the glandular fluid will be secreted in great quantity during sleep in the night, thus simulating nocturnal seminal emissions in the male. This state of hyper-secretion of the vulvo-vaginal gland, may exist as a complication of uterine disease, or it may be present for months, or even for years, without inflammation setting in.

Inflammation of the vulvo-vaginal gland may exist on one or both sides. It may occupy the mucous membrane lining the duct, and present itself under a catarrhal, and generally chronic form; or it may attack the substance of the gland, in which case it is generally acute and attended with the formation of abscess. In the cartarrhal form of inflammation, which M. Huguier designates purulent hypersecretion, the gland secretes a greyish, yellowish white, or semi-purulent fluid, and may or may not be swollen, and tender to the touch. There is generally slight pain and itching in the region of the gland, but there may be no uneasy sensation whatever. The mucous purulent discharge may last for months, and when recognised is generally supposed to proceed from the fistulous opening of a vulvar abscess. The anatomical position of the orifice of the inflamed duct from which the pus issues is sufficient to establish its origin. When it thus persists, it is generally kept up by the presence of blennorrhagic or other inflammatory disease of the vulva, or by the continued action of the local irritations which so generally give rise to it. Should the orifice of the duct become obliterated, the muco-pus collects and forms a small, soft, fluctuating tumour, varying from the size of a pea to that of a small walnut, and situated superficially at the lower orifice of the vagina. It is felt immediately underneath the mucous membrane, which it distends visibly to the eye. The muco-pus may dilate the obliterated duct, and force its way out by the

natural channel; but it more usually escapes by an artificial opening. All trace of tumefaction then disappears, and it is often difficult at first to say whence the matter has escaped.

When it is the substance of the gland itself that is the seat of inflammation and suppuration, the tumour which it forms is found lying deeper, between the ascending branch of the ischium and the orifice of the vagina. It is generally painful, the pain irradiating into the surrounding tissues and organs, and may become as large as a walnut. When this is the case, the tumefaction distends the labium, and becomes very evident to the eye. Matter forms rapidly in the course of three or four days, and by the tenth or twelfth the purulent collection, if left to itself, has generally opened an artificial passage externally. The pus once evacuated, cicatrization mostly takes place in the course of four or five days. Sometimes the matter forces its way through the duct, and then the evacuation of the pus is slower, often continuing in an interrupted manner for some weeks. The duct may be involved in the inflammation, and be also distended by pus. When this is the case, and an artificial opening occurs, and sometimes when the inflammation is confined to the duct, the latter may ulcerate freely, and, on cauterization, be diminished in length, a very evident oval depression marking its new orifice.

Whether the duct, or the gland, or both, have been the seat of inflammation, the cicatrization of the artificial opening is not always definitive. Muco-pus or pus will accumulate again and again; each time an exacerbation, or return of inflammatory action, taking place, and continuing until it has again found a vent. The same circumstance occurs with abscesses found in the substance of the labia, but much less frequently. In the latter affection, it is the adventitious pyogenic membrane lining the abscess which remains inflamed, and reproduces pus. In the former, it is the mucous membrane that naturally lines the ducts of the gland that remains the seat of disease. In either instance, the only means to prevent these abscesses continually forming, is to open them freely, and to make them heal, as it were, by the second intention, as we shall see when speaking of the treatment of vulvar inflammation.

VAGINITIS.

Inflammation of the vagina, considered apart from contagion, may be occasioned by all the causes which have been enumerated as producing vulvitis. It is, moreover, very frequently found to complicate inflammatory disease of the body or neck of the uterus, and especially of the latter. Indeed, I should say that it is principally in connexion with inflammatory and ulcerative conditions of the cervix uteri, that simple non-contagious vaginitis is met with in the chronic form.

Vaginitis, like vulvitis, both acute and chronic, is met with at all ages. It not unfrequently attacks very young children, and when existing in them as a result of a scrofulous constitution, and of a tendency to inflammation of the mucous membrane, may be very difficult to effectually subdue. Like vulvitis, it sometimes attacks young children during, or after, eruptive fevers.

Acute vaginitis is attended with pain, swelling, and redness of the vaginal canal. The patient feels a sensation of heat and fulness in the vagina; and if a digital examination be made, the canal is found swollen and tender to the touch. On bringing the vaginal mucous membrane into view by means of the speculum, should the pain and swelling not be too great to admit of its use, it is found of a vivid red colour, and the rugæ appear more developed and prominent than in the normal state. At first there is an arrest of secretion, as in the first stage of inflammation in mucous membranes generally, but after a day or two a more or less abundant secretion sets in, at first serous, and then purulent, and of a yellowish or greenish colour. As soon as this secretion is fairly established, the heat, swelling, fulness, and pain, diminish considerably.

The development of these local symptoms is seldom accompanied by much general febrile reaction, unless the tissues underneath the mucous membrane be involved; in that case, the inflammation may assume a phlegmonous form, and purulent collections from which empty into the vagina, or at the vulva; considerable febrile reaction being experienced. Fortunately, however, this is a very rare form of vaginitis, and is seldom met

with except in cases in which the vagina has been contused, lacerated, or otherwise injured, in severe, prolonged, or instrumental labour.

The inflammation in vaginitis may be general, or it may be limited to one region, either to the upper or the lower part of the vagina. When it is thus limited to a portion of the vagina only, it is nearly always chronic, and connected with disease of the cervix or vulva, of which it is only a symptom and the extension.

The amount of fluid secreted by the inflamed surfaces varies greatly; in some it is slight, and formed by a mixture of the white mucus secreted in the upper part of the vagina, and of the yellow matter, the product of the acute inflammatory action; in others it is very abundant, thick, and of a yellow or greenish colour.

Acute vaginitis appears to run its course in from ten to twenty or thirty days, according to the intensity of the inflammation, and to the treatment employed. If, in addition to general treatment, local means are carefully used, an attack of acute vaginitis may generally be subdued in from a few days to a fortnight; but if general treatment alone is resorted to, or the local treatment be inefficient, several weeks may elapse before the inflammation subsides, or it may pass into the chronic stage, extending to the mucous membrane which covers the cervix. Inflammation of the vagina, like inflammation of the uterus and vulva, is very liable to be periodically aggravated by the menstrual congestion; thence a tendency to its perpetuation, if it does not at once subside, or give way to the means of treatment resorted to. If the slightest amount of inflammation is left previous to menstruation, the molimen hemorrhagicum which then exists seems to fan it into a flame, developing anew the inflammatory action.

This unfavourable influence of menstruation on the course of vaginitis is more especially observed in the chronic form of the disease, and constitutes one of the great difficulties of its treatment—not only does menstruation exaggerate existing inflammation, but it often reproduces it after each menstrual epoch, when all evidence of inflammatory action had so far disappeared

that the most careful ocular investigation could detect no evidence of disease beyond a slightly congested state of the vaginal mucous membrane. Chronic vaginitis, as I have stated, is generally connected with disease of the cervix uteri, of which it may either be the cause or the symptom. In the former case, the vaginitis is mostly general; in the latter it is mostly confined to the upper third or half of the vagina, and is evidently the result of the extension of the inflammatory atmosphere from the neck or body of the uterus to the vagina. In this case, the non-inflamed part of the vagina is nearly always more or less congested.

Chronic vaginitis, general or partial, may last indefinitely, for years, like chronic inflammation of all other mucous surfaces, giving rise to a constant secretion of muco-pus, and varying in intensity according to the epoch of the month and to the state of the health, and social and hygienic position of the patient. In the course of time, it often passes into a mere mucoso-purulent flux. Its existence in this chronic form is a source of general debility and weakness, but by no means to the extent that is supposed by most authors; the sympathetic connexion between the vagina and the rest of the economy being slight, when compared with that which exists between the uterus and the system in general. When the health of a patient labouring under chronic vaginitis suffers greatly, it will generally be found, on examination, that there is also disease of the neck or body of the uterus, or of the ovaries.

Inflammation of the vagina may assume the follicular form, that is, the mucous follicles may inflame and ulcerate, forming small aphthous sores. This species of inflammation, however, is rare, and when met with, is generally limited to the lower portion of the vagina. It is seldom, also, that more than a few isolated follicles are ulcerated.

A form of follicular disease has latterly been described on the continent as peculiar to pregnancy, and as characterized by enlargement, or hypertrophy, of the mucous follicles of the vaginal mucous membrane. I do not think the disease described is of frequent occurrence, and am inclined to look upon the conditions described as often physiological, and merely the result of the

natural development of the follicular organs, owing to the existence of pregnancy.

Pseudo membranes may form on the inflamed vagina, but their presence is of very rare occurrence. They present the same characters as on the cervix and on other mucous membranes.

It is a singular pathological fact that, although the existence of a specific and contagious form of vaginitis is generally admitted; yet that it is difficult, if not impossible, as we have seen, to point out any decided characteristic by which it may be distinguished from simple vaginitis. Like those who have preceded me, I am unable to indicate satisfactorily any absolute means of distinguishing between simple inflammation of the vagina and blennorrhagic inflammation, although I believe that the difference does exist. This seems proved to me by the fact that simple inflammation of the vulva and vagina, the form which is so constantly found co-existing with disease of the neck of the uterus, and the origin of which is evidently inflammatory, does not appear, as a rule, to communicate gonorrhea to the male. I not unfrequently hear of the husbands of my patients suffering from slight irritation, but seldom of their having positive urethral inflammation with purulent discharge. The instances of the kind which I meet with—instances in which, although the wife's disease appears to be of a purely inflammatory nature, yet the husband is obliged to live separate, under penalty of being himself attacked by urethritis—are, indeed, so rare, that I can only look upon them as exceptional. For many years my opportunities of observing uterine disease have been principally confined to the moral classes of society; for even when physician to a dispensary, my patients were mostly the wives of respectable artisans; and I have been greatly struck to find, as a rule, the husbands of my uterine patients living with their wives in apparent immunity, although nearly all of them are, and have been, suffering for months or years, when I first see them, from vaginitis of a more or less severe character. It may be that they become acclimatized, as it were, to their wives' local state of health, or it may be that I do not hear what takes place; but it is even more probable that the immunity is real, and the result

of the non-contagion of purely inflammatory vaginal discharge under ordinary circumstances. I say under ordinary circumstances, because, even admitting that such is the case, we can easily understand that a morbid secretion, innocuous when brought into contact with a healthy frame, may, on the other hand, produce violent inflammation, if the economy is below par, or if any urethral irritation, caused by lithatic urine or any other cause, previously exist; or if the patient is debilitated by excesses of any kind.

To appreciate all the bearings of the question, the above facts must be compared with the results furnished by the medical history of the non-moral part of the population. Do we not find that the young and unmarried who associate casually with women of loose character, with women who do not offer moral guarantees, are continually attacked with gonorrheal inflammation; a fact which tends to prove that they are often exposed to a contagious element in the one case that does not obtain in the other, although the physical evidences of inflammation are identically the same to the eye in both instances?

Although, thus believing in the existence of a contagious and specific form of vaginitis, I am bound to confess that the only difference that I can see between the two is, that vaginitis contracted by contagion, or blennorrhagia, appears to me to be more acute than ordinary vaginitis, that there is a greater quantity of pus secreted, greater redness, congestion, and swelling of the mucous membrane, and that the inflammatory action has a greater tendency to spread to the urethra, and is very much more intractable to treatment. These conditions, merely implying degrees of inflammatory violence, do not evidently constitute a distinction as to morbific characteristics.

CHAPTER XI.

OVARITIS—SUB-ACUTE AND CHRONIC—ACUTE INFLAMMATION AND ABSCESS OF THE OVARIES AND UTERINE APPENDAGES.

The pathology of the ovaries, after being long much neglected, has of late attracted considerable attention, and a great deal has been written on ovaritis in all its forms.

It is a well established fact that in puerperal metritis the ovaries are often involved, and that pus disseminated throughout their tissue, or forming collections, is often found after death. It is also probable that the phlegmonous inflammations and purulent collections which not unfrequently occur in the lateral ligaments in the non-puerperal state, and which will be described at length in this chapter, often originate in acute inflammation of the ovary. But the history of ovaritis in its subacute and chronic condition is by no means, as yet, so clearly made out.

SUB-ACUTE AND CHRONIC OVARITIS.

The term subacute ovaritis has been adopted by Dr. Tilt,[1] and other recent writers, to indicate conditions of low inflammatory action in the ovaries, essentially chronic in their mode of manifestation, which they consider both of frequent occurrence and of great importance, as exercising great influence on the functions over which the ovaries preside, those of menstruation and impregnation, and on the health generally.

[1] See Dr. Tilt's work on Diseases of Menstruation and Ovarian Inflammation (Churchill, 1850), in which the doctrines alluded to are very ably and fully exposed.

That subacute ovaritis exists as a decided and distinct form of ovarian inflammation is undeniable, but I think that its frequency has been greatly exaggerated, and consequently, that its importance in the production of deranged menstrual conditions, of dysmenorrhea, menorrhagia, and amenorrhea, as also of sterility and abortion, considered generally, has been much overrated. I find the explanation of this circumstance in the fact that the symptoms given as indicating the positive existence of subacute ovaritis may be, and very frequently are, met with as mere sympathetic conditions, depending on the presence of disease in the uterus or its neck, and not on its existence in the ovaries themselves. This opinion is founded on clinical experience, and is supported by reasoning and analogy.

If we consider the structure of the ovary apart from the pregnant condition, when, like the uterus, it is exceptionally vitalized, we find that it is formed by a dense fibro-cellular parenchyma or structure, which is not likely, pathologically speaking, to very frequently become the seat of subacute or chronic inflammation. Throughout the economy it is the mucous and serous membranes which are most frequently attacked by inflammation, especially by subacute and chronic inflammation; parenchymatous organs, especially those of a dense non-vascular structure, enjoying comparative immunity. This is certainly the case with the uterus itself, the mucous membrane of which is the seat of uterine inflammatory action, as I have most frequently pointed out throughout the course of this work. The ovaries have no mucous membrane, and their structure, in the non-puerperal state, as I have stated, is dense, fibro-cellular, and non-vascular.

If we turn to clinical experience we arrive at similar results. Subacute ovaritis is said to be characterized by pains in the ovarian regions, extending round the loins or down the thighs; by a sense of fulness, of swelling, and of heat in the same regions; by enlargement of the ovary, as detected by the actual digital examination of the patient through the vagina or rectum; by the disturbance of the uterine functions, and by the general sympathetic constitutional derangement of health, which has so

often been described in the previous chapters as depending on uterine disease considered generally. That these symptoms, taken together, necessarily indicate subacute or chronic ovaritis; as do also those furnished by the actual digital examination of the patient, even when they alone are present, is undeniable. That the functional and rational symptoms may also be the result of such disease, even when there is no *attainable* physical evidence of its existence, is also certain. Nevertheless, I am fully prepared to state, that in nineteen cases out of twenty in which the ovarian regions are the seat of deep, dull, aching, continuous pain, and appear tender and rather swollen, there is no actual ovarian disease whatever, and that these symptoms merely indicate a state of sympathetic irritation, the result of some uterine lesion. Why it should be so, it is difficult to say; why an inflammatory ulceration, or any other inflammatory lesion of the body or neck of the uterus, should give rise to pain and tenderness, not so much in the region where the disease actually exists, as in the right or left ovary, sometimes in both, but generally in the left, I am unable satisfactorily to explain. But the fact is a clinical one, which my daily experience confirms. What proves that the ovarian pains, &c., are, in the immense majority of these cases, merely symptomatic, and not the result of actual ovarian disease, is, that if you leave the ovaries entirely alone, and only treat the uterine affection, which is nearly always found on examination to co-exist, they give way as soon as the latter is cured; whereas, if you merely treat the patient for ovaritis, and neither examine nor treat the womb, they either continue indefinitely, or return in a short time, even if modified temporarily by the means resorted to. I so much look upon ovarian pain and tenderness as a mere routine symptom of uterine disease, that when once I have ascertained by a careful examination that there is no perceptible ovarian enlargement, and that there is uterine disease, I give myself no more concern about the ovarian symptoms than I should about the tongue of a patient suffering from stomach derangement; depending upon their subsiding with the uterine complaint, of which they are merely the indication. I am frequently able also to test, cli-

nically, the correctness of these views. Many young females for whom I am consulted, who present confirmed functional uterine symptoms, which in my own mind I from the first attribute to uterine disease, offer the ovarian pains and tenderness in a very marked manner. Inasmuch, however, as I fully admit that with them all the symptoms *may* be the result of subacute ovaritis, I seldom consider myself warranted, unless under peculiar circumstances, in making any exploration of the uterine organs until I have resorted to the treatment indicated for ovaritis. All but invariably, after blistering and leeching the ovarian regions, and treating the patient generally for some months, I find myself compelled to ascertain the condition of the uterus, owing to the persistence of the symptoms, both ovarian and other, and find uterine disease, the cure of which at once removes the ovarian symptoms.

Although thus professing that a large proportion of the cases in which the symptoms attributed to subacute and chronic ovaritis are cases of other disease, in which the ovary is merely sympathetically irritated, merely the seat of neuralgic pain and tenderness, I fully admit, as I have above stated, that these same symptoms are occasionally produced by the diseased states in question. That such is the case becomes certain when the symptoms enumerated are present, in the absence of uterine lesions, or if enlargement and tenderness of the ovary can be ascertained to exist by careful vaginal or rectal digital examination, or by the combination of the two, the double touch of M. Recamier. The forefinger of the right hand passed carefully by the side of the cervix uteri, so as to press up the vaginal cul de sac in the direction of the lateral ligament and ovary, or passed into the rectum, along the side of the uterus, whilst the fingers of the left hand are pressed over the ovarian region externally, will often detect very trifling enlargement of the ovary, especially if it has prolapsed into the pelvic cavity, as it sometimes does, and is tender to the touch.

The general symptoms occasioned by chronic inflammation of the ovary thus inflamed and enlarged, are pretty nearly the same as those to which uterine inflammatory disease gives rise, only

they are more obscure and chronic. It is, therefore, unnecessary to enumerate them. We have also the same tendency to monthly exacerbations under the influence of menstruation. I am persuaded that considerable ovarian disease, of a low inflammatory nature, may take place without much local pain or tenderness being present, merely reacting on the menstrual function, giving rise most frequently to amenorrhea, or to irregular, scanty, and inefficient menstruation, and deteriorating imperceptibly the general health. The continued existence of such disease is no doubt, likewise, the explanation of the occasional non-recovery of patients who have been cured of uterine affections from which they had been long suffering, but who do not afterwards rally, as anticipated, and thus falsify the expectations entertained of their restoration to health.

That chronic inflammatory morbid conditions of the ovaries, giving rise to thickening, induration, enlargement, &c., are often so obscure during life as not to be recognised, is proved by the frequency with which they are found in patients who die of other diseases in the general hospitals. This fact ought to induce the practitioner to scrutinize very minutely the state of these organs, in obscure forms of ill health, in which, in the absence of uterine or evident ovarian symptoms the menstrual functions are deficient, and the general health out of order, or in which sterility exists without any apparent cause.

ACUTE OVARITIS.

Acute ovaritis in the non-puerperal state, although more frequently met with than acute metritis, is not a complaint of very common occurrence, owing probably to the dense structure of the ovary. It is occasioned by the same causes as metritis, and occurs under the same circumstances.

The symptoms of acute ovaritis, are great pain in the ovarian region, accompanied by perceptible swelling and heat, and great tenderness on pressure. The swelling and tenderness becomes still more evident, if the ovarian region be examined per vaginam. There is generally a certain amount of febrile action,

which exists from the onset, and may be preceded by lassitude, headach, and even rigors.

These symptoms may, after increasing in intensity for from three to five or six days, gradually subside, the inflammation terminating by resolution, or they may persist, becoming modified in intensity and character, owing to suppuration taking place. When this is the case, the inflammatory action generally extends itself to the cellular tissue contained between the folds of the lateral ligament, which envelopes the ovary, and the ovarian abscess thus becomes lost in the more extensive phlegmonous tumour which is formed. As the history of the ovarian abscess is from that moment identical with that of phlegmonous inflammation of the lateral ligaments generally, I shall include it in the general description of this disease which I now purpose giving, and of which it is no doubt frequently the origin or point of departure.

INFLAMMATION AND ABSCESS OF THE UTERINE LATERAL LIGAMENTS AND UTERINE APPENDAGES IN THE PUERPERAL STATE.

From the writings of Paulus Ægineta, and others, it is evident that pelvic inflammation and abscess in the female, their symptoms and sequelæ, were known to the ancients. Not only does Paulus Ægineta distinctly mention the manner in which pus formed in the pelvic cavity finds its way to the exterior by the perforation of the rectum, vagina, or bladder, but he also enters into many curious details respecting treatment, describing the process for opening the abscess by the vagina—an operation which has only latterly been revived. The ancients do not appear, however, to have had a correct idea of the origin and nature of these abscesses, which they describe as abscesses of the uterus. They evidently thought that the uterus itself was the seat of inflammation, and consequently the source whence the pus came.

The Arabians merely copied the classical writers on this as on most other subjects connected with uterine pathology, making no addition to the information contained in the works of the latter.

In the seventeenth and eighteenth centuries, when a revival of midwifery and of uterine pathology began to take place, the

attention of practitioners was directed to this important class of diseases by Guillemeau, Mauriceau, and more especially by Puzos. The two former thought, with the ancients, that the abscesses proceeded from the uterus, but Puzos recognised the fact of their generally originating in the lateral ligaments of that organ. His more correct views respecting pelvic inflammation in the female were, however, disfigured by a fanciful theory as to its origin, which he attributed to the "metastatic deposit of milk." This singular theory was, for a long period, adopted by all who wrote on the subject, amongst whom may be named Planchon, Van-Swieten Levret, Raulin, Antoine Petit, Gastelier, &c., and was only dispelled by the accurate anatomical investigations which characterize the commencement of the present century.

Pelvic inflammation, both in the male and female, has attracted much attention in France during the last thirty years, and its history has been elucidated by various writers, and more especially by Dance, Husson, Boivin, Baudelocque, Menière, Andral, Dupuytren, Grisolle, Velpeau, Bourdon, and M. Marechal de Calvi. This last writer published, in 1844, an interesting monograph, which contains a good analysis of the existing state of knowledge on the Continent, with reference to pelvic inflammation generally.

In our own country, pelvic inflammation—especially that form of the disease which developes itself in the uterine appendages, and which has hitherto been universally connected with the puerperal state—has attracted much less notice. It is scarcely, if at all, alluded to in the principal monographs on the diseases of females, those, for instance, of Gooch, Sir Charles Clarke, Churchill, Lever, Ashwell, &c., although isolated cases of inflammation and abscess of the ovaries and Fallopian tubes are described and referred to. Nor does our periodical literature contain much information on the subject, with the exception, however, of the interesting articles of Dr. Doherty and Dr. Churchill, in the *Dublin Medical Journal* 1843-44, on "Inflammation and Abscess of the Uterine Appendages," and the paper published in 1844 by Dr. Lever, in *Guy's Hospital Reports*, under the head of "Cases of Pelvic Inflammation occurring after Delivery."

Although of late years so much has been written abroad by

French pathologists on phlegmonous inflammation of the uterine appendages, there is still an ample field for investigation. Indeed, I may safely say, that notwithstanding all the efforts that have been made to elucidate it, the disease is as yet but very partially understood. This I believe is to be attributed to the circumstance, that up to the present time it has only been studied in relation to the puerperal condition, with which it is supposed, by the authors I have named, to be nearly always connected; whereas, in reality, it not unfrequently occurs apart from that state. It is now more than ten years since this fact was pointed out to me by M. Gendrin, the eminent Parisian pathologist; and I have since satisfactorily ascertained the correctness of his statement. A careful analysis of all the cases of pelvic inflammation in the female that I have met with, in a rather wide field of observation, enables me to state most positively, from my own experience, that the disease is by no means uncommon in the non-puerperal state, although generally unrecognised and confounded with acute metritis, or iliac abscess. I am not aware that this important fact has hitherto been recognised by any author who has written on the subject in question, the most recent essays on inflammation of the lateral ligaments treating of it as a disease all but peculiar to the puerperal state. Thus out of fifty cases collected from various sources, and published by M. Marechal de Calvi, whose work represents the present state of science abroad, forty-nine are puerperal; out of twenty-three cases quoted by Dr. Churchill, twenty-one are puerperal; the case of Dr. Doherty is puerperal; so also are the nine cases of Dr. Lever.

Owing to inflammation of the uterine appendages having thus been studied only in its severest form,—as it occurs in connexion with the puerperal state,—the peculiar features which the disease presents in its milder or non-puerperal shape have not yet been described. Thus it is that this form passes unrecognised. Nor can we be surprised when we consider how peculiar is the stamp which the puerperal state impresses on all inflammatory diseases. Under its influence they present, as we have seen, an unusual intensity; owing, in a great measure, it is supposed, to the increased quantity of fibrine contained in the blood. This

increased intensity has been more particularly noticed with reference to inflammation of the uterus, and is equally observable in the organs connected with it. Thence inflammation of the uterine appendages occurring after parturition presents as great a difference from the same disease in the ordinary state of the system, as puerperal metritis offers to the non-puerperal form of that complaint.

In the puerperal form of the disease, the uterus itself is nearly always considerably implicated; the inflammation of the ovaries, Fallopian tubes, or cellular tissue, has a tendency to extend to the peritoneum, and to the cellular tissue lining the pelvic cavity; adhesions to the abdominal parietes, abdominal perforations, and even death, not unfrequently taking place. In the non-puerperal form, on the contrary, the disease has a tendency to limit itself to the tissues primarily attacked; peritonitis, abdominal perforations, and a fatal termination, very rarely occurring.

The non-recognition of the milder form of this disease has been attended with another evil. The less severe cases of puerperal inflammation are often passed over, and extreme cases only observed and recorded, the result being, that erroneous impressions become prevalent even with respect to the puerperal form. Thus we find M. Marechal de Calvi giving it as an ascertained fact, that the disease is very often fatal, because he finds thirteen fatal cases amongst the fifty,—in reality exceptional cases,—which he has collected. Reasoning on the same fallacious data, he also comes to the conclusion that these abscesses open as often by the abdominal walls as by the rectum or vagina. In both these assertions there can be no doubt that he is quite in the wrong.

It is my intention, first, to treat of inflammation and abscess of the uterine appendages in the non-puerperal state. By studying this affection in a form in which it is infinitely more simple, and much less complicated with diseases of the surrounding tissues, than when it follows parturition, I hope to be able to throw some additional light on the disease in all its forms. Before, however, we proceed any farther, I must briefly recall to mind the anatomy of the region in which the disease of which I am treating occurs.

The peritoneum in the female, after covering the posterior surface of the bladder, is reflected on to the uterus, covers the anterior surface of the body of that organ, also its posterior surface, and is then again reflected on to the rectum. As it passes from the anterior to the posterior wall of the uterus, the peritoneum forms two wide folds, which contain the Fallopian tubes, the ovaries, and the round ligaments. (*See fig.* 3, *p.* 15.) The two folds of the peritoneum, which thus, by their juxtaposition, constitute the lateral ligaments, are separated one from the other, and also from the organs which they contain, by a certain amount of filamentous cellular tissue. This cellular tissue is connected with the extra-peritoneal cellular tissue of the pelvis, although in a great measure distinct from it, and deserves more attention both from anatomists and pathologists than it has hitherto received. From its cellular nature, it is prone to inflammation, and consequently it plays a most important part in inflammatory disease of this region. Its physiological use, no doubt, is to allow the folds of peritoneal membrane to separate and glide one over the other, when the uterus increases during pregnancy.

The structure of the ovaries is fibro-cellular, whilst the Fallopian tubes present a central mucous canal, and a cellular investment. Both these organs, therefore, as well as the cellular tissue which surrounds them, are liable to be attacked by inflammation.

We have thus in the cavity of the pelvis, immediately adjoining the uterus, above the pelvic fascia, between two peritoneal folds, but external to the peritoneum, in contact with the bladder anteriorly and the rectum posteriorly, a space containing a mass of filamentous cellular tissue—a tissue peculiarly liable to inflammation—and various other organs, also, which from their structure are more or less exposed to inflammatory disease. The history of inflammation in the space thus limited flows so regularly from the laws of pathology, as applied to these anatomical data, that it is a matter of surprise to me that it should not hitherto have been elucidated.

In puerperal peritonitis, the lateral ligaments are frequently more or less implicated. It is by no means uncommon, in fatal cases of this form of the disease, to find one or both the ovaries in a state of suppuration, or to meet with abscesses more or less

voluminous in the lateral ligaments themselves, or in the walls or cavity of the Fallopian tubes. But in these cases the extension of the inflammation from the peritoneum to the organs contained between the lateral ligaments is merely an epiphenomenon of the peritonitis, and is not, generally speaking, attended with any symptoms deserving attention. The complication only becomes important if, as sometimes occurs, after the peritonitis has been subdued by treatment, abscesses remain within the lateral ligaments. Such a case, however, would then fall under the category of those which I shall have to describe, in which the inflammatory disease exists between the folds of the lateral ligaments, without the peritoneal folds being compromised, or at least without the peritoneal inflammation ceasing to be completely local.

INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES IN THE NON-PUERPERAL STATE.

Seat.—Inflammation occurring in the region which I have described may attack the cellular tissue alone, in which case it is a purely phlegmonous inflammation, or the ovaries alone, or the Fallopian tubes alone, or it may attack all together; in either case the peritoneum may or may not be compromised. Owing to the localization of these organs, to their lying in the same regions, and to their having the same anatomical relations, the symptoms and history of inflammation in them are so similar, that it would be difficult, if not impossible, and certainly useless, to attempt to describe them separately. I shall therefore treat of inflammation of the lateral ligaments generally, pointing out, as I proceed, any difference which may exist, and which is really susceptible of being appreciated.

The peritoneal folds themselves are seldom compromised in non-puerperal inflammation of the uterine appendages. When inflammation occurs in this region *after* parturition, there is a great tendency in the peritoneal membrane to take on the inflammatory action, as is the case when the uterus itself is the seat of inflammation. In the unimpregnated non-puerperal

condition, on the contrary, there is very little tendency to inflammation in the peritoneum, and the organs contained between its folds may remain inflamed during months or years without the membrane itself being much affected. This is a singular pathological fact, but one which is equally true when applied to inflammatory affections external to the peritoneum in other parts of the pelvic cavity. Even when peritonitis does complicate the attack in the non-puerperal state, it seems to have a greater tendency to localize than to extend its action—the contrary of what obtains in the puerperal condition.

In non-puerperal inflammation of the lateral ligaments the disease, in most cases, is very evidently limited to the cellular tissue, and to the organs contained between them, and does not extend to the free cellular tissue of the pelvic cavity. This circumstance induces me to think that in the puerperal form the disease is, generally speaking, similarly limited at first; although such is not the prevailing opinion.

Causes.—The causes of inflammation of the lateral ligaments, in the non-puerperal state, are the same as those of acute metritis. Any physiological or pathological action which is calculated to exaggerate the vitality, or to arrest the functions of the uterine system, may be followed by this form of inflammation. Inflammation may attack the lateral ligaments directly or indirectly; directly, when they are primarily affected; indirectly, when the uterus is first inflamed, and the inflammation extends from it to the ligaments. Owing to the tendency of the causes which produce uterine inflammation to act on the periphery of the uterine system—a tendency which I have already noticed—inflammation of the lateral ligaments not unfrequently occurs without being preceded or accompanied by metritis. It then originates, as we have seen, sometimes in the cellular tissue, sometimes in the ovaries, and sometimes in the Fallopian tubes, the probable order of their relative frequency. The cause which in the very great majority of cases gives rise to the inflammatory attack, is arrested menstruation. When menstruation is suddenly suppressed, the uterine system being no longer able to relieve itself of the blood that fills it, inflammation may supervene, generally attacking those regions which are endowed with

the highest degree of vitality, and which are consequently the most liable to inflammatory action. I have repeatedly seen this form of uterine inflammation manifest itself in persons labouring under chronic inflammation, or inflammatory ulceration of the cervix.[1] The disease of the cervix is then evidently the point of departure of the inflammatory action, which thence extends to the lateral ligaments. In several instances I have known it follow a severe fall. Even in these cases, however, the inflammation of the uterine appendages generally takes place in connexion with menstruation.

Symptoms.—The symptoms of inflammation of the uterine appendages are at first sight similar to those of acute metritis. There are the same general febrile symptoms, the same severe pains in the lower hypogastric region; and on attempting to walk or to stretch the body in the erect posture, the same abdominal tenderness and sensation of weight deep in the pelvis, the same vesical irritation and difficulty in defecation. On a closer inspection, however, we may appreciate some dissimilarities. The pain is greatest at a little distance from the median line, in the right or left ovarian region; more frequently in the latter. Sometimes the tumefaction is perceptible to the eye from the first. If the patient can bear pressure, and the abdominal parietes are not too thick, or too rigid, a deep-seated swelling is frequently perceived in the ovarian region. The presence, however, of these symptoms is seldom sufficiently conclusive to enable the practitioner to distinguish by them alone, inflammation of the lateral ligaments from acute metritis.

In order to clear up the doubt that otherwise must necessarily remain respecting the true nature of the disease, it is indispensable that a careful digital examination should be made. This is, in my opinion, effected most satisfactorily by placing the patient on her back, the knees being elevated or flexed: the forefinger being introduced into the vagina, the elbow should be depressed, so that in penetrating it may adapt itself to the axis of the pelvis. The pulp of the finger may thus be carried underneath and round the cervix, which should be carefully and accurately

[1] I published an interesting case of this description in the *Lancet* for Feb. 14, 1846, p. 181.

examined; then by pushing before the finger the cul de sac of the vagina, where it is inserted on the cervix, the state of the body of the uterus, of the adjoining pelvic organs, and of the pelvic cavity generally, may be ascertained with extreme accuracy, especially if the left hand is at the same time applied over the lower hypogastric region, above the pubis. When this mode of examination is adopted in the healthy female, the bladder being previously emptied, the finger may push the vaginal cul de sac before it on the side of the uterus for an inch or two, and can be made to approximate within a very slight distance of the hand applied externally, and that without giving the slightest pain. The practitioner feels with the greatest distinctness that his fingers are only separated from each other by the thickness of the abdominal parietes, and by tissues (the lateral ligaments) which present no great density or resistance. When, however, the structure contained between these ligaments—cellular tissue, ovaries, and Fallopian tubes—are inflamed, thickened, and indurated, the state of things is very different. On attempting to push back the vagina on the side of the uterus, we find an unusual resistance. The vaginal cul de sac has disappeared, and resting on the side of the cervix and body of the uterus, there is an indurated swelling; very different from the normal condition, and very different, also, from what obtains on the other or healthy side, supposing disease to exist on one side only, as is most frequently the case. Pressure on the indurated parts is attended with very great pain, and there is a marked increase in the natural heat of the region. On carrying the finger behind the inflamed structures, whilst the abdomen is gently depressed with the left hand, we can ascertain that the inflammatory tumour situated between the hands is moveable, and quite distinct from the parietes of the pelvic cavity. This tumour being generally attached, as it were, to the side of the uterus, only constitutes one mass with that organ. Thence it is, no doubt, that inflammation in the lateral ligaments is generally confounded with metritis, even when a digital examination is resorted to, and the presence of an inflammatory swelling recognised. If, notwithstanding a careful vaginal examination, there are doubts as to the nature and extent of the swelling, the uterus and

annexed organs should be digitally examined through the rectum.

The tumour formed by the inflamed lateral ligaments is, I believe, more intimately connected with the uterus when it is a purely phlegmonous one—that is, when it is merely the result of inflammation of the cellular tissue—than when it is formed by the inflamed ovary. I would not, however, assert that this is always the case. Under all circumstances, the connexion between the inflammatory tumour and the side of the uterus is so intimate, that it must require some experience of these cases to enable a practitioner to distinguish between an enlargement of this description and that caused by acute or chronic metritis.

Acute metritis in the non-puerperal state, as we have seen, generally ends by resolution, or by passing into the chronic stage, suppuration being a rare event, owing to the absence of cellular tissue in the structure of the uterus. Inflammation in the lateral ligaments, on the contrary, generally ends in suppuration. It is, in reality, in most cases, a purely phlegmonous inflammation; and the great tendency of this form of disease to terminate by suppuration is an axiom in pathology. Although much less liable to end in suppuration than in inflammation of the cellular structure, ovaritis is more frequently followed by suppuration than acute metritis.

Suppuration may consequently be looked for in the course of a few days from the onset of the inflammation, unless the latter has been checked by early and energetic treatment. An experienced and attentive observer may determine when suppuration has taken place by the rigors and other symptoms that accompany internal suppuration, by the lull of the general and local symptoms that follows, and sometimes by a sensation of deep-seated fluctuation perceptible to the touch through the vagina, or even through the abdominal parietes.

When once pus has formed, being closely confined in the region described, if it is not absorbed, as is sometimes, though rarely, the case, it endeavours to find a vent. Adhesive inflammation connects the phlegmonous tumour with the vagina, rectum, abdominal parietes, or bladder, and in the course of a variable period, but generally before the acute inflammatory symptoms

have subsided, the pus finds an exit in one or more of these directions. It is nearly invariably by the upper portion of the vagina, or by the rectum, that the pus escapes, in the non-puerperal form of inflammation. I can scarcely recall to mind an instance in which I have seen the pus make its way through the abdominal parietes in this form of inflammation, except in a case or two in which there was a serious and permanent cause of disease, such as suppurated tubercle, in the uterine appendages. When, however, this is the case, it is only after the inflammatory action has lasted for weeks, or even months, that the pus reaches and perforates the abdominal walls; and, nearly always, long before the external perforation takes place, it has also found its way out of the pelvis, through the vagina or rectum. The emptying of the abscess into the bladder is of still less frequent occurrence, and is likewise generally preceded by the formation of a vaginal or rectal opening. Sometimes the abscess will open in all these directions successively.

These may be termed the ordinary directions by which the pus escapes from the pelvis. In some instances, the peritoneal folds of the lateral ligament ulcerate in the direction of the peritoneal cavity, and the contents of the abscess are evacuated into the peritoneum, giving rise to acute general peritonitis. Sometimes the pus passes along the round ligaments and appears in the labia externa, or, escaping from the pelvis along with the large femoral vessels, follows their course, and points in the thigh. These, however, are quite exceptional cases, and very rarely met with, especially in the non-puerperal form of the disease. In some instances, the pus appears to escape from the neck of the uterus, as if the abscess had emptied itself into the cavity of that organ. I think, however, that when this is the case, the real explanation is that the phlegmonous tumour of the uterine appendages is complicated with metritis, and that an abscess formed in the walls of the uterus has opened into the cavity of the organ. An abscess primarily formed in the lateral ligaments would scarcely be likely to work its way through the thick unyielding walls of the uterus, at least not unless the uterus participated in the inflammatory action.

Generally speaking, as I have stated, the abscess opens into

the vagina or rectum, or into both. That such should be the case is at once accounted for when we consider the position of the phlegmonous tumour with reference to these organs, with which it is in immediate contact. The perforation mostly occurs during some exertion, such as a fit of coughing, or the act of defecation, and in so insidious a manner that it is not perceived or mentioned by the patient, unless her attention be previously directed to the point by her medical attendant. This, however, seldom occurs in non-puerperal abscesses, as he himself is not aware of the nature of the disease, and believes his patient to be merely labouring under metritis. The passage of even a considerable quantity of pus from the vagina is thought by the patient to be only an increased flow of the whites, and the escape of pus along with the fæces is still less likely to attract her attention. Women, from a natural feeling of delicacy, require to be closely questioned with regard to uterine symptoms, seldom giving any information respecting themselves spontaneously. This circumstance, and their ignorance of the importance of the fact, will tend to account for their not mentioning, unless asked, the escape of pus from the rectum or vagina, even in the few instances in which they are aware that it has taken place. Sometimes the perforation is accompanied by a bursting sensation. It may take place within a few days of the onset of the inflammation, or it may be weeks before it occurs. The quantity of pus passed varies from a few drachms to half a pint, or more.

It is owing, no doubt, to the escape of the purulent collection from the cavity of the pelvis thus taking place in so insidious and latent a manner, that unless carefully looked for it is not perceived either by the patient or her medical attendant, that the most severe forms only of the disease have hitherto been recognised and recorded.

The escape of the pus through the vagina is the most favourable point at which it can make its way out of the pelvis. Its presence occasions a certain amount of irritation of the mucous surface over which it passes, but that irritation is scarcely ever considerable. The next most favourable termination is the penetration of the pus into the rectum. When this occurs,

there is generally great irritation of the intestinal mucous membrane. Either the ulcerative inflammation of the coats of the rectum, or the presence of the pus, seems to be generally attended by a considerable degree of dysenteric irritability of the lower bowel, which often lasts several days. Repeated motions take place, accompanied by pain and tenesmus.

In both cases, the openings by which the pus penetrates into the rectum and vagina are small. In the vagina, the finger frequently fails to detect the precise spot at which the pus has perforated the parietes, nor is it easier to discover it with the speculum. An instrumental examination, however, is scarcely ever necessary, or even admissible, in the acute stage of this disease, owing to the tenderness of the vagina and internal tissues. Even in a more advanced stage, it is only necessary if there is coexisting disease of the cervix that requires local examination and treatment.—Sometimes, however, there is a slight depression or induration where the opening exists, which indicates its presence to the finger. The fæces and intestinal gases do not appear to escape by these perforations from the rectum, owing, probably, as Dupuytren supposes, to their orifices being closed by the pressure of the abdominal organs.

The escape of the pus by the parietes of the abdomen is always preceded and accompanied by great inflammatory swelling and induration of the surrounding tissues and of the abdominal walls. The phlegmonous tumour is a long time in reaching the exterior, and gradually involves all the tissues which separate it from the skin, thus giving rise to an extensive inflammatory tumour of a very painful and distressing nature. The opening generally takes place above the crural arcade, in the neighbourhood of the ovarian region. The sympathetic and reactional symptoms are necessarily severe in these cases; but the entire series of symptoms, both general and local, which are observed when abdominal perforations occur, may be considered as more especially characteristic of the puerperal form of the disease, since they are scarcely ever met with apart from its presence.

The penetration of the pus into the bladder is a very rare circumstance; and before it takes place, it has nearly always

found some other vent. In one case—a puerperal one, however—which I had under my care in 1840, at the Hospital St. Louis, Paris, the pus made its way successively into the rectum, through the abdominal walls, and into the bladder. The presence of the pus in the bladder is always attended by very considerable cystic irritability; but the urine does not appear to escape from the ulcerated opening, at least I have neither seen nor read of any instance in which there was reason to suppose that such a serious accident had taken place.

When the pus has fairly escaped from the pelvic cavity, a marked change is observed in the state of the patient. There is a decided lull in all the symptoms. The deep-seated pelvic pains diminish, as do also the abdominal tenderness and swelling, and the febrile symptoms quickly subside. In very many cases the improvement is so rapid, especially when the abscess has opened by the vagina, that the patient is considered quite convalescent, and in hospital practice is discharged as cured. This improvement, however, although real, is very deceptive with reference to the future. On making a careful digital examination of a patient so situated, we find that the tumour on one side of the uterus is much diminished in size, that it is no longer so sensitive to the touch, and that there is less heat and tenderness in the upper part of the vagina, and on the side which is in contact with the phlegmonous swelling. But although thus less in size, and less inflamed, the inflammatory tumour is nearly always *still perceptible*. Part of it has melted and suppurated, but part remains in a state of semi-chronic inflammation and induration, as is generally the case with suppurated phlegmonous tumours.

The symptoms which indicate chronic uterine inflammation will consequently, on a close examination, be found still to exist. Pain, heaviness, and bearing-down, deep in the pelvis; tenderness, pain, and often swelling in one or both the ovarian regions; pain in the lower part of the back; and inability to stand or walk for any time, and more especially to go up and down stairs. These symptoms may be more or less apparent.

The orifices by which the pus has escaped into the vagina or rectum generally remain open, and thus allow the pus to discharge

itself as it is formed. Sometimes, however, they close in the course of a few days. When this is the case, if pus ceases to be secreted and the remains of the phlegmonous tumour are rapidly resolved, as sometimes occurs, the disease is soon brought to a close and the patient completely recovers in the course of a few weeks or of a month or two. But if pus continues to be secreted, it collects, again forms an abscess, and, before it escapes by ulcerative inflammation, may reproduce, though generally in a mitigated form, the acute inflammatory symptoms previously experienced.

Were these inflammatory tumours not exposed to the influence of any perturbing causes, they would no doubt, in most instances, gradually become absorbed, and the relapses just described would be slight and unfrequent. Such, however, unfortunately, is not the case; at least in a large proportion of the instances met with. The molimen hemorrhagicum which accompanies menstruation, or functional excitement, generally rouses the dormant inflammatory action repeatedly in the still indurated and tumefied tissues. The acute symptoms of the disease reappear, and matter again forms, which forces its way into the vagina or rectum; in the latter case, giving rise to dysenteric symptoms.

These exacerbations or returns of acute disease become less and less frequent as the inflammatory tumefaction of the uterine appendages diminishes, and as the diseased tissues return to their natural condition. The malady, however, is essentially a chronic one. A female who has suffered from inflammation and suppuration of the lateral ligaments, even in its mildest form, may be from several months to one or more years before all trace of local inflammation has disappeared, and before she can be said to be radically well. During this lengthened period, she is never quite free from symptoms of uterine irritation, and remains subject at intervals to the acute exacerbations which I have described. Whilst thus suffering, menstruation is always more or less modified. Sometimes it is absent for months, sometimes its appearance is only delayed for a few days or weeks. Generally speaking, the menstrual period is curtailed, the quantity of blood lost is diminished, and great pain is experienced during the entire period of the menstrual secretion. In some

rare instances, however, the quantity of blood lost is increased, and the periods are approximated. Finding, as we thus do, that the physiological congestion which accompanies menstruation is so much increased and disturbed by the presence of disease in the annexed uterine organs, we cannot be surprised that it should in its turn exercise a prejudicial influence over the inflammatory affection, and be the most frequent cause of the exacerbations that we have noticed. Nor is it surprising that there should be always a leucorrheal discharge present, the entire uterine system remaining in a state of permanent congestion even when not under the influence of the menstrual flux.

Long before the local tenderness gives way, and before the patient can be pronounced well, all trace of induration or swelling, as appreciable by the touch, either through the vagina or through the abdominal parietes, will be found to have disappeared. The formation and escape of matter often comes to a close at even a much earlier period; before the induration has melted and ceased to be recognisable on a digital examination.

Such is the succession of morbid symptoms observable in the milder or non-puerperal forms of inflammation of the uterine appendages. Although often overlooked, owing to ignorance of the pathological facts of which these symptoms are the result, this disease is in reality as easy to recognise and to follow in the evolution of its phenomena as many better known affections.

Progress and Termination.—In the acute stage, inflammation of the lateral ligaments is accompanied by the train of general febrile symptoms that accompany acute diseases generally. As it passes into the chronic form, it gives rise to the host of sympathetic morbid symptoms which characterize chronic uterine disease generally—dyspepsia, cardialgia, constipation, cephalalgia, palpitation, insomnia, general debility, defective nutrition, &c.

It may terminate, as we have seen, by resolution in the first stage, under prompt and energetic treatment. More generally, however, suppuration takes place, and the tedious succession of morbid phenomena which I have described are observed.

The duration of the secondary stage of the disease, pending which the patient is gradually but slowly rallying from the effects of the first attack of acute inflammation and its immediate

results, vary according to the state of the constitution and of the general health, to the social circumstances of the patient, and to the treatment resorted to. When all the circumstances are favourable, the exacerbations and relapses are few in number, and the patient recovers with comparative rapidity. When such is not the case, and sometimes under the most favourable circumstances, the return to health is very slow and tedious. Generally speaking, however, in the form of the disease which I am now more especially describing, that which is unconnected with parturition, the pus escaping internally and the abdominal walls not being involved, the secondary symptoms are not very severe, except during the exacerbations and relapses. The patient is able to get about, and to follow more or less her usual avocations. She is merely in delicate or bad health, has unusual pelvic pains and sensations, and menstruation is disturbed and laborious; the real cause of this condition being nearly always a mystery both to herself and her medical attendant.

Prognosis.— The prognosis of this disease, either under its puerperal or non-puerperal form, cannot be considered imminent as regards the life of the patient, but may be always looked upon as serious with reference to her health for a lengthened period. When it occurs apart from the puerperal state, it very seldom terminates fatally; although, as we have seen, it nearly always entails suffering upon the patient for months, and sometimes even for years. Hence the very great importance of distinguishing between it and acute metritis, with which it is most frequently confounded. Acute metritis generally terminates by resolution under judicious treatment, without giving rise to suppuration, and without leaving behind it any traces of its existence. Inflammation of the lateral ligaments, on the contrary, although apparently not a more severe disease in its invasion and period of acuity, gives rise to lesions and changes of structure which time only can remove, and which are sometimes never completely remedied.

The reason that inflammation and abscess of the lateral ligaments have hitherto been considered so serious a disease, and described as very frequently fatal, is, as I have stated, that attention has only been directed to exceptional cases, to those

which follow parturition, and in which very extensive pelvic suppurations take place, giving rise to external perforations. In this form of the disease, death occasionally occurs; but even under such circumstances it is rare, unless the inflammation assume an extreme and exceptional degree of intensity.

Diagnosis.—No one who has carefully read the above description of inflammation of the lateral ligaments can doubt the extreme importance of an early and accurate diagnosis. When recognised in the first stage of its existence, we may by active treatment produce complete resolution, in which case the disease is at once brought to a close; and even when unsuccessful in preventing suppuration, the extent of the surrounding inflammation, and the quantity of pus formed, may be limited, and much future suffering spared to the patient. Nor is it a matter of small importance that, being aware from the first of the serious nature and of the peculiar features of the disease in its secondary stage, we are prepared to give a guarded prognosis, or even to predict to the patient and her friends the long train of morbid symptoms that generally follows when suppuration has once taken place. If, on the contrary, we slur over the diagnosis, omitting to resort to those means of examination by which alone we are enabled to recognise the true nature of the disease—if we satisfy ourselves with the presumption of its being a case of metritis or of "inflammation of the bowels"—the vague appellation under which various pelvic and visceral inflammation are so often confounded—the health of the patient and the reputation of the practitioner alike suffer.

The symptoms of inflammation of the lateral ligaments in the acute state are often, as we have seen, so similar to those of acute metritis, that unless there be from the first a deep-seated tumour of an inflammatory nature perceptible in one or both ovarian regions on external pressure, it is next to impossible to distinguish one disease from the other by any means except a careful digital examination. Such an examination is the more necessary, as, even were a tumour found evidently developed externally to the uterus, it would yet be impossible, without a digital exploration, to say positively whether the disease was a phlegmonous inflammation of the lateral ligaments, or a similar

inflammation developed in the iliac fossa. This latter affection is still universally confounded with the one we are studying, notwithstanding the attention which it has recently attracted.

The proximity of the region in which the lateral ligaments are situated to the iliac fossa is so great, that phlegmonous tumours developed in either locality must encroach more or less on the other, thus rendering the distinction by palpation through the walls of the abdomen in most cases difficult, if not impossible. We must not, also, forget to take into consideration, as increasing the difficulty of diagnosis by external examination, the extreme sensibility of the abdominal parietes in these inflammatory diseases, and their consequent spasmodic rigidity, and the frequent presence of a considerable amount of adipose tissue. These various obstacles may, however, be overcome, in the very great majority of instances, by a careful digital exploration per vaginam of the pelvic cavity. It is a singular circumstance, and one worthy of notice, that none of the authors who have written on iliac abscess in the female, have given due weight to this very important and rational mode of establishing a correct diagnosis. Many writers do not even attempt to separate the two diseases, unintentionally confounding them in the same description; and those who try to establish the distinction rely on the external examination of the abdominal parietes, and on other symptoms, such as the site of the disease, which is generally on the right side in iliac abscess, retraction of the thigh being often present in that affection, and generally absent in the other disease, &c. If the phlegmonous tumour is situated in the iliac fossa, and in cases of lumbar or psoas abscess, the finger finds the uterus, the region immediately adjoining it, and the vaginal cul de sac, nearly free from tumefaction, heat, or pain; although the presence of an inflammatory affection in the neighbourhood sometimes imparts considerable sensitiveness to these organs. On pushing back the vagina towards the side of the pelvis, the phlegmonous tumour may be felt, but evidently connected with the side of the pelvis; over the edge of which it protrudes more or less internally. When the appendages of the uterus, on the contrary, are affected, with the assistance of the finger we at once perceive that the disease is seated in the pelvic cavity itself, where

all the changes previously described are detected. In some rare instances, inflammation may pass from the lateral ligaments to the iliac fossa, and *vice versâ*, in which case the symptoms of the two affections would be united.

Acute metritis and iliac abscess are the two diseases with which inflammation of the lateral ligaments is most likely to be confounded. It presents, however, some features in common with other pelvic affections. In chronic partial metritis, there is a limited tumefaction of the uterus which might be mistaken for a small inflammatory tumour of the lateral ligaments in juxta-position with the uterus; but in chronic metritis the enlarge-ment is nearly always situated at the posterior and inferior portion of that organ, not at the side, and it is decidedly a part of the uterus; there is no trace of suppuration, and the antecedents are different. Tumours of the ovaries or of the Fallopian tubes, a tumour formed by extra-uterine pregnancy, or by a collection of fæces in the large intestines, may all occupy the same position, but there is the entire absence of inflammatory symptoms, and the completely different nature of the antecedents and symptoms of the diseases to guide us.

Inflammation of the lateral ligaments is not only met with in the acute stage; it frequently presents itself to our notice for the first time in a chronic state, having existed unrecognised for a lengthened period. When this is the case, the abdominal tender-ness, the external swelling, and all the acute symptoms may have disappeared. The symptoms may be merely those of chronic uterine disease, more or less marked, with disturbed menstrua-tion, and occasional inflammatory exacerbations. At this stage of the disease an accurate digital examination is the only means of arriving at a correct diagnosis. If we find the remains of a phleg-monous tumour in contact with the uterus, and the antecedents of the case are such as I have described, the nature of the dis-ease may be at once presumed. In some instances I have even clearly recognised the disease by the history which the patient gave me of her sufferings, when all traces of inflammatory indu-ration had disappeared from the pelvis, and there was only slight tenderness in the region previously affected.

When the phlegmonous inflammation spreads throughout the

entire pelvis, and purulent collections form in various directions, the pelvic cavity becoming, as it were, a mass of disease, it is difficult to say where or how the malady began, if we have not had an opportunity of following its course. But these cases belong more especially to the severe form of inflammation of the lateral ligaments, that which I shall briefly describe under the head of

INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES IN THE PUERPERAL STATE.

The puerperal state, which may be said to extend from the time of parturition to the end of the fourth, fifth, or sixth week, is one of considerable danger. Whilst it lasts, as I have stated, all inflammatory diseases present peculiar severity, and more especially those of the organs that have been directly or indirectly concerned in the function of parturition.

If inflammation occurs in the lateral ligaments immediately after delivery, it is frequently complicated with metro-peritonitis, appearing merely as an epiphenomenon of that formidable malady. Most recent writers on puerperal fever have noticed the frequent occurrence of suppuration in the ovaries and lateral ligaments in fatal cases of metro-peritonitis. But even when the lateral ligaments are attacked with inflammation several weeks after parturition, the general symptoms run higher, the local tumefaction is greater, and there is from the first a greater disposition in the phlegmonous inflammation to extend and to compromise the adjoining tissues, than in the non-puerperal form of inflammation. There is also much greater difficulty experienced in arresting the progress of the disease; the inflammatory and the suppurative process often continue to extend long after the first purulent collection has escaped from the pelvis; and at last give rise in many cases to abdominal adhesions and perforations. This, the severe form of the disease, is the exception in the non-puerperal state; whereas in the puerperal condition, it is so frequently met with, that it has hitherto been considered the only form under which the malady manifests itself.

When connected with metro-peritonitis, it is all but impos-

sible to distinguish the symptoms peculiar to the inflammation of the lateral ligaments in the midst of those of the metro-peritoneal inflammation; but on the latter subsiding, a phlegmonous tumour will be found in the pelvis, recognisable by the symptoms which I have pointed out. Sometimes, in the recovery from metro-peritonitis, false membranes imprison or limit, on one or both sides of the uterus, collections of pus, which are internal to the peritoneum and external to the lateral ligaments, but which, lying in contact with the lateral ligaments, simulate phlegmonous tumours of these organs, and are not to be distinguished from them. In these cases, the lateral ligaments themselves may or may not be diseased. Even when the disease is a *bonâ fide* phlegmonous inflammation of the organs contained within the lateral ligaments, if it has originated in an attack of metro-peritonitis, it is nearly always subsequently complicated by more or less chronic inflammation of the uterus and neighbouring peritoneum.

Inflammation of the lateral ligaments may, however, appear *primarily*, at any period of the puerperal condition, apart from metro-peritonitis. The symptoms are those which I have already described, but in a more violent form; the degree of violence depending, to a great extent, on the proximity to the date of the delivery. In these cases there is often a certain amount of metritis and peritonitis present; the peritoneum not having yet lost its liability to take on inflammatory action. I have often seen this form of the disease in the Paris hospitals in young women who, after passing over their confinement safely in the maternity hospitals, had been sent out on the eighth or tenth day, and had been exposed to cold and over-exertion on their return home. One of the most frequent causes is the sudden arrest of lactation, however it may originate.

In the puerperal form of the disease, the inflammation being more extensive than in the non-puerperal condition, occupying nearly always the uterus and the peritoneum, as well as the cellular tissue and organs contained between the peritoneal folds, not only are the primary symptoms very much more acute and more serious, but we do not observe that complete remission of the febrile symptoms which takes place in the milder form, when the pus has

escaped externally. Relief is certainly experienced by the escape of pus through the rectum, vagina, or bladder, but the relief is only partial. The abdominal tumefaction remains, and is hard and painful to the touch; the pulse is quick, the skin hot, the tongue white, or furred; the patient does not sleep, loathes food, and is unable to move without pain. On examining digitally, we find a hard sensitive tumour lying on one side of the uterus, but it is impossible to limit it as before. It has evidently contracted adhesions with all the surrounding organs, with the abdominal walls, and with the pelvic parietes, and often resists all efforts to move it with the finger. At the same time, pressure thus exercised is so extremely painful, that it is very difficult, if not impossible, to make a satisfactory examination. Generally speaking, the opening naturally formed into the rectum or vagina for the escape of pus, remains patent, and allows the pus to ooze out as it is formed. This does not, however, in many cases, seem to prevent the inflammatory action extending in various directions, and the pus making its way to the exterior of the pelvis by other outlets.

Softening of the abdominal muscles, and perforation of the abdominal walls, are frequently observed in this form of the disease; and the efforts of nature thus to evacuate the contents of the inflammatory tumour by fresh outlets are always accompanied by a recrudescence in the general febrile symptoms. Sometimes œdema of one or both limbs takes place, owing to inflammation and obliteration of the large pelvic veins. The danger of extensive pelvic adhesions and of subsequent abdominal perforations, decreases as the patient recedes from the epoch of her confinement, until, after five or six weeks, she falls into the non-puerperal state, and if she is then attacked, the malady assumes the milder form.

The unfortunate patient thus suffering, often remains in a very deplorable condition for several months, and becomes reduced to such an extreme state of marasmus, that a practitioner who is not accustomed to see these cases would think it nearly impossible for a recovery to occur, especially if he is aware of the extensive amount of pelvic inflammation that exists. In some instances death does take place, the patient becoming

reduced so low by pain, continued fever, and extensive suppuration, as not to be able to rally. Death may also occur from the manifestation of general peritonitis,—the result of extension of the inflammation or of perforation of the peritoneum, and of the escape of pus into its cavity,—or from some intercurrent disease, which the debilitated patient cannot withstand.

I firmly believe, however, that even in this, the severest form of the disease, the mortality has been much exaggerated by M. Marechal de Calvi, and other recent writers, owing to the source of error which I have pointed out—viz., their opinions being formed from the statistical comparison of the cases hitherto published, these cases being in reality extreme and exceptional illustrations of the disease, which have attracted attention from that very circumstance. To these statistical calculations I am not able, it is true, to oppose any figures of my own, for I have noted down but a few of the many cases of puerperal inflammation of the uterine appendages that I have seen. My recollection, however, enables me to assert, most positively, that even in the puerperal form of the disease, death is not of frequent occurrence, if we except the cases to which I have alluded, in which the inflammation of the organs contained within the lateral ligaments is merely an epiphenomenon of a much more dangerous disease, acute metro-peritonitis.

The same source of error has also led M. Marechal de Calvi astray with reference to the frequency of abdominal perforations, which, on the same statistical grounds, he supposes to be as great as that of perforation of the rectum or vagina. Nothing, according to my experience, can be farther from the truth. Consecutive perforation of the abdominal parietes is not unfrequently met with in the puerperal form of the disease, but still it is exceptional as compared with the great majority of cases in which it does not take place. This fact of itself proves how erroneous must necessarily be the description of a disease founded, not on personal experience, but on the analysis of a limited number of exceptional cases recorded in medical literature.

Although a female may be reduced to the most extreme state of marasmus and debility by this disease, death, as I have stated,

does not frequently follow. It is, indeed, most extraordinary how tenacious of life females thus suffering appear. I have known them recover, after seeming, for weeks, as if they could scarcely live four-and-twenty hours. This tenacity of life is no doubt to be explained by the circumstance of no vital organ being attacked the functions of which are necessary for the preservation of the individual. It is well known that in cases of uterine cancer life will persist long after the pelvic cavity has become a complete mass of disease, owing to the same cause. In these severe cases, however, the recovery is always very slow, especially when fistulous openings exist in the abdominal walls. The first indication of a favourable change is the subsidence of the febrile action, which is generally accompanied by a marked remission in the local inflammatory symptoms. The appetite and sleep return, and the patient gradually enters the period of convalescence. So many morbid changes, however, have taken place; there is so much thickening and inflammatory induration of the pelvic tissues and organs, and such extensive deposits of lymph; the sinuses that communicate with the exterior or with the internal cavities are so indirect and so firmly organized, that months and even years may elapse before all traces of disease have disappeared, and before the pelvic organs are restored to a state of integrity. The chronic inflammation of the uterus, which, as we have seen, generally co-exists in these cases, renders the recovery still more tedious and difficult, and sometimes the patients never thoroughly rally. Even when a complete restoration to health has taken place, and all traces of pelvic inflammation have disappeared, there often remain adhesions between the various pelvic organs, which are permanently united one to another; thence various displacements of the uterus, Fallopian tubes, or ovaries, uneasy sensations, and in some instances incurable sterility, as the result of these changes.

Pathological Anatomy.—It is by no means easy to give a clear and faithful description of the pathological anatomy of inflammation of the lateral ligaments, since, as we have seen, it is only followed by death when such extensive changes have taken place in the surrounding organs, that it is next to impossible to

distinguish the primary from the secondary morbid phenomena, and to say whether the disease commenced in the lateral ligaments or elsewhere.

If the disease of the lateral ligaments exists as a complication of acute metro-peritonitis, in addition to the changes usually found in acute metro-peritonitis in the uterus and peritoneum, to the sero-albuminous effusion, and to the pseudo-membranes agglutinating the injected intestinal circumvolutions, we find the cellular tissue contained between the lateral ligaments and the ovaries swollen and congested, or infiltrated with pus; or there may be pus in greater or less quantity collected between the peritoneal folds, in the ovaries, or in the Fallopian tubes. These are also, no doubt, the pathological changes that take place in the non-puerperal and more simple form of the disease—changes which, as I have said, we have scarcely ever the opportunity of observing, the disease not being a fatal one in this, its primary and simple form. When the patient dies from extension of the inflammation to the peritoneum, or from acute peritonitis, the result of the escape of pus by perforation into the peritoneal cavity, we have also the combined changes produced by the inflammatory disease of the uterine appendages, and by the general peritoneal affection. In these cases, as in the former, it is not unfrequent to find circumscribed purulent collections, limited by false membranes, existing in the cavity of the peritoneum in the neighbourhood of the pelvic organs.

When death occurs from exhaustion, the result of long continued inflammatory action and suppuration, a vast amount of disease is generally revealed. On exposing the pelvis, it is found to present a suppurating cavity of greater or less extent, containing more or less pus, and circumscribed, sometimes by a well-marked pyogenic membrane, from one to two or three lines in thickness, sometimes by the pelvic organs and the intestines thickened and lined with pseudo-membranes. I have seen this suppurating cavity occupy nearly the entire pelvis, its walls being formed by the rectum posteriorly, the bladder and abdominal parietes anteriorly, and the intestines superiorly. The ovaries and Fallopian tubes were thickened and enlarged, and were lying macerating in pus, on the side of the uterus, which was itself in-

flamed and much increased in size. When this is the case, all trace of the peritoneal element in the lateral ligaments seems to have disappeared, or, at least, is no longer recognisable. The rectum, vagina, and bladder, are generally thickened and inflamed, especially if they have been perforated by the pus. The abdominal walls are also thickened and indurated where they are in contact with the purulent collection. If a perforation has taken place, the muscular fibres are transformed into a dense homogeneous tissue, streaked with yellow lines.

In addition to these changes in the pelvic cavity there may be also various evidences of disorganization in the iliac fossæ, and in the lumbar region, &c., the result of the extension of the disease to these regions, or of its simultaneous manifestation therein. Thus underneath the iliac or lumbar fascia we may find purulent collections macerating and dissociating the iliac, psoas and quadratus muscles. I need scarcely add, that when the latter evidences of morbid action alone are found, the disease is no longer the one I am describing, but a totally different one in its seat and symptoms—viz., iliac abscess: this latter malady not unfrequently occurs after parturition.

The large veins of the pelvis and abdomen, the iliac and femoral veins, and even the vena porta, have been found obliterated by MM. Melier, Tardieu, and other observers; and the lymphatics of the uterus and pelvic region have also been found filled with pus.

CHAPTER XII.

TREATMENT.

ON THE TREATMENT OF INFLAMMATION OF THE UTERUS, AND OF THE UTERINE ORGANS.

The neck of the uterus being the region most frequently attacked by inflammation, I shall intervert the order which I have adopted in the first part of the work, and commence the study of the treatment of inflammation of that region. Another peremptory reason for following this course is, that the neck of the uterus and its cavity being the most accessible parts of the uterus, and, consequently, those to which local means of treatment are principally addressed, it is but natural that the effect of such remedies should be first studied in inflammation of the tissues to which they are more immediately applied.

After I have fully described the treatment of inflammation in the neck of the uterus, and its sequelæ, I shall be able, in a few pages, to state in what manner it should be modified when the disease occupies other regions of the uterine system.

I may here remark, that in describing the treatment of inflammatory affections of the uterus, I shall merely have to apply to these diseases, as elucidated in the preceding pages, the laws which regulate the treatment of inflammation, when it occurs in other regions of the body. The intimate nature of disease is the same in all similar tissues, although its modes of manifestation are varied; and when once the real nature of the morbid processes which take place in the uterus is brought clearly to light, the appropriate treatment may, to a great extent, be deduced by analogy and reasoning from the general laws of therapeutics.

THE TREATMENT OF INFLAMMATION OF THE NECK OF THE UTERUS.

Inflammation of the Neck of the Uterus, without Ulceration or Hypertrophy.

Simple inflammation of the neck of the uterus, limited to the mucous membrane covering the cervix and lining its cavity, in its incipient stage, and unaccompanied by ulceration or hypertrophy, may generally be subdued by the use of emollient or astringent injections, tepid baths, and rest, combined with attention to the state of the bowels, and to the general health.

It is seldom, however, that the disease is seen in practice in this, its elementary state. The discomfort experienced by the patient is so slight, that she is scarcely ever aware that anything is wrong, and consequently does not complain. Even were she to seek advice, the absence of any marked uterine symptom would probably prevent the existence of disease being detected.

When inflammation has extended to the deepest tissues of the cervix, symptoms supervene, as we have seen, which more imperatively call the attention of the patient to the uterus; and the existence of the morbid condition is thus often recognised in an early period of its development. If the cervix has become even slightly hypertrophied and enlarged, the means above mentioned are scarcely sufficient to overcome the inflammation, and the application of leeches to the organ affected generally becomes advisable, or even necessary. The use of the nitrate of silver, in solution or solid, to the mucous membrane covering the cervix, or lining its cavity, is also often very beneficial.

When the cavity of the cervix and the mucous follicles concealed between the rugæ of the arbor vitæ have been long inflamed, and an abundant transparent or purulent mucus issues from the os uteri, it is generally necessary to carry the remedies into the cervical cavity itself. The inflammation may subside without this being necessary, under the influence of the means used to subdue the inflammation of the cervix; but in chronic cases, this is rather the exception than the rule. Not unfre-

quently the disease seems to take refuge, as it were, in this region, nothing short of strong cauterization of the inflamed surface being sufficient to overcome its tenacity; owing probably to the deep-seated and concealed position of the mucous follicles.

On glancing over the above enumeration of the local means of treatment in simple inflammation of the neck of the uterus and of its cavity, it will be seen that they consist principally in vaginal injections, hip-baths, local depletion, and the use of caustics. I will now enter into a few details respecting each of these various therapeutic agents.

Injections.—Vaginal injections, properly used, constitute a very valuable means of treatment in uterine disease. They may consist of water only, or of water containing some medicinal substance in solution.

Water alone as an injection to the vagina is very beneficial. Its repeated use washes away the morbid secretions from the inflamed surface, and keeps the entire mucous membrane of the cervix and vagina in a clean and cool state. The vagina being a contractile canal, a kind of longitudinal sphincter, when healthy, and when its natural tonicity has not been impaired by disease or by frequent child-bearing, closes on itself in its entire extent; thus embracing the uterine neck by its upper portion. As a necessary result of this structural condition, when the neck of the uterus is inflamed, the mucus secreted, unless very abundant,—which it is not in slight affections,—stagnates round the cervix, where it is always found in greater or less quantity on the introduction of the speculum, and where it tends to keep up irritation. This is, no doubt, one of the reasons why a slight inflammation—which, on an exposed surface, or on one that could cleanse itself of the morbid secretion, would run through its phases in the course of a few days—is often perpetuated, and gives rise to ulceration.

Cold water not only acts as a wash or lotion, but has a decided therapeutic effect. It is a powerful tonic and astringent, and may be used with great benefit when inflammation has been subdued, in order to give strength to the relaxed mucous membrane. When it is employed with this view, a

large quantity, two or three pints, should be injected once or twice in the twenty-four hours, so as to keep up a continued stream for several minutes. The water may be either quite cold, or with the chill taken off, according to the feelings of the patient, the time of the year, and the external temperature. As a general rule, the colder the water, the more decidedly are its tonic effects obtained. I do not think that cold water alone can be depended upon to subdue actual inflammation, especially if it has existed some time, and has assumed a chronic character. I have repeatedly known patients to use the cold douche for months without subduing the inflammatory disease for which it was recommended.

Medicated injections may be either emollient, anodyne, or astringent. The emollient injections I generally employ are, milk-and-water, linseed tea, or the decoction of marshmallows, used tepid or cold. They frequently have a very soothing effect, and are principally useful when there is a considerable amount of irritation or inflammation about the vulva and vagina, which astringents do not allay, but even increase. The effects of the decoction of poppy-heads are the same, only it has, in addition, a slight anodyne property. Plain water may be rendered anodyne by the addition of a few minims of laudanum, or of a drachm or two of tincture of hyoscyamus. I seldom, however, resort to the vaginal injection of fluids containing opium, in order to allay uterine pain, as a much more powerful sedative result is obtained by their injection into the rectum.

Astringent injections are most valuable remedies in the treatment of inflammation of the lower segment of the uterus, and of the vagina and vulva. Those which I principally employ are, sulphate of alumen, sulphate of zinc, acetate of lead, solution of nitrate of silver, decoction of oak bark, and solution of tannin. The first three I generally use in the proportion of a drachm to a pint of water, increasing or diminishing the strength according to circumstances. After many experimental essays, I have arrived at the conclusion that alum is by far the most efficacious of all these agents, with the exception of nitrate of silver; and as it is the cheapest and most easily met with, it is the one I now most frequently resort to in public practice. Inflammation

of the mucous membrane of the vagina, even when of a blennorrhagic nature, very rarely resists its use, continued during two or three weeks, provided the injections be properly employed. At the same time it is worthy of remark, that the patients who use it are liable to sudden recrudescences of inflammatory action, or to sudden outbursts of irritation of the vulva, which are seldom met with when other astringents are employed. These exacerbations, however, always give way, in the course of a few days, to the use of emollients, generally leaving the patient in a much improved state. I do not often employ the solution of nitrate of silver, in consequence of its having to be injected with a glass syringe, which may break, and injure the patient; moreover, it discolours and destroys the linen. It is, indeed, a very energetic and safe therapeutic agent; but as the same result can be obtained by alum and the other astringents which I have mentioned, I reserve it for exceptional cases. As a topical application to the vulva, when the seat of inflammation, and of the irritation which so often accompanies it, the solution of nitrate of silver, in various gradations of strength, is invaluable.

Injections, although of such great importance as a means of cleansing the vagina from all morbid secretions, of diminishing uterine irritation, and of removing vaginal and vulvar inflammation, are generally powerless to subdue confirmed inflammation of the substance of the cervix, or of the mucous membrane by which its cavity is lined. Their inefficiency in inflammation of the cervical cavity is no doubt owing to the fluid not reaching the region affected. In inflammation of the substance of the cervix, a remedy which is only applied to the surface can scarcely be expected to subdue deep-seated disease.

Not only is it *possible* to treat successfully non-ulcerated inflammation of the cervix, when slight, and of recent date, merely by emollient and astringent injections, rest, and attention to general health, without having recourse to instrumental examination, or to means of treatment requiring instrumental interference, but even slight ulcerations, unaccompanied by general inflammatory hypertrophy, and unattended with disease of the urinary canal, will sometimes give way under the influence of these means. In order to establish this fact, after ascertaining with

the speculum the presence of a superficial ulceration of this description, I have repeatedly thus treated the patient, without using any other local application to the ulcerated surface, and have found the inflammation diminish, the ulceration decrease, and at last cicatrize.

It is only, however, in cases of slight ulceration, unaccompanied by general hypertrophy, or by cervical disease, a rare condition, that emollient and astringent injections alone succeed; and even in these exceptional cases the treatment cannot be depended upon. Moreover, the recovery, when it does take place, is so much more tedious than when cauterization of the ulcerated surface is resorted to, that I never feel authorized to recommend its adoption, if the existence of ulceration has once been instrumentally recognised; as long as it is only suspected, and there does not seem sufficient grounds to warrant an examination, the employment of these local means of treatment, is, however, the rational course.

The knowledge of the fact that it is not impossible to cure the slighter forms of inflammation and ulceration of the uterine neck by vaginal injections, by rest, and by general medication, without the use of the speculum, must be our guide as to the course we ought to follow in these cases. If the symptoms are so obscure and so slight as not to warrant an immediate examination, digital or instrumental, we must have recourse at first to the means above enumerated. Should they fail, the scruples of the patient should be overcome, and a digital, and, if possible, instrumental examination made. We must bear in mind that however careful and minute the examination made with the finger may be, it can only enable us to form a *conjecture* as to the precise nature and extent of the disease; and that, consequently, unless we bring the speculum to our assistance, we must treat the patient, in a great measure, in the dark. When once the speculum has been employed for the purpose of diagnosis, its further use, as a means of treatment, is not likely to meet with any obstacle on the part of the patient, and still less on that of her friends.

In order to obtain the full benefit derivable from vaginal injections, they should be properly and efficiently used; and this

is never the case unless the patient be previously instructed how to proceed. When a fluid is injected into the vagina, the patient being in a stooping position, not only does it at once escape from the passage, but it rarely reaches the cervix, or the upper part of the vagina. For this to be insured, she should lie horizontally on her back, on the bed, the sofa, or the floor, with the pelvis slightly elevated, so that the fluid may gravitate towards the internal structures. The natural contractility of the vagina expels the water, it is true, but not until it has well washed its entire surface. A small quantity of the injection often remains imprisoned, as it were, in the superior cul de sac of the vagina, in the vicinity of the cervix, until the patient rise, when its own weight brings it away. To prevent the fluid, as it escapes, moistening the dress of the patient, I generally advise a flat bed-pan to be placed under the pelvis. It is by far the most effectual plan, although the female's own ingenuity will often find a substitute.

This mode of using vaginal injections almost necessarily requires the assistance of a second person, which forms the great objection. If the difficulty cannot be overcome, and the patient cannot manage the injection herself, it must be used in any position which is found practicable. The therapeutic effects will not be so decided, but still a great amount of local benefit will be obtained if the tube be passed as high as possible.

The best instrument for vaginal injections is a pump syringe, with a six-inch elastic vaginal tube, adapted to the longer tube, and presenting at its extremity four or six small holes, on the sides as well as at the end. The vaginal tube can, after introduction, be directed to the region of the vagina where the cervix lies, and *any* quantity of fluid can be injected without its being withdrawn. I seldom use less than a pint when the injection is a medicated one; and when it is merely water, I generally advise the patient to keep injecting for several minutes, irrespective of quantity. The ivory and metal syringes in general use are ridiculously small, and contain so little, that the effect produced on a large surface like the vagina must be insignificant, unless they are withdrawn and reintroduced many times. This, however, cannot be done without occasioning great external pain and

irritation; moreover, these syringes have not the power to carry the fluid into the upper part of the vagina. It is entirely owing to the use of these inefficient syringes, and to no precaution being taken to insure the injection reaching the parts affected, that they have fallen into discredit with some practitioners, who assert that vaginal injections are of little use in the treatment of uterine inflammation. With the poorer class of patients who cannot afford the expense of the pump syringe, I employ a large-sized four-ounce metal syringe, with a long curved extremity, similar to the one known by instrument-makers as Clarke's syringe.

As injections are inefficient unless they reach the entire extent of the vaginal cavity, it is very important to ascertain whether such is the case, especially if their employment does not appear to be attended with the usual benefit. This can easily be ascertained by telling the patient to use an astringent injection—the aluminous one is the best for this purpose—an hour or two before the time of examination. Unless the vaginal secretion be most profuse, all that part of the vaginal cavity which the injection has reached will be found contracted so as to admit with difficulty the introduction of the finger. If, however, it has only washed the lower part of the vagina, the finger, after passing the contracted region, finds the upper part moist and lax.

I seldom recommend vaginal injections to be used oftener than twice in the twenty-four hours, except in blennorrhagic inflammation; and generally find, that in the course of one, two, or three weeks, the vaginal inflammation is so modified that it is no longer necessary to employ them more than once in that period. When injections are resorted to in order to assist in subduing inflammation of the cervix, they may be continued twice a day for a much longer period, together with the other more powerful and more efficacious means that are employed. In these cases, the injection is merely an adjuvant to the treatment, which carries away all morbid secretions, prevents congestion and inflammation from again extending to the vagina, and assists the action of the remedies directed against the disease of the cervix.

Hip-baths—Entire Baths—Shower Baths.—Decided benefit is

often derived in the treatment of uterine inflammation in general from the use of *hip-baths*, provided they are neither too warm nor too cold. The temperature at which they should generally be taken is from 65° to 85° Fah., according to the season of the year, and to the feelings of the patient. At this temperature, their effect seems to be sedative; as they appear to moderate the rapidity of the pelvic circulation, and often to subdue pain. At a higher temperature they do harm, when habitually used, by drawing blood to the pelvis. As an occasional remedy against pain, however, especially at the beginning of menstruation, a warm hip-bath at 94° or 96° often affords great relief. When the temperature is lower than 60°, the momentary sedative effect is very decided, but the local depression is apt to be followed by violent reaction, and thus, in the end, more harm than good is done. The duration of the hip-bath may vary from five to twenty minutes, according to the season of the year, and to the patient's sensations.

Entire Baths are often beneficial, but more as general than as local therapeutic agents. Warm baths may be occasionally taken with benefit, but their frequent repetition is weakening, and should be avoided. Cold or tepid baths are more useful in summer than in winter. In the latter season, a cold bath, and, indeed, to many, a tepid bath, is too disagreeable to be willingly borne. In the summer, on the contrary, a cold or tepid bath at 65° or 75° is generally very grateful, and may be resorted to every third or fourth day, with great advantage, if it can be obtained without inconvenience or fatigue.

Shower Baths constitute a valuable means of invigorating the general health, and are nearly equally applicable winter and summer, as the temperature of the water can be easily raised so as to meet the exigencies of the season. Many females, however, when reduced to a state of debility and weakness, by uterine disease, cannot bear their effects, however modified. Proper reaction not taking place, the use of the shower-bath is followed by headach, chills, and languor. At the same time, these very patients may, as they gain strength under treatment, subsequently derive benefit from its employment, the system having

recovered its vital power. Cold or tepid sponging often agrees when the shower-bath cannot be borne.

Local Depletion—Leeches—Scarification.—Local depletion, by which I mean the abstraction of blood from the neck of the uterus itself, is as efficacious a means of subduing inflammatory disease in that organ, as in the external regions of the body. Not only can we, by the application of leeches to the cervix uteri, or by scarification, moderate the intensity of inflammatory action, but we can also, by their assistance, diminish or remove those congested conditions of the uterus, and of the pelvic viscera generally, which so frequently precede, accompany, or follow menstruation, when the cervix or the body of the uterus is the seat of inflammation.

Leeches take easily, and fill well, when applied to the congested or inflamed neck of the uterus, and their application is generally followed by a considerable flow of blood. The same dependence cannot be placed on scarification, the incisions often affording but a few drops of blood. I have generally found that scarification only succeeds in occasioning a sufficient flow of blood to relieve congestion or inflammation when the cervix presents dilated or varicose veins which can be divided. The incisions of the lancet, as also the bites of the leeches, always heal very readily.

The amount of blood lost from the application of a moderate number of leeches—four to eight is the number I generally employ—may be said, in most cases, to depend on the degree of the congestion or inflammation. In some instances, however, they bleed so freely, that too much blood would be lost if the bleeding were not arrested, which may always be easily accomplished by injecting into the vagina a solution of alum in cold water, of the strength usually used for vaginal injections, or stronger. I generally leave instructions with my patients thus to arrest the bleeding, should it not stop spontaneously, as soon as they feel faint or weak, or even earlier, if the flow of blood is very considerable. For want of these precautions, too much may certainly be lost from a very limited number of leeches, without any commensurate local benefit being derived. I always consider that more

than is desirable has been abstracted, should the patient remain low, faint, and languid for several days. The object of applying the leeches is to reduce uterine inflammation or to remove uterine congestion, but not to drain the rest of the system through the womb.

Although, after the application of leeches to the cervix, more blood may be lost than is desirable, when the patient is left to herself, it is very seldom that a really alarming hemorrhage takes place. I have, however, on several occasions, known this to occur, and have in two instances been obliged to plug the vagina. In one of these cases, the patient, a lady, aged fifty-two, had ceased to menstruate for five years, but had been labouring during all that time under inflammatory ulceration of the cervix. This disease had evidently occasioned and kept up great congestion, not only of the uterus, but also of the liver and other abdominal viscera. One of the leech-bites bled profusely for more than twenty-four hours, notwithstanding the repeated use of cold astringent injections. At the expiration of that time, I examined the cervix with the speculum, and found blood escaping freely from two leech-bites. I cauterized them with the nitrate of silver, and left two or three small pieces of sponge in contact with the neck of the uterus, which effectually stopped the bleeding. It is worthy of remark, that in nearly all the cases in which I have seen hemorrhagic bleeding follow the application of leeches, there has been congestion of the liver. This fact I have already noticed at p. 113.

I have been able, during the last few years, to test on a large scale the use of local depletion in uterine inflammation. At the Western General Dispensary, I am all but obliged to attend my patients without resorting to this means of treatment, as I cannot command that assistance which is necessary for the local application of leeches; and but very little blood can be drawn, as I have stated, in the generality of cases, by scarification. I have therefore availed myself of this circumstance, to test how far uterine inflammation is susceptible of being treated and cured by other means. All the cases of inflammation given in the Appendix were so treated; and I have thus arrived at the conclusion, that local depletion, although a great adjuvant, is by no means indis-

pensable to the successful treatment of inflammation of the uterus and of its cervix. My dispensary patients get well, as do those whom I attend in private life, and with whom I resort to depletion. Only the latter get well sooner, and with less suffering; because, by the local abstraction of blood, the inflammation is sooner favourably modified, and the morbid congestions connected with menstruation, which so much aggravate the sufferings of patients, and so greatly retard their recovery, are prevented or removed.

At the same time, I have become convinced, through the experience thus acquired, that if the general strength of the patient is permanently reduced, by frequent leeching, or by a too copious abstraction of blood from *occasional* leeching, she is placed in even a more unfavourable condition than the one with whom depletion is never employed.

To derive that benefit from leeches which they really can give, a medium course must be followed. They should only be applied one or twice at the commencement of the treatment, when inflammation is acute. They may then be considered, generally speaking, as having done all the good towards reducing the inflammation of which they are capable, except in connexion with the exacerbations occasioned by menstruation. Immediately before menstruation, the moderate local abstraction of blood often removes a degree of congestion that would otherwise prevent or retard its appearance, and thus ensures an easy period. Even during menstruation, when the pain is agonizingly great, or hysterical convulsions are produced, if sedatives fail in giving relief, the application of leeches may be resorted to with all but certainty of immediate relief. But it is more especially after menstruation that their application to the cervix uteri is valuable. In inflammation of the neck of the uterus and of the uterine system generally, as we have elsewhere seen, after the menstrual flux has ceased, the uterus often seems incapable of expelling the blood which physiologically fills it during menstruation, and thus the organ remains throughout the menstrual interval in a state of morbid congestion, which is very unfavourable to the subsidence of inflammatory disease. This morbid congestion is removed by the application of leeches, which may

be repeated every month until the inflammation be subdued, should the case seem to require their use. Care, however, must be taken that too much blood be not lost at these periodical bleedings.

In some instances, uterine congestion persists subsequently to menstruation, even after the entire subdual of all disease, gives rise to uterine irritation, and to a host of disagreeable general symptoms, and would no doubt reproduce inflammatory action were it not removed. I have under my care a lady who has been quite well locally for several years, and who still presents this uterine congestion after menstruation, and in so marked a manner as imperatively to require assistance every two or three months. If not relieved by leeches, the tide of uterine congestion seems to increase after each menstruation, which is always insufficient, and gradually to extend to the abdominal viscera, but more especially to the liver, until at last an explosion takes place in the shape of intense bilious vomiting and diarrhea. Even in these cases, however, the action of leeches may be replaced, but not with advantage, by saline purgatives and other means of depletion. These I am compelled to resort to in dispensary practice.

When the leeches are applied to remove congestion, I generally use astringent injections for two days after the cessation of the menses, and apply them about the third day. I thus allow the patient the benefit of the physiological effort which nature makes to expel the surplus blood from the womb after menstruation, before I come to her assistance.

From what precedes, it is evident that although local depletion in uterine inflammation is a most valuable means of treatment, it may, however, be omitted. That such is the case is satisfactorily proved by my experience at the Western Dispensary, where I have treated and cured, without its assistance, several hundred patients, many of whom were labouring under the severest forms of chronic uterine inflammation.

Local depletion is, indeed, much more easily dispensed with in the treatment of actual inflammation of the uterus and its cervix than in that of the congestive condition of the uterus and abdominal viscera which so frequently follow its long continued existence.

There is, however, much greater reason to fear that local depletion will be abused, now that it is becoming generally adopted in the treatment of these diseases, than that it will be neglected. I am continually seeing cases in which, in my opinion, it is or has been carried very much too far, and in which the constitution of the patient has been greatly weakened by the repeated abstraction of blood. This is an error the more to be guarded against, as the frequent repetition of local depletion does not remove nutritive hypertrophy of the neck of the uterus, or cure ulceration. I am now attending a lady, aged thirty-nine, who had leeches applied to the cervix twice a week for above *five years*, without the ulceration or hypertrophy being removed—at least I found both these morbid conditions existing to a very decided extent when I examined her; and by the symptoms which had been present from the first, their origin could clearly be traced back many years, probably fifteen or twenty. She was reduced by this treatment to a complete state of anemia, the blood being in a perfectly serous condition. I have frequently seen the same state of the general system induced by the repeated internal application of leeches, blindly followed up, for many weeks, on theoretical grounds only, and irrespective of the effects produced, the local disease remaining unmodified.

The application of leeches every week, or twice a week, for a lengthened period, as they are sometimes prescribed, appears to me rather to keep up local congestion than to diminish it, and consequently to tend to increase the nutritive hypertrophy of the cervix and uterus, to which chronic inflammation gives rise. Leeches, when applied to the neck of the uterus, not only remove the blood which it contains, but appear to establish a flow to that organ from the abdominal viscera, as seems indicated by the patient generally feeling a dragging sensation all over the lower abdominal region when the leeches begin to fill. This drawing of blood from the pelvic organs is in no degree prejudicial when there is subacute inflammation, or even congestion of the uterine system, because the surrounding viscera are also more or less congested, as we have seen, and the subtraction of blood from them, as well as from the uterus, relieves the entire

abdominal circulation. But this is no longer the case when all acute inflammation has been subdued, and chronic inflammatory hypertrophy, and induration, with atonic ulceration, remain. These are conditions which must be remedied by other means of treatment—repeated local bleeding, irrespective of menstrual congestion, merely keeps up a flow of blood to the uterus, and debilitates the system, not only without benefit, but with positive injury to the patient.

The tendency to abuse the use of leeches, shown by some practitioners, who have adopted it as an ordinary means of treatment, is promoted by their generally entrusting the application of them to midwives, who are unable to judge of the effect produced. It is too much the custom with them to prescribe a "course of leeching" as they would a "course of medicine," giving directions for leeches to be applied once or twice a week, for one, two, or more months, without ascertaining whether the continuance of depletion is necessary or not. In reality, it is very desirable that the practitioner should apply the leeches himself, if he can possibly afford the leisure; and the time employed need not be long. He is thereby enabled to form an opinion on various points which will afford him useful information, and guide him as to their repetition, besides having an opportunity of making a very careful examination of the uterine organs. Thus I often remark, that when there is great passive congestion of the uterine circulation, and the blood stagnates, as it were, in the organ, that which is drawn by the two or three first leeches is black and venous. The abstraction of this blood, re-establishing the freedom of the uterine circulation, that which flows subsequently, and which fills the leeches that fall off last, is more florid and arterial, a satisfactory proof of their being required, on the one hand, and of their giving relief, on the other. The rapidity with which the leeches fill, and the extent to which both the enlarged cervix and uterus diminish immediately after the depletion, give important hints for subsequent treatment, which can only be obtained by the personal application.

There is another reason why the leeches should, if possible, be applied by the medical attendant—to avoid pain. The

external surface of the cervix has very little sensibility, and when the leeches fix on it, the patient experiences little or no pain. Generally speaking, indeed, she is only aware of their presence from the dragging sensation to which, in the course of a few minutes, suction gives rise. The cavity of the cervix, on the contrary, is acutely sensitive, and if a leech fixes in it, the patient may experience the most agonizing pain. I think I have scarcely ever seen more acute pain than that which has been experienced by several of my patients under these circumstances. It comes on as an acute aching pain in the uterine region, gradually increases, and at last gives rise to uterine tormina of the most severe description, which return every one, two, or three minutes, like labour-pains, as is the case with all uterine spasms. The most efficacious treatment that can be adopted is the inhalation of chloroform, or the injection of laudanum into the rectum. Twenty or twenty-five minims injected, in a tea-cupful of warm water, if retained, generally lull the spasms in the course of fifteen or twenty minutes. When no remedial means are adopted, they may last for several hours before they gradually die away.

As the orifice of the cervical cavity, when inflamed and ulcerated, is open, this accident not unfrequently occurs in such cases if no means are adopted to prevent the leeches fixing in this region; and this whether a closed or an open leech tube be employed, although it is less likely to occur with the former. The only effectual precaution that can be taken consists in the introduction of a small cone of sponge or cotton into the open os. The plug should be introduced as firmly as possible without giving pain, and tied to a piece of thread, by means of which it may subsequently be extracted with ease. If this is efficiently done, no fear of pain need be entertained; but although trifling, it is too delicate an operation to be entrusted to midwives, for if leeches are applied by them, the patient must inevitably run the risk of its occurrence.

Leeches may be applied to the cervix uteri by means of open tubes, or of tubes closed at their extremity so as to prevent the possibility of their escape. In the latter case, the closed end has several small holes, of sufficient size to allow the leeches

fixing on the part with which the tube is placed in contact. In the former, the ordinary conical or cylindrical speculum is the best instrument that can be used. The application of leeches by means of the closed leech-tube is generally tedious, and the leeches do not fill by any means so promptly as when an open tube is used; moreover, it does not always prevent their fixing in the cavity of the cervix, if the tube is in contact with the open os uteri. An open tube is certainly much to be preferred.

When the cervix has been brought within the field of the instrument, and the os, if open, has been closed as above directed, the leeches should be put into the speculum and pushed close up to the cervix by a plug of sponge or cotton; they are thus imprisoned in the instrument between the cervix and the plug. All that are inclined to bite do so immediately, whilst those that are not, generally work their way out in the course of two or three minutes, between the vagina and the speculum. When leeches have thus come away, it is of very little use to reintroduce them, as they seldom take. The plug may be left in about fifteen minutes, and on being withdrawn it will generally be found that they have filled, and that some have already come away. If the plug is allowed to remain longer, those that have filled often escape by the side of the instrument. If they have got between the vagina and the speculum, and have not appeared externally, they fall into the instrument as it is slowly withdrawn. The entire operation need not last more than half an hour.

Cupping from the loins was formerly much resorted to, if inflammation or congestion of the uterus was suspected. It certainly gives relief, but not so surely, nor with so much benefit to the local disease, as the direct abstraction of blood from the uterus. The application of leeches to the sacro-lumbar region is as efficacious as cupping, and less painful, and I should often resort to this means of depletion, were it not that I wish the patient, generally a debilitated female, to derive as much benefit as possible from every ounce of blood she loses. I consequently prefer, when feasible, applying the leeches to the neck of the uterus itself.

Lisfranc used to resort very frequently to the monthly abstraction from the arm of a small quantity of blood, about three or four ounces, at the period of menstruation, in the treatment of chronic inflammation of the uterine organs. His object was to establish a derivative action, which he thought prevented the exacerbations so often observed at this time. His treatment, however, has not been generally adopted. I cannot say that I have seen sufficient benefit accrue from it to counterbalance the weakening effect which it produces on the system.

Cauterization.—The only caustic that can be used with advantage in inflammation of the cervix without ulceration or hypertrophy, is the nitrate of silver, which acts, however, more as an astringent than as a caustic. The solid nitrate of silver, or a strong solution of it, should be applied every three, four, or five days, to the inflamed mucous membrane covering the cervix. This is also the mode of treatment to which principally I have recourse, in the first instance, in inflammation of the cavity of the uterine neck, carrying the caustic into the cervical cavity as far as it will pass. When pseudo-membraneous patches exist on the cervix, more powerful caustics, however, may be necessary to modify the vitality of the diseased surface. This is a most intractable form of inflammation.

In some cases of inflammation of the cervical cavity, owing, no doubt, to the disease lurking in the mucous follicles, concealed between the rugæ of the arbor vitæ, although the mucous membrane be not ulcerated, nothing but the application of the most powerful caustics, the acid nitrate of mercury, or the potassa cum calce, so modifies the vitality of the part as radically to cure the inflammation. It may appear cured before menstruation sets in—the os being closed, and there being no discharge—but if an examination be made a few days after the menses have ceased, the os is again found open, and a stream of muco-pus issuing from it.

Inflammation of the Neck of the Uterus accompanied by Ulceration and Hypertrophy.

When ulceration and hypertrophy of the neck of the uterus are present, in addition to the local means of treatment above enumerated, others become necessary.

Very slight and recent ulcerations of the neck of the uterus, unaccompanied by disease of the cervical canal, may, as I have already stated, be treated and cured merely by emollient and medicated vaginal injections, rest, and attention to the general health. This result, however, is so rarely obtained that it would be irrational to depend on such means alone, when once the existence of ulcerative disease has been instrumentally ascertained. They can only rationally be resorted to as the sole means of treatment when there is doubt as to the presence of ulceration, and in order to avoid, if possible, the necessity of instrumental examination.

The general inefficiency of medicated injections to cure ulceration in these cases is no doubt, in a great measure, owing to its almost invariably penetrating into the cavity of the os, where the injection cannot reach. Consequently, although great improvement may be experienced by the patient, from the treatment adopted modifying to a great extent the local inflammatory symptoms, the disease is not cured, and on the suspension of the means used she soon relapses into her former state. This is one reason why, *if the uterine symptoms are decided,* and the patient can make up her mind to submit to an examination, I nearly always advise it, except with unmarried females, as a preliminary to any treatment. By endeavouring to treat the disease without an examination, generally speaking, the case is only rendered more obscure, and the day of trial but deferred. The patient often improves for a time, and thinks she shall get well, but after continual relapses, she is at last obliged to allow her state to be thoroughly investigated; and if, as generally happens, a morbid condition is found that can only be removed by local treatment, nearly all the time previously spent in attempting to cure the disease may be considered as in a great measure lost. This fre-

quently occurs with the unmarried females presenting symptoms of inflammatory uterine disease, respecting whom I am consulted. If I am the first practitioner applied to, I generally commence with the means above enumerated, with a view to avoid the painful necessity of instrumental examination; but, after losing more or less time, I am often at last obliged to insist on an examination, and then find that my want of success is owing to the existence of lesions which require more energetic and more efficient treatment.

Cauterization.—Ulceration existing on the cervix uteri, or within the cervical cavity, has a remarkable tendency to perpetuate itself indefinitely, notwithstanding the subdual of all acute and subacute inflammatory action. This tendency is, no doubt, increased by the periodical sanguineous congestions to which menstruation physiologically exposes the inflamed tissues. Should it not yield, and it seldom does, to antiphlogistic means directed as above, the most efficacious treatment, indeed the only one that can be depended upon, is the direct stimulation of the diseased and ulcerated surface, so as to modify its vitality in such a manner as to induce a healthy action, and, finally, cicatrization. This end is obtained by the use of caustics of varied strength, according to the nature and extent of the disease, its chronicity, and the effects obtained.

In the application of these two principles resides the entire theory of the treatment of ulcerative inflammation, not only in the neck of the uterus, but in any other part of the economy. We must first subdue acute or subacute inflammatory action by emollients, depletion, and astringents; and then modify by direct stimulation the diseased surface, so as to substitute healthy reparative inflammation for morbid ulcerative inflammation.

Although, as I have stated, these principles apply to ulcerative inflammation in any region of the body, it is more especially in the treatment of ulceration existing on the mucous surfaces at the various openings of the body, that they are exemplified. Thus it is that we find cauterization to be the principal resource in all ulcerations of the nares, mouth, fauces, and anus, as well as in those of the external genital organs, both of the male and the female. In all these situations, cauterization presents an

additional advantage to those which it offers on a free ulcerated surface. The eschar which forms on the ulceration protects it efficiently from the contact of the various fluids excreted through, and secreted by, the organ, the mucous membrane of which is attacked, and thus allows the process of reparation to take place undisturbed.

The progress of inflammation and ulceration is, generally speaking, at once arrested by cauterization. The congestion and redness of the cervix diminish visibly, the granulations become smaller and healthier, the escape of blood is stopped, and the purulent secretion assumes the character of laudable pus, if it has not presented it before. When cauterization is suspended, the ulceration generally remains stationary for a time; but if left entirely to itself, it is all but certain to relapse, after a variable period, however advanced the healing process may have previously been.

The first evidence of cicatrization takes place at the circumference. The margin of the ulcerated surface loses its well-defined character, and mingles imperceptibly with the red, inflamed, but not ulcerated, mucous membrane. As the latter returns to its natural pale colour, a film of white cicatricial tissue appears around the ulceration, and gradually progresses to the centre. Towards the end of the treatment, points of cicatrization will occasionally appear in the centre of the ulcerated surface, and by their gradual extension abridge the process. When the ulceration is cicatrized, it presents a pale rosy, or ash-coloured hue, which is pretty nearly the natural colour of the healthy cervix, and soon becomes so much like the surrounding tissues, that in the course of time it is impossible to say where the ulceration existed.

The fibrous framework of the mucous membrane covering the cervix is so slight, that the healing of an ulceration, however deep, is never followed by the formation of hard cicatrices, as in the healing of ulcerations of the skin when they involve its fibrous structure. The mucous membrane of the cervix, indeed, seems, as it were, to be renewed. Even when a deep slough has been formed by the action of a powerful caustic, such as potassa fusa, or the actual cautery, in the course of a few months, or even

weeks, all trace of the cicatrix disappears, and the cervix again becomes soft and supple.

The last part to heal in an ulceration of the neck of the uterus, is that which dips into the cervical cavity, inside the os. Thence the absolute necessity of separating the lips of the os with a bivalve speculum in a good light, and of carefully exploring the state of the cavity of the cervix before the disease be pronounced cured. Unless this precaution be adopted, in a very considerable proportion of the cases treated, the ulceration will only be partially cured, and what is erroneously considered a relapse will occur in the course of a few months. In reality, the relapse in such cases is nothing more than the disease creeping out of the cavity of the cervix, where it had been lurking from the first.

A few years ago, in this country, ulcerative disease of the uterine neck was seldom detected, even by the most eminent uterine practitioners of the day. In a large proportion of the chronic cases of this description, for which I was then consulted in private practice, the very existence of the inflammatory ulceration from which the patient had been suffering for many years had not been even suspected, notwithstanding many valued opinions had been taken. Since the attention of the profession was directed, in the first edition of this work, to the frequency of this form of disease, and since the doctrines therein promulgated have been adopted and acted upon by many leading practitioners, I have observed fewer instances of non-detection of ulcerative disease. I am still, however, continually witnessing cases in which ulceration has thus been imperfectly recognised and treated, the external or cervical ulceration only having been attended to, and the internal ulcerative element remaining unperceived. This error is committed in Paris as well as in this country. I never recollect seeing the cervical cavity examined, as I now invariably examine it, when I held office in the Paris hospitals; and in what has been written by French pathologists on uterine diseases, there is no evidence of their being acquainted with the fact of ulceration so frequently penetrating and lurking in the cavity of the cervix. On the contrary, they mistake for indications of internal metritis

the discharges which exist when the cervical cavity is inflamed or ulcerated.

The agents which may be used for cauterization of the cervix are varied. The principal are the nitrate of silver, the mineral acids, and more especially the acid nitrate of mercury, potassa fusa and potassa cum calce, and the actual cautery. We will successively examine each of these agents.

The most generally employed, and at the same time the least energetic caustic, is the nitrate of silver. Indeed, it scarcely deserves the name of caustic, so superficial is its action. When freely applied in substance to the granulations which cover the ulcerated surface, it forms a white film or eschar, the thickness of which, when it falls, is seldom greater than that of a piece of drawing-paper. This eschar is thrown off either entire or piecemeal, about the third or fourth day. On the latter day, the surface to which the solid nitrate of silver has been applied, is generally found red, irritable, and bleeding. On the fifth day, however, all apparent irritability and tendency to bleed disappear, and by this or the following day, the amount of benefit to be obtained from the application is generally ascertained, the ulceration seldom improving subsequently. If left to itself, indeed, it soon again becomes morbidly irritable, and occasions local pain and sympathetic reaction on the general system. When a solution of nitrate of silver is used, these effects are obtained in a shorter space of time, and it may consequently be applied at shorter intervals than every fifth or sixth day, the period which should be allowed to elapse between the applications of the solid nitrate. In some cases, a strong solution thus employed may be more beneficial than the solid nitrate, but as it entails a more frequent use of instrumental means, the great drawback in the treatment of these diseases, I generally confine myself to the use of the solid caustic.

The periodical application of the nitrate of silver to the ulceration often suffices to bring on healthy action, and to cause the ulceration, if small and recent, to heal in a few weeks. Even when it is covered with fungous, livid granulations, and secretes an abundant sanguineo-muco-purulent discharge, the solid caustic, freely applied, generally arrests the exudation of blood,

and brings the ulcer to a clean, healthy, and comparatively dry state after two or three applications; although it is seldom sufficiently powerful to modify the vitality of such a diseased surface, so as to produce cicatrization. In these cases, however, the solid nitrate of silver is a most valuable agent, as it is applicable in a stage of the disease when other and more powerful remedies can scarcely be used. Owing to the very limited cauterizing powers of the nitrate of silver, it may be employed without the precautions which the more powerful caustics imperatively require. Its being dissolved to a considerable extent by the blood and muco-pus which freely exude from these ulcerations, is of no consequence; so far from doing harm to the surrounding tissues, if it runs on and touches them, it acts, on the contrary, beneficially, as a powerful astringent, if they are at all inflamed, which they generally are. When applied to a non-ulcerated, mucous surface, it merely seems to produce a white film or epithelial eschar, the falling of which is never followed by ulceration or excoriation, all evidence of its having been applied disappearing in a few days.

If the ulceration penetrates into the cervical cavity, the solid nitrate of silver may be pushed into it as far as it will enter, or a camel-hair pencil, loaded with a saturated solution, may be used in the same way. There is no fear, as we have seen, of penetrating too far, as the cervical canal is only sufficiently dilated to admit the brush, or the caustic cylinder, in the region to which inflammatory action extends. Beyond the point where inflammation ceases, the natural and healthy coarctation of the cervical canal will prevent their passing. I prefer the brush when the inflammation penetrates very far, lest the stick of caustic should break. This has occurred to me more than once, but I have never had any difficulty in extracting the fragment, either by means of the speculum forceps, the end of which I have had purposely made small,[1] or of the uterine sound. Thence the necessity of examining the piece of caustic that

[1] This instrument, as also all those which I shall have to mention hereafter, has been made for me by Mr. Coxeter, of Grafton-street East, who has shown great patience, ingenuity, and skill in conforming to my wishes and designs.

has been used, when it is withdrawn, in order to see that it is entire.

On one occasion, when I had omitted this precaution, I only perceived, a couple of minutes after I had withdrawn the speculum, that a small piece of the solid nitrate, a couple of lines in length, had broken of, and remained within the cervical cavity. Although not in the least alarmed at the circumstance, for I knew that it could do no harm, that the nitrate of silver would merely dissolve, and spread in width and not *in depth*, I endeavoured, but in vain, to reapply the speculum. The caustic, in dissolving, had acted as an astringent on the mucous membrane of the upper part of the vagina with which it came in contact, and so corrugated it, that I found it would be impossible to reintroduce the instrument without giving great pain. I therefore merely requested my patient to inject at once several pints of cold water. There was more blood lost than usual for three or four days subsequently, but on examining her on the sixth day, I could find no evidence whatever of what had occurred. There was no loss of substance in the cervical cavity, which appeared rosy and healthy; and the mucous membrane of the upper vaginal region was in a less inflamed and in a more healthy state than on my previous examination.

The application of the nitrate of silver to the cervix, externally, whether it be ulcerated or not, is attended and followed by very little pain. This is also the case when much more powerful caustics are resorted to; but it is not so, when the caustic is applied to the cervical cavity. This region, on the contrary, is sensitive with most females, although much less so than the external integument, or than the mucous membrane lining the external orifices of the natural cavities. Some patients always suffer considerable pain when it is cauterized; but the pain is never so severe as that which, as we have seen, may follow the biting of a leech. This is rather a singular fact, as it is difficult to explain how the mere fixing of a leech on a mucous membrane should occasionally give rise to agonizing uterine tormina, whereas the same region may be irritated by the most powerful caustics with comparative immunity from suffering.

The pain which follows the application of caustic to these

regions is sometimes very prolonged; but its duration is very variable in different persons, and even in the same persons at different times. It may last from half an hour to two, three, or four days. Generally speaking, it is merely an exacerbation of former pains in the back, the ovarian regions, or lower hypogastrium, and shows at once to the patient the connexion which exists between the local disease and the sensations formerly experienced. Sometimes the principal pain is felt chiefly in the lower hypogastric region behind the pubis, in the region where the neck of the uterus is situated, and in the very spot where the caustic has been applied. But this is the exception; in the majority of instances, although a smarting sensation is felt in this region, that of which the patient principally complains is the exacerbation of the ordinary ovarian and lumbar pains.

The application of caustic frequently gives no pain, in the first stage of the treatment, when the sore is indolent; whereas, when the vitality of the ulceration has been modified by treatment, its use becomes acutely painful. The change is rather trying to the patient, who is apt to think herself worse on this account, unless, from the first, apprized of the possibility of its occurrence. This takes place more especially with those females who, although suffering from a considerable amount of uterine disease, present little or no local evidence of its existence.

For the first day or two after the application of the solid nitrate of silver, there is generally a more or less abundant sanguinolent or muco-purulent discharge, which ceases or diminishes on the third, fourth, or fifth day. This discharge is sometimes so very abundant as perceptibly to debilitate the patient. When this is the case, it may be expedient to cauterize half only of the diseased surface at a time, or to use some other more powerful caustic which has not the same effect. With some patients the nitrate of silver is absolutely inapplicable from this cause. It is more especially when the ulceration is very luxuriant, and with pregnant women that I have noticed this result. With the latter the application of the nitrate of silver is occasionally followed by a very copious flow of blood. When this occurs also I do not use it.

After the pain occasioned by the application of the caustic has

abated, there is generally a lull in the local symptoms; the patient feeling easier than before the interference. This is owing, no doubt, to the irritability of the ulcerated surface having been modified, by the cauterization, as we see photophobia and pain in ulceration of the cornea temporarily removed, or greatly modified, by the same means. If nothing more is done, the ulceration again becomes irritable in the course of a few days, and a revival of pain takes place. The patient herself is thus made aware of the necessity for a repetition of the cauterization, and will often spontaneously urge its being resorted to again.

Even when recourse is had to other caustics, the nitrate of silver, solid or in solution, is a most useful agent as a topical application in the interval of their application. The more powerful caustics should be used only at lengthened intervals, to rouse or modify energetically the vitality of the diseased surface; and it is by the nitrate of silver that the new action thus created should be moderated and guided. Its occasional employment serves as a dressing to the ulcerated surface, prevents its becoming irritable and unhealthy, keeps down the granulations, and thus powerfully assists in bringing about cicatrization.

The mineral acids which may be employed when a more energetic caustic than the nitrate of silver is required, are, the acid nitrate of mercury, nitric acid, hydrochloric acid, and sulphuric acid. I have given each of these preparations in succession several months' trial, employing it in all cases in which the form of caustic appeared indicated, and see no reason for modifying the opinion which I have long entertained—viz., that the acid nitrate of mercury is more efficacious in its action than the other acids. It appears to bring the ulceration more rapidly into a healthy, healing state. After that, I prefer pure nitric acid, although the extent to which it fumes on being applied is a slight disadvantage. Any of these acids, however, may be employed in the absence of the others.

The acid nitrate of mercury is a caustic much used by French practitioners in the treatment of syphilitic ulcerations, and of unhealthy ulceration generally. It is prepared in the following manner:—To 100 parts of mercury add 200 parts of nitric acid; dissolve the mercury in the acid with the aid of heat, and evapo-

rate to 225 parts. This preparation is a dense solution of deuto-nitrate of mercury, in an excess of acid, and contains 71 per 100 of the deuto-nitrate.

The acid nitrate of mercury is a much more powerful caustic than the nitrate of silver. It gives rise to a white eschar, which falls piecemeal about the sixth day, and sometimes not until later. I generally use it pure, but sometimes diluted with a little water. In the former case, the beneficial effect is only obtained by the seventh or eighth day, and it should not, consequently, be reapplied sooner. It is seldom, however, advisable to reapply the acid nitrate several weeks in succession. Generally speaking, twelve or fourteen days should be allowed to elapse between two cauterizations, the nitrate of silver, solid or in solution, being used in the interim. When the ulceration is large, and the granulations are redundant and unhealthy, this caustic exercises a very prompt and beneficial influence, often cleansing and modifying the sore in one application, even when the nitrate of silver has failed. In slight ulcerations, however, it is too powerful a remedy, and may aggravate the inflammation if injudiciously employed.

The mineral acids being energetic agents, great care should be taken in their application. Wherever they touch they produce a sore, although a superficial one, therefore great attention should be paid to circumscribe the action of the acid to the part on which it has to be applied. I use for the purpose small dossils of cotton, placed between the cleft of a very small and narrow platinum fork, fixed at one end of a long silver caustic-holder. A common stilet or piece of wire to which the cotton can be tied, will also answer the purpose. The cotton being firmly fixed, it should be dipped in the fluid caustic, care being taken, by pressing it against the sides of the bottle, or on a dry piece of cotton, that there be no superfluity of acid. This precaution is even more necessary when the acid has to be introduced into the cavity of the cervix, as often occurs. If the cotton contains too much of the caustic, the pressure of the parietes of the cervical canal squeezes it out, and it runs on the lower lip of the cervix, which is thus injured by its action.

When the acid has been applied, the surface of the cauterized

tissues should be wiped quite dry before the speculum be withdrawn. If a bivalve speculum has been used to separate the lips of the cervix, and the cavity of the cervix has been cauterized, the valves should first be allowed to close, and the fluid which exudes from the os should be wiped away before the instrument is extracted. If this is *carefully* done, it is not necessary to inject water into the vagina to neutralize the effect of any uncombined acid, a precaution otherwise desirable.

Owing to the neglect of these minute precautions, I have repeatedly seen considerable temporary mischief occasioned by practitioners who were acting under my directions, the caustic having been allowed to run on the cervix and vagina, and thus to produce extensive inflammation and ulceration. The lesions thus created are not dangerous, as they are superficial, and readily heal, but they often give rise to great pain, and to a very abundant discharge, which alarms the patient. A slight amount of inflammation and ulceration of the cervix and vagina thus produced, will give much more pain than the most energetic cauterization by potassa fusa or the actual cautery.

In the majority of cases, judicious general treatment, the use of injections, and local depletion, combined with the persevering and careful application of the caustics above enumerated, suffice to subdue inflammation, and to induce cicatrization of the ulcerated surface, both outside and inside the os uteri, in the course of from six weeks to three months, according to the extent of the disease, its chronicity, and the constitution of the patient. If she has always suffered from dysmenorrhea, and if menstruation exacerbates the local inflammatory symptoms, and gives rise to uterine congestion, the treatment is nearly always tedious. In these cases, the disease, so far from progressing during menstruation, absolutely retrogrades; and it is often only a week or ten days after the menses have ceased that the patient is as well as she was before they began.

In some instances, however, all the means enumerated fail; the ulceration heals to a certain point, and then cicatrization seems to come to a stand; or, the ulceration healing, the healed surface remains red and angry, having become the seat of chronic inflammation. Generally speaking, it is in the cavity of the os uteri

that the disease thus proves rebellious. When this is the case, the only means by which we can ensure cicatrization, or restore the cervix to a healthy state, is by modifying the vitality of the diseased surface still more profoundly than is possible by the mineral acids. The agents by which this may be accomplished are potassa fusa, and the actual cautery.

The application of potassa fusa to the treatment of intractable ulcerations of the neck of the uterus, and of chronic inflammatory hypertrophy of the cervix, is due to M. Gendrin, the eminent Paris physician. It was in his wards that I first learned the value of this very important addition to our means of treating inflammatory affections of the neck of the uterus. Although by means of this agent, and of the actual cautery, cases otherwise all but incurable are susceptible of easy and radical cure, both these means of treatment, when I left Paris in 1843, were all but confined to M. Gendrin and M. Jobert de Lamballe, the practitioners who first introduced them. In the first edition of this work, I gave, at considerable length, the results of my experience as to the vast practical importance of potassa fusa as a cauterizing agent in these diseases, but I believe that Dr. Simpson, of Edinburgh, is the only practitioner of eminence who has since then given it a trial, and adopted my opinions. I am happy to say, however, that Dr. Simpson's testimony is altogether in favour of its efficacy, and that, from his published statements on the subject, I may consider him as a complete convert to my views.

Within the last few years I have been endeavouring to simplify the application of potassa fusa, and to divest it of the dangers which, unless the very greatest care be taken, must necessarily be connected with the use of so potent an escharotic, and I think I am able to state that I have fully succeeded in so doing.

Potassa fusa, or the hydrate of potassa, is, as is generally known, one of the most powerful caustics with which we are acquainted, destroying in a few seconds the living animal tissues with which it is brought in contact. Moreover, it is a caustic which not only acts superficially, like those whose action we have studied, but which may be made to destroy the parts to which it is applied, to nearly any depth, by merely prolonging its contact with them. These are the properties which have induced sur-

geons to choose potassa fusa for the establishing of issues, the entire thickness of the skin being destroyed by its agency in an extremely short space of time—a few minutes. The hydrate of potassa, however, is so very fusible, and consequently so liable to run on the adjoining parts, that it can scarcely be employed in its uncombined state, at least not where it is necessary to limit very exactly the extent of the tissues to be destroyed; it has therefore long been combined in practice with quick-lime, which, without impairing to any extent its cauterizing power, prevents its deliquescence, and renders it possible to apply it in the shape of a paste to a circumscribed surface. The potassa cum calce of the London Pharmacopeia is a combination of this description, being composed of equal parts of hydrate of potassa and quick-lime. The same preparation, under the appellation of Vienna paste, is in general use on the Continent for establishing issues.

Not liking to use pure potassa fusa to the neck of the uterus in the cases in which he saw that a more powerful escharotic than those which we have described was necessary, M. Gendrin fixed upon the potassa cum calce made into a paste, with a few drops of alcohol, which he applied in the following manner:—A large conical speculum being first introduced, the uterine neck is made to enter its orifice; or should the cervix be too voluminous, the speculum is firmly pressed on the part which it is intended to cauterize, great care being taken not to enclose a fold of the vagina between the rim of the speculum and the cervix. About as much of the paste as would cover a fourpenny-piece, a line in thickness, is placed on a triangular piece of diachylon plaster, one end of which is inserted in the cleft extremity of a common bougie. The caustic paste is then carried, by means of the bougie, to the cervix, and applied to the centre of the part comprised within the speculum. With the long forceps, cotton is placed carefully all round the spot on which the caustic paste is applied, so as completely to protect the neighbouring parts; and the bougie having been withdrawn, the speculum is two-thirds filled with cotton or lint, which is firmly pressed against the uterine neck. The speculum is then slowly extracted, the cotton which fills it being at the same time forcibly pushed back in the vagina with the forceps, as the speculum is withdrawn, so

that the vagina remains thoroughly plugged. If this is carefully done, the caustic cannot fuse, and injure the parietes of the vagina. In about fifteen or twenty minutes, the cotton or lint must be carefully withdrawn by means of a bivalve speculum gradually introduced, and an eschar, of the size of a shilling, or rather larger, will be found where the caustic was applied. The vagina should then be washed out with a little tepid water, complete rest in bed enjoined, and emollient injections employed until the separation of the eschar, which takes place from the fifth to the eighth day.

Enlightened by subsequent experience, I should now reject this mode of applying the Vienna paste, even did I employ it, which, however, I have long ceased to do, having discovered a more safe and efficacious way of using the potassa cum calce. Although I have for years seen M. Gendrin follow this mode of operation, and have myself often adopted it, without once witnessing the extension of the eschar to the vagina, still I think it demands too much caution and instrumental experience to be retained, especially as it is possible to apply potassa fusa, either combined with lime or alone, with equal efficacy and greater safety, in a more simple manner.

The extraction of the speculum after the application of the caustic paste evidently depriving the vagina of the protection which the instrument affords it, I first determined to leave the speculum in situ until the process of cauterization was entirely accomplished. With this view, after getting the cervix well into the field of the large conical speculum, I introduced pledgets of cotton, steeped in acetic acid and water, between the speculum and the cervix in its entire circumference, so as completely to isolate the organ. I then, as before, applied the paste to the surface to be cauterized, and when the desired effect was obtained, carefully wiped it away, washed the eschar with the diluted acetic acid, and, placing on the latter, as a dressing to prevent its coming in contact with the surrounding parts, a large pledget of cotton soaked in the vinegar-and-water, and tied to a piece of strong silk, withdrew the speculum.

This plan succeeded so well, and appeared so thoroughly to isolate the cervix, and to prevent the possibility of the surround-

ing parts being compromised, that I determined to use the pure potassa fusa instead of the potassa cum calce, on account of the greater intensity of its action. As an additional precaution, however, I first applied the nitrate of silver freely to the lower lip of the cervix, in order more effectually to guarantee it from the liquefied potassa, which invariably runs on the most depending part when the pure hydrate is used. The eschar formed by the nitrate of siver, superficial as it is, prevents the part which it covers from being acted upon. The lower lip of the neck of the uterus being protected by the nitrate-of-silver eschar, and the vagina by the pledgets of lint soaked in dilute acetic acid and pushed carefully in between the lower valve or circumference of the speculum and the cervix, there can be no risk of the potassa, although so very fusible, extending to parts which it is not intended to cauterize. I long used it exclusively, in this manner, and in a great number of cases, without its action once extending to the vagina. When thus applied, however, it is always advisable to leave for a few hours a pledget of lint soaked in dilute acetic acid in contact with the eschar, as uncombined particles of caustic lying on it might otherwise slightly cauterize the vagina. This has happened to me in one or two instances in which I had omitted to take the precaution I recommend. The pledget or dressing may be withdrawn in the course of a few hours, and a pint or two of tepid water, or of poppy-head decoction, injected.

In giving the above directions, I have supposed the patient to be lying on her back when examined, and the pelvis to be elevated so as to admit of easy and thorough inspection. In this case the cervix is, necessarily, the most depending part of the canal represented by the speculum and the vagina, and consequently any fluid which runs off from the cervix has a tendency to gravitate on to the vaginal cul de sac. Hence the necessity of taking the above precautions. The pelvis might, it is true, be elevated to such an extent as to render the vaginal canal dependent, especially if the patient were lying on her side; and this position would diminish the danger of the potassa running on the vaginal cul de sac; but as it renders the inspection of the cervix uteri and all surgical manipulations difficult, I advise the dorsal

position to be enforced. When about to use so powerful an agent as potassa fusa, we cannot see too clearly and satisfactorily the state of the parts on which we have to operate. Otherwise, all is doubt and danger.

For the last year or two, however, I have not once used either the Vienna paste or the pure hydrate of potass. I now always substitute cylinders of potassa cum calce, which, with the assistance of Mr. Squire, of Oxford-street, I have succeeded in obtaining similar to those of nitrate of silver in ordinary use. M. Filhos, of Paris, appears to have been the first to discover, some ten or twelve years ago, that it was possible to fuse potassa and lime in variable proportions, and to run the preparation into solid lead tubes. Not finding M. Filhos' first tubes of fused potassa cum calce by any means as energetic or as efficacious as the Vienna paste or the hydrate of potassa, I long only used them for superficial cauterization. Some time ago, however, having received several from Paris, which were much more powerful, the proportions of potassa being greater,—two of potassa to one of lime,—I requested Mr. Squire to fuse these substances for me in the above proportions, and to run them into soft metal tubes. The fluid potassa cum calce invariably melting the tubes, we determined to have iron moulds of various sizes made, and to run it into these.

I have thus succeeded in obtaining cylinders of potassa cum calce, which can be used with the greatest ease, and with perfect freedom from risk, owing to their not fusing as pure potassa does, although nearly as powerful in the effects they produce as the latter substance itself. They are not free from a tendency to deliquesce, soon becoming spongy if left exposed to the atmosphere, but if applied to a dry or nearly dry surface, the action of the caustic does not extend beyond the part touched.

This action is nearly as prompt and as deep as that of uncombined potassa, owing to their not fusing the cylinders. The cylinders may be used without all the precautions which are absolutely requisite when the Vienna paste or potassa fusa are employed. All that is necessary is to see the cervix well isolated in the speculum, to wipe off the sanies that oozes from the surface cauterized, and then to apply a cotton pledget, moistened with

vinegar and water, and tied to a piece of thread, which is to remain as a dressing on the withdrawal of the speculum, and which the patient can herself remove in the course of a few hours. These precautions are necessary, as, for two or three minutes after the application of the caustic, a straw-coloured fluid exudes,—especially if it has been carried into the cervical cavity—which may slightly cauterize the parts with which it comes in contact.

I use cylinders of three different sizes. The middle size is that of the nitrate-of-silver cylinder, the largest is about twice as large, and the smallest considerably smaller. This latter size I principally employ to cauterize the cavity of the cervix. It may be fixed in the fluid caustic-holder; the two larger sizes in the nitrate-of-silver holder.

When potassa fusa, or its combinations with lime, are only used to modify the vitality of an ulcerated or inflamed surface, they need not be allowed to remain in contact with the diseased region more than a few seconds. If, on the contrary, the intention is to give rise to a slough, as when they are employed with a view to reduce hypertrophy, they must be kept in contact longer. The eschar produced by potassa fusa is of a greyish-black colour. It does not fall off at any given time, but melts away, as it were, revealing a healthy granulating surface, from which it has gradually been thrown off. This gradual disintegration of the eschar is accomplished in from five to ten days, according to the depth to which the tissues have been destroyed. When the eschar is deep, if the patient is examined about the third day, the presence of the eliminatory inflammation is very clearly indicated at the margin of the eschar, which is separated from the adjoining tissues by a superficial sulcus or groove. The surrounding parts are then the seat of considerable inflammatory reaction, and the cervix and the upper part of the vagina will generally be found considerably congested and inflamed. The elimination of the eschar may be attended by hemorrhage about the fifth day. I have, however, never known it to be alarming, and have found cold astringent vaginal injections always to arrest the flow of blood.

In the course of from seven to fourteen days, the cervix and adjacent tissues return to the state in which they were before the application of the potassa, the artificial inflammation pro-

duced by the caustic gradually subsiding. If an ulceration previously existed, it is generally found larger on the final elimination of the eschar; the granulations are more florid, and more developed, and appear endowed with more vitality. If no ulceration existed, there is one left, presenting the above characters. For the ten or fourteen days that follow, there is little or no change in the state of the ulcerated surface, which continues to secrete healthy pus; but about the twenty-fifth day from the date of the cauterization, a decided progression towards cicatrization commences. This tendency to heal in the ulceration continues to be very marked from about the twenty-fifth to the fortieth day, when it ceases. Very frequently the ulceration heals before the fortieth day; but if it does not, the influence of the strong potassa cauterization being exhausted, it must either be repeated, or the treatment must be carried on with the milder caustics, if it is thought that they alone will suffice. Severe cauterization should never be resorted to within less than twelve or fourteen days of the menstrual epoch, which it often slightly accelerates.

During the time that elapses from the falling of the eschar to that when the improvement to be expected from the severe cauterization has fully taken place, the ulceration must not be left to itself, otherwise it may become too luxuriant and irritable, and not heal. The reparative inflammation set up must be controlled by the periodical application of the nitrate of silver in substance, or in solution. The vitality of the ulcerated surface is so much increased by severe cauterization, that I find the eschar of the nitrate of silver is generally thrown off in three or four days. I consequently sometimes diminish the interval I usually allow to elapse between the "dressings" of the ulceration, using a solution of the solid nitrate of silver, instead of the solid caustic.

Although it be thus advisable, in order to insure the *full* benefit of severe cauterization, that the ulceration should subsequently be carefully watched and treated, there is more probability of its healing without further interference on the part of the practitioner, than under any other form of treatment. I have repeatedly applied potassa, or potassa cum calce, to patients

whom I have subsequently lost sight of for five or six weeks, owing to unavoidable circumstances, and on examination have found the ulceration nearly or quite well, no examination or local treatment, except vaginal injections, having been used in the interim. This is, no doubt, owing to the profound modification which severe cauterization impresses on the vitality of the diseased tissues, and to its substituting a healthy ulceration with a natural tendency to heal, for a morbid one, with a tendency to indefinitely perpetuate its existence. It would be unwise, however, to depend on this tendency after deep cauterization, and to forego the subsequent periodical dressing of the sore, the success of the treatment being thereby very much compromised. I have in many cases tried to ensure the continued improvement of patients who could not remain long with me, by resorting to severe cauterization, and then allowing them to suspend local treatment for a few weeks, as soon as they had recovered from its immediate effects, but have most frequently found that the diseased condition did not improve after a short time, for want of the subsequent treatment.

The pain occasioned by the application of potassa fusa is not, generally speaking, very much more severe than that which follows the use of the ordinary caustics; when, at least, its application is limited to the exterior of the cervix. Indeed, the degree of pain occasioned by cauterization of the cervix does not seem in any way to be proportioned to the extent of the cauterization, but to depend more on variable individual susceptibility. With some, the formation of a deep eschar on the cervix only occasions smarting; whilst with others, the mere use of nitrate of silver is attended with very severe pain. That which follows the employment of the more severe escharotics is not unfrequently less than that which is occasioned by the milder ones; owing, probably, to the complete destruction of the tissues acted upon.

When the potassa-cum-calce cylinder is introduced into the cervical cavity, the pain is often very intense, sometimes giving rise to nausea, and even sickness; as we have also seen to be the case with the milder caustics. The more highly-developed vitality and nervous sensibility of this region—the cervical cavity

—accounts for this difference, as also for the fact that a very slight amount of disease in this region often deeply affects the general health.

When applying potassa fusa or potassa cum calce to the cavity of the neck of the uterus, I never leave it more than a few seconds in contact with the diseased surface, as the object is not to create a slough, but merely to profoundly modify its vitality. I generally use the smallest cylinder, which, from its size, moves freely in the enlarged cavity, only applying it where there is evident morbid dilatation; and never beyond half or three quarters of an inch in depth, even when the disease appears to penetrate farther. Owing to the smallness of the cylinder, it may break unless great precaution be used; but even were this to occur, nothing is easier than to seize hold of the fragment with the speculum forceps, or to extract it with the uterine sound. For the first three weeks, the discharge of muco-pus and of transparent mucus from the os uteri is much increased. It then diminishes, the cervical cavity begins to close, if it has not done so already, and by the end of the fifth or sixth week, generally speaking, all trace of internal inflammation has disappeared, and the diameter of the os is reduced to its natural size.

The tendency to contraction which is observed during the healing process, when the potassa cum calce is carried into the cavity of the cervix, is an additional and very powerful reason for watching over the patient at that time. Indeed, I have seen so many cases within the last few years, since the publication of the second edition of this work, in which, for want of such care and attention, the os and cervical canal have become contracted to such an extent as nearly to obliterate them, and as to prove a serious obstacle to menstruation, that I feel obliged to lay down as a rule, that the potassa cum calce should never be used in this region unless the practitioner have the opportunity either of following up the case, or at least of seeing his patient a few weeks afterwards, and of counteracting any tendency to contraction which he may then remark. This may be easily done by merely passing a moderate sized bougie through the cervical canal each time the nitrate of silver is used, that is

every four, five, or six days. In the cases in which I have thus seen the os and cervical canal all but obliterated by the action of the potassa cum calce, it must evidently have been too freely applied, inasmuch as in my own practice such results do not occur. In a few instances I have had, it is true, a greater degree of contraction than was desirable, but it has never been to the extent I have seen it in some of the cases treated by other practitioners under the idea of carrying out my views. The secretions of the uterine cavity and of the cervical canal have generally sufficed to keep the passage free, when I have not had an opportunity of regularly attending to the patient. It should be recollected that the principal reason for the employment of so potent an agent as caustic potash in the treatment of intractable inflammation of the cervical canal is, that part of the inflamed mucous membrane, and of the mucous follicles that stud it, are concealed between the rugæ of the arbor vitæ, which have to be partly destroyed before they can be reached by the caustic. When this is accomplished, all that is required has been effected, and any further destruction of the parietes of the cervical canal can only be productive of mischief, by giving rise not only to general contraction, but to adhesions which, if they all but obliterate the passage, must interfere both with menstruation and with impregnation. In a patient of my own, with whom I had used the potassa cum calce five years previous to her dying from cancer of the cæcum and ascending colon, I found adhesions throughout all that portion of the cervical canal that had been acted upon. The canal was, however, quite free in its centre.

When the cervical canal has been only moderately narrowed by the action of caustics, for the use of the milder caustics may also be followed by contraction in a minor degree, its artificial dilatation is easily accomplished. The passage of a few bougies of graduated sizes, is, generally speaking, all that is required. When, however, the os externum is nearly obliterated, and firm adhesions have taken place throughout nearly the entire cervical passage, the difficulty may be extreme. In a case which I recently had to attend, I could not for some weeks find the orifice of the os; not, indeed, until an effort at menstruation

revealed it. The menses had been retarded and even arrested for some time with this lady, and severe hysterical convulsions appeared to have followed as a consequence. With the assistance of stilets, bougies, and prepared sponge, however, I have always hitherto succeeded in obtaining a tolerably free passage. In two or three instances I have had to make a small preliminary incision with a gum lancet.

The use of the potassa cum calce in the cervical canal, exposing the patient to such accidents as these, it is evident that too much care and caution cannot be taken by those who resort to it. It is infinitely better to apply it lightly and to repeat the application two or three times if necessary, than to run the risk of permanent injury by using it too energetically. In recommending its use, I certainly never contemplated its being applied in such a manner as to give rise to results like those above detailed, and regret that I did not lay more stress on this point in the previous editions of this work.

When inflammation of the cervical cavity has been treated and cured by the potassa cum calce, there is not so great a liability to relapse after menstruation as is observed when the disease has been apparently cured by milder applications. This remark applies to the treatment of chronic inflammation of the cervix generally by potassa fusa. The vitality of the diseased tissues is more profoundly modified, and consequently not only does the ulceration heal or the chronic inflammatory action subside, but the parts underneath and around become quite healthy and free from disease. When ulceration is cured by other treatment, this is not always the case—the cicatrized surface sometimes remaining red, irritable, and inflamed.

Even when the application of the stronger caustics does not occasion much pain, it often gives rise to extreme exhaustion and mental depression, and sometimes to syncope, thereby showing the connexion between the uterus and the general languor and debility which so frequently characterize these inflammatory diseases. I occasionally see patients so prostrated by its action, although scarcely in any pain, as to be unable to rise from the bed or sofa for several days.

One of the principal properties of potassa fusa, when ener-

getically applied, is that of melting inflammatory induration and hypertrophy. This effect is also produced by the actual cautery, the action of which we have now to examine. I shall, however, enter more fully into the consideration of the action of these remedies as solvents, when treating specially of hypertrophy of the cervix.

The Actual Cautery.—It is possible to obtain by the actual cautery the same results as those furnished by potassa and its combinations with lime. The effects produced by the actual cautery are in every respect identical with those of the hydrate of potassa. An eschar is created, the elimination of which is attended with subacute inflammation of the tissues on which it rests. Under the influence of this subacute inflammation, the induration and hypertrophy subside, and the vitality of the ulcerated surface being deeply modified, cicatrization rapidly follows.

Celsus recommends ulcers of the prolapsed uterus to be cauterized with the actual cautery, and other modern surgeons have proposed the same means of treatment, as, for instance, Percy and Baron Larrey. It does not, however, appear that these suggestions were acted upon until adopted by M. Jobert de Lamballe, the talented Paris surgeon, who has for many years resorted, with great success, to this mode of treating ulceration and inflammatory induration of the neck of the uterus. Indeed, he adopts the actual cautery as a general means of treatment, using it in cases of simple ulceration, as well as in severe inflammatory hypertrophy.

In order to protect the vagina from the heat which radiates from the cautery, especially if the one employed is large, an ivory conical speculum may be used, ivory being a bad conductor of caloric. This precaution, although always adopted by M. Jobert, is not, however, indispensable. One, two, or three olive-shaped cauteries, heated to whiteness, may then be extinguished on the part of the cervix which has to be cauterized. An eschar, more or less deep, is thus formed, as by cauterization with potassa fusa. It is necessary that the cautery should be brought to a white heat, as otherwise it adheres to the tissues on being withdrawn. But little pain is experienced by the patient, either at

the time, or subsequently, the eschar falling off from the sixth to the tenth day, according to the depth of the cauterization. When the actual cautery is used to remove inflammatory hypertrophy, two or more cauterizations may be necessary to restore the neck of the uterus to its natural size.

The actual cautery, as a means of treatment in uterine disease, has met with but little encouragement from the Paris surgeons, and is stated by many to be inefficient and unsafe. I can, however, confidently assert, from what I saw of M. Jobert's practice when I was his house-surgeon at the Hôpital Saint Louis, in 1840, and from the results which I have myself since obtained, that these objections are perfectly unfounded. I have never known any serious symptoms to follow its use, whereas I can testify to its efficacy in very many instances of severe disease. I must, however, admit, that in two or three of the cases in which I have used the actual cautery to cauterize the orifice of the cervical cavity, the result has not been quite satisfactory. The local inflammation produced by the elimination of the eschar lasted too long, and the parts assumed a rather unhealthy character. This I do not recollect having observed after using potassa fusa.

M. Jobert thinks that cauterization with the actual cautery possesses peculiar advantages as compared with potassa fusa. I believe, however, that he is mistaken in this respect, and that the two methods are identical in their effects. My friend, M. Laurés, who was for three years M. Jobert's house-surgeon, and during that time saw most of his uterine cases, has written an interesting thesis on the use of the actual cautery, which may be considered faithfully to represent M. Jobert's opinions. M. Laurés states that it is difficult to appreciate rigorously the depth to which the Vienna paste will disorganize the tissues of the uterine neck; that instead of exciting in the neighbouring parts a favourable reaction, it weakens the vital force and exercises a stupifying influence; that it is difficult to apply, and, in liquefying, runs on to the parietes of the vagina, thus giving rise to extensive loss of substance, which, on filling up, contracts the parts.

To these propositions I can give the most decided negative,

from lengthened experience. A practitioner who is accustomed to the use of the caustic, may measure to a nicety the extent of the eschar which he wishes to form by means of potassa fusa, and if great care and caution be shown at first, he will gradually and safely acquire the necessary knowledge, even if previously ignorant of its effects. So far, on the other hand, from the action of the caustic on the surrounding parts being a stupifying one, I have *always* seen reaction take place most freely, and with all the characters of healthy inflammation: whereas, as I have above remarked, I have, in some few instances, seen the actual cautery followed by unhealthy reaction. As to the caustic running on to the adjoining parts, such an accident is certainly possible in unskilful hands, and I have indeed known it to occur, but it need never take place with a prudent, cautious practitioner, who knows what he does, and carefully attends to the rules and precautions which I have laid down. I have used it myself, for nearly ten years, and have never known the vagina even touched by the caustic. The same objection applies with equal force to the actual cautery,—which I should be very sorry to see used for the cauterization of the cervix by any but a skilful and prudent practitioner,—and also to all surgical operations. I am at a loss to discover how my former colleague can have adopted such unfounded notions respecting this mode of cauterization, and should not have reproduced these statements, were it not that they constitute the chief objections that have been urged in France against cauterization with potassa fusa in the shape of Vienna paste.

For some years, I frequently resorted to the actual cautery, principally in cases in which I wished to modify the vitality of intractable ulcerations persisting within the os uteri. For that purpose I used olive-shaped cauteries, sufficiently small to pass within the morbidly dilated os, and with very gratifying results. Since I have succeeded, however, in rendering the application of potassa cum calce so very simple and safe, I have all but ceased to employ this mode of treatment, on account of the dread which it occasions to the patient. There is certainly something rather alarming to the imagination in the application of the actual cautery to any part of the body; and the fear it occasions is

increased by the noise and odour which the combustion occasions. In reality, the operation is a trivial one, although the patient cannot easily be made to look upon it in this light. I therefore prefer the potassa cum calce, which is quite as efficacious, and is unattended with this drawback; the patient not being able to tell the difference between an application of the nitrate of silver, which is a mere dressing, and that of potassa fusa, which is an operation.

Both the actual cautery, and potassa fusa alone or combined with lime, have always proved free from any risk or danger in my hands; more so, indeed, than could possibly have been supposed, *à priori*, from the energy of their effects. The reactional inflammation which is thus intentionally set up for therapeutic purposes, seems all but invariably to limit its action to the neck of the uterus, not extending to the body of the organ. Indeed, if the patient keeps perfectly at rest, on a couch or sofa, during the six or eight days this inflammation lasts,—a very desirable and even necessary precaution,—she is often perfectly unconscious of any more severe application than usual having been made, or of the existence of the eliminatory inflammation. On moving, however, she generally feels that the womb is painful and sensitive. Although it is now many years (1837) since I first witnessed this mode of treatment, and although I have myself subsequently employed it in a very large number of cases, I have only once seen serious inflammation occurring as a sequela; and even in this instance I am far from certain that what occurred can fairly be attributed to the treatment adopted.

The patient, a young married lady, without family, twenty-four years of age, had been under my care, at intervals, for nearly two years, for inflammatory disease of the cervix, which appeared, from the antecedents of her case, to have been in existence even before she married, at twenty-one. The peculiarity of the case consisted in a most obstinate tendency to relapse. When I was first consulted, there was extensive ulceration of the cervix and its cavity. This disease was perfectly subdued after a few months' treatment, and she left me apparently well. In the course of the eighteen months that followed,

however, she had several relapses of cervical inflammation,—these relapses always occurring after menstruation, which was attended with great pain, as had been the case all her life. Thinking they might be owing to extreme menstrual congestion, the result of an evidently constricted state of the cervical canal, I dilated it by means of sponge tents. Finding that this was of no avail, I thought that the cause of the relapses might be a very limited amount of inflammation, apparently existing in the mucous follicles just within the os uteri, which appeared never to have thoroughly subsided. I had generally found a few drops of pus exuding from the os, on examining shortly after menstruation; and when the relapses of general cervical inflammation took place, muco-pus invariably issued from the os, in large quantities. With a view to modify effectually the vitality of the chronically inflamed mucous membrane, I touched it very lightly with a small cylinder of potassa cum calce, which merely gave rise to a very superficial eschar.

The usual reaction took place, without presenting any marked intensity, and ten or twelve days afterwards the menses appeared. This time, however, they were followed by cold shivering, and fever; and when I saw the patient a few days later, I found that an abscess had formed in the left lateral ligament, and had opened into the rectum. I had abstained from calling for a week or ten days, owing to the menses, and was not sent for, my patient being so much accustomed to pain as not to attach much importance to what she suffered. Had I seen her from the first, and treated her energetically, it is possible that suppuration might have been prevented. She slowly recovered from the effects of this attack of inflammation. Pus long passed in the motions, and tumefaction was long perceptible on internal examination with the finger on the left side of the uterus, becoming, however, gradually less and less marked. It was, indeed, above eighteen months before all traces of the abscess of the lateral ligaments disappeared, and before she regained her health; this she eventually did completely. The attack of inflammation in the appendages of the uterus has been apparently attended with one beneficial result; there has been no relapse of uterine or cervical inflammation since its existence. It would seem as if

the local irritation in the lateral ligaments acting by counter-irritation on the uterus, prevented any return of acute inflammation in that organ, and allowed the disease at last to die away. The chronic inflammation of the cervical cavity, for which the potassa cum calce was used, entirely gave way within a few weeks after its application.

Although I have given the above case as an illustration of inflammation and abscess of the lateral ligaments occasioned by the extension of the reactional inflammation following severe cauterization, it is by no means certain that its occurrence was not merely a coincidence. Generally speaking, the inflammation caused by a much more severe cauterization than the one in question subsides by the eighth or tenth day; and, in this instance, it was not until the twelfth that the menses appeared, and only subsequently that the fever and shivering manifested themselves. Might not this attack have been of a similar nature to those which had so repeatedly occurred before at the menstrual period, only this time located in the lateral ligaments, instead of in the neck or body of the uterus?

When I reflect that I have seen the cervix deeply cauterized, or have myself cauterized it in hundreds of patients, in the treatment of inflammatory disease, it is a subject of surprise to me, that this should be the only serious accident that I can call to mind. This fact alone proves the correctness of the assertion I made in the first edition of this work—namely, that deep cauterization of the cervix uteri, even when carried to a great extent, does not entail more risk to the patient, indeed scarcely as much, as the minor operations of surgery.

It cannot, however, be denied, that cauterization of the cervix, as above described, and especially deep cauterization, is *an operation,* and, like all operations, surrounded with danger. It must not, therefore, be either injudiciously resorted to, or carelessly carried out. Although my own practice has hitherto been free, or all but free, from serious accidents, the same immunity does not appear to have attended that of others. Various cases in which serious accidents have followed the use of the caustic potash, have been narrated as arguments against its use, since the last edition of this work was published; and M. Gendrin

himself, within the last few years, has had several cases of acute metritis, and of abscess in the lateral ligaments, the evident and immediate result of deep cauterization. He has, however, seen the same results follow the use of the nitrate of silver, and of injections; and I may mention that the two most severe instances of acute metritis that I have myself witnessed for some time, in the unimpregnated womb, occurred after the use of weak astringent vaginal injections.

It is clear, from what precedes, that no surgical interference with the womb, however simple, is absolutely free from risk. No such means of treatment, therefore, should be resorted to unless rendered necessary by the state of the patient; but, at the same time, we should not shrink—owing to the existence of a slight risk—from having recourse to the remedial agencies which experience teaches us to be efficacious, if they become necessary for the cure of the patient. We must bear in mind that, in order to restore to health a person suffering from any disease, which can only be removed by surgical treatment, generally speaking there is considerable risk and danger to be encountered; whereas in the surgical treatment of uterine inflammation, the risk is so slight, that it scarcely deserves to be taken into consideration.

Hypertrophy and Induration.—In giving the history of the local treatment of inflammation and ulceration of the neck of the uterus, and of its cavity, I have also, to a great extent, given that of the hypertrophy and induration which so usually accompany these morbid conditions.

Hypertrophy of the uterine neck is generally the result of the combination of two pathological conditions—inflammatory congestion and nutritive hypertrophy. The presence of inflammation gives rise to an unusual development of the vessels and capillaries of the entire cervix, thereby more or less increasing its size and density. On the other hand, the continued existence of this morbid state, in the course of time gives rise to cellular hypertrophy and induration. The plastic lymph exuded becomes organized, new vessels are formed, and the cervix uteri may thus become enormously increased in size. This nutritive hypertrophy is often connected with deep-seated chronic inflammation.

The antiphlogistic measures which have been enumerated,

injections, hip-baths, local depletion, and superficial cauterization, always very considerably diminish hypertrophy of the cervix, by subduing the congestive and inflammatory element; and if it exist alone, they generally remove it entirely. When both deep-seated and superficial inflammation are thoroughly subdued, even if a slight amount of nutritive hypertrophy remains, it is not absolutely necessary to carry treatment farther, as Nature alone, in the absence of actual disease, will generally melt and diminish by degrees the hypertrophy. I am continually witnessing cases of this description—cases in which the cervix and body of the uterus regain their natural size, without any special treatment in patients whom I have left to the restorative powers of Nature, after the entire removal of actual disease; the nutritive hypertrophy which they still presented on the suspension of local treatment, gradually melting and disappearing.

In many instances, however, the therapeutic means enumerated only partly subdue the deep-seated chronic inflammation which is connected with the hypertrophy, or, overcoming diseased action, leave behind a very considerable amount of hypertrophy, sufficient to drag down the uterus, and to occasion serious inconvenience. In the first case, even if the ulceration is quite cured, there is no safety for the patient. The healed surface remains red and congested, and is nearly certain again to become ulcerated, under the influence of the slightest cause. Moreover, the local and general symptoms of uterine inflammation persist, although in a mitigated shape. In the latter case, if the hypertrophy is very considerable, it is too serious a condition to be allowed to remain, more especially as there is scarcely any probability of Nature unassisted removing such extensive enlargement.

The principal therapeutic means recommended by the most recent writers for the treatment of inflammatory hypertrophy of the cervix uteri, are those which we shall hereafter see extolled in the treatment of *presumed* cancer: local depletion, the local application of iodine and mercurials, and their internal administration.

I have not myself derived sufficient benefit from the use of iodine and mercurials, either external or internal, in the treat-

ment of hypertrophy,—whether connected with deep-seated intractable chronic inflammation, or existing merely as nutritive hypertrophy, the remains of former disease,—to induce me to employ them. Indeed, I am inclined to believe that the benefit that other practitioners think they obtain from their use in cases of inflammatory hypertrophy, is more to be attributed to the simultaneous use of local antiphlogistic treatment, than to the action of the mercury or iodine.

The internal administration of iodine or mercury, moreover, can scarcely be carried to such an extent as to react on the nutrition of a cellular hypertrophy, like that of the cervix uteri, without some slight peril to the general health. Nothing, therefore, but necessity ought, in my opinion, to warrant our having recourse to the long-continued use of such powerful medicinal agents in these cases—females presenting this morbid condition being generally in a weak, debilitated, cachectic condition, from the effects of long-continued disease. With them the hypertrophy is not the result of a general disease, that can be neutralized by medicinal agency, but solely the consequence of chronic local irritation and inflammation, similar in every respect to the hypertrophy of the tonsils, so often observed as the sequela of repeated attacks of amygdalitis, or even of common sore throat. I should myself as soon think of giving mercury and iodine to remove this chronic enlargement of the tonsils, as to remove hypertrophy confined to the neck of the uterus. Surgical treatment is as much indicated in one form of enlargement as in the other, unless, indeed, there be some general indication in the economy which renders the administration of these medicinal agents desirable, and likely to be exceptionally efficacious.

Were there, indeed, no possibility of removing hypertrophy of the neck of the uterus by local treatment, it would be perfectly rational to try these, or any other medicinal agents, however powerful; especially in the cases in which the hypertrophy is connected with deep-seated chronic inflammation, which keeps up the whole train of local and general symptoms observed in uterine inflammation. Such, however, is not the case. If hypertrophy resists the action of the ordinary antiphlogistic means of treatment, it never withstands the melting influence of

deep cauterization with potassa or the actual cautery. This assertion is so generally true, that I do not even find it necessary to resort to the internal administration of medicinal agents, *to assist* the action of cauterization, and reserve them exclusively to meet general symptoms; or for those cases in which the hypertrophy extends to the body of the uterus, and resists local treatment. This mode of treating hypertrophy is so prompt and efficacious, that it must eventually be universally adopted.

Of the two, potassa and the actual cautery, I infinitely prefer the former, for the purpose of making a deep eschar on the hypertrophied cervix. If the actual cautery is resorted to, a large-sized olive must be used, and it must generally be heated and re-applied two or three times, or fresh ones used. As the cautery acts by combustion, the noise and fumes are considerable, and generally alarm the most courageous patients, although, as I have stated, the pain is not very great. The retraction of the surrounding tissues, which accompanies a burn, is felt likewise rather painfully. When, on the contrary, potassa fusa or the potassa-cum-calce cylinders are used, the patient is in complete ignorance respecting the extent to which the cauterization is carried; neither her own sensations nor the concomitants of the operation being different from what she is accustomed to feel or witness in the habitual treatment of the disease under which she is suffering.

In either case the subsequent result, as I have already stated, is the same. Nature sets up eliminatory inflammation in order to throw off the eschar. This inflammation extends, more or less, to the hypertrophied tissues, according to the size of the eschar, and to the nature and extent of the hypertrophy; and, as it gradually subsides, these tissues melt and are absorbed. Under the influence of this very simple process, the effects of which persist during two or three weeks from the date of the cauterization, any amount of hypertrophy of the uterine neck may be gradually and safely removed, and that without much suffering to the patient.

As I have already explained at length the manner in which the cauterization should be made, the precautions to be taken, and the immediate and subsequent results, I have but little

further to add on the subject. I must, however, *most emphatically* guard practitioners against an error into which there would appear to be some danger of their falling, from misinterpretation of my views. I wish it to be most distinctly understood that I do *not propose to destroy* the hypertrophied cervix by cauterization, but merely to set up an artificial eliminatory inflammation, by means of an eschar or issue, of *limited extent*, established in the centre of the hypertrophied region. I do not calculate, in the remotest degree, on the destruction of tissue to which the caustic or cautery gives rise, for diminishing the size of the hypertrophied cervix, but solely and entirely on *the inflammation subsequently set up*. Any attempt actually to destroy the hypertrophy, by direct cauterization, appears to me both dangerous and unnecessary;—dangerous, because I should be afraid that the intensity of the reactional inflammation would be so great as often to extend to the uterus or to the lateral ligaments, and because I consider it next to impossible always to limit the action of the caustic when applied with such profusion; unnecessary, because a mere eschar, of the size of a shilling, will answer the purpose of reducing the hypertrophy equally well. It may perhaps be necessary to apply it several times; but of what consequence is prolonging for a few weeks the treatment of a disease which must have existed for years to require treating at all by such agents, compared with the danger of perforating the vagina, and causing peritonitis, or of giving rise to intense metritis?

The ulcerations occasioned by the deep application of potassa heal very rapidly, even when left to themselves. It is better, however, to touch them at intervals with the nitrate of silver, to prevent the granulations becoming too luxuriant, and to favour the cicatrization which usually takes place in from three to four or five weeks. This fact shows how very different the morbid ulcerations of the uterine neck (described throughout this work) are from ulcerations produced artificially; the latter having a direct tendency to heal, whereas the former have an equal tendency to perpetuate their existence. It also demonstrates the rationale of the treatment of morbid ulceration by cauterization, which substitutes healthy for unhealthy action.

Indeed, I may here remark that the theory of the treatment

of inflammatory ulceration of the uterine neck, as I have expounded it in the preceding pages, might, with great benefit, be more thoroughly applied by surgeons to intractable ulcerations in other parts of the body. I have in several instances succeeded, experimentally, in curing, by the same means, chronic ulcers of the leg, which had resisted for years all previous attempts at treatment.

In speaking of the surgical treatment of hypertrophy of the cervix uteri, I have not hitherto even alluded to amputation of the enlarged neck, as I consider it an unjustifiable operation in these cases. Amputation of the hypertrophied cervix is difficult to perform, and is attended with great danger from hemorrhage, as is shown by M. Lisfranc's cases, many of which, no doubt, were mere instances of inflammatory enlargement. Moreover, it is next to impossible to remove the entire extent of the hypertrophy, which is usually connected with the uterus by a large base; and what remains, generally speaking, soon assumes as great a development as before. I have seen several cases, in which amputation of the hypertrophied cervix had been resorted to, probably under the impression that the disease was cancerous; but on close examination it was clear that a portion of the hypertrophied tissues only had been removed, and that the condition of the patient was but little improved by the operation. Amputation of the cervix is, in my opinion, an operation to be discarded from practice, except when cancerous or cancroid pedunculated tumours, growing from the cervix, are recognised in a sufficiently early period of their existence to render their entire removal possible, along with that of the portion of the cervix from which they proceed.

It has been objected to deep cauterization of the cervix, that it occasions cicatrices, which must interfere with the dilatation of the uterine neck in subsequent confinements. This, however, is an objection which could only be raised by those who have never seen deep cauterization resorted to, and who have not reflected on the structure of the cervix uteri, or on the results furnished by their own obstetric experience. The fact is, that a hard, fibrous cicatrix *is never observed on the cervix*, under any circumstances, and that because there is no tissue therein, the cicatrization of

which could furnish one. The hard cicatrices, which are seen after the healing of wounds, burns, or ulcers, involving the entire thickness of the external skin, are owing to the existence of a thick, fibrous frame-work, or skeleton, in which the vessels and nerves of the skin ramify. This fibrous tissue—nearly all that remains of the skin of animals in leather—is but very partially repaired by nature after any loss of substance. There is, it is true, an abundant exudation of plastic lymph, which subsequently becomes organized; but the loss is principally made good by a puckering and drawing together of the surrounding cutaneous fibrous tissue; and it is the definitive point of union of this contraction that constitutes the hard cicatrix.

In the neck of the uterus, nothing of the kind can occur. In mucous membranes the fibrous network exists, but in so rudimentary a condition as scarcely to require taking into account. Mucous membranes are nearly entirely composed of vessels and nerves; and the former when destroyed are very easily reproduced. There is, consequently, little or no puckering in the healing of even a deep ulceration,—and no hard cicatrix being formed, all evidence of cicatrization soon disappears, as we may daily observe on the lips, cheeks, and other mucous membranes accessible to the eye. Even when an ulceration on a mucous membrane has recently healed, the cicatrix is scarcely perceptible to the touch; and the eye itself soon ceases to detect its existence.

It must also be borne in mind, that in hypertrophy and induration of the cervix uteri, it is not the muscular structure of the organ,—which, in the normal state, we have seen to be excessively scanty,—but the cellular structure, that is the seat of chronic enlargement. An eschar, therefore, even when apparently of considerable size and depth, in reality does not, generally speaking, attack the proper tissue of the organ.

In confirmation of these facts, I may also add the practical results of experience, as I have frequently confined females whom I had previously treated by deep cauterization, without any difficulty or accident. M. Gendrin's experience on this point is the same as my own. Indeed, the removal of inflammatory hypertrophy of the cervix by this means, so far from proving an

impediment to delivery, absolutely assists it, by doing away with the indurated state of the cervix. As I have elsewhere stated, it appears evident to me that almost all the cases of rigidity of the cervix in labour that are met with in practice are the result of inflammatory hypertrophy, and that rigidity of the cervix during labour would be much more common than it is, were not the indurated and hypertrophied cervix gradually to melt as pregnancy progresses. I may here remark, that there is a great similarity between the physiological softening and melting of the indurated cervix that occurs during pregnancy, and the softening that takes place under the influence of the reactional inflammation which follows deep cauterization.

In the above account of hypertrophy, I have merely considered it as existing in an isolated state, and not extending to the body of the womb. Hypertrophy is not unfrequently met with in both regions simultaneously, but we shall discuss its treatment in the body of the organ when speaking of that of chronic metritis.

Displacements of the Neck of the Uterus.—The neck of the uterus, when inflamed and enlarged, is generally displaced, as we have seen; being either prolapsed, retroverted, or anteverted.

Prolapsus of the cervix, as I have fully explained in former chapters, is nearly always the result of its inflammation and enlargement, and not, as generally supposed, of laxity of the lateral ligaments. As a natural result, therefore, all attempts to remedy the prolapsus, and to keep the uterus in its natural position, by pessaries and other mechanical contrivances, are not only irrational, but injurious, as long as the inflammatory cause persists. Pessaries, it is true, whilst applied, keep up the womb; but in so doing they aggravate the disease which occasions the prolapsus, their presence greatly irritating the inflamed tissues. The continued dilatation of the vagina, also, with which the retention of a pessary is attended, by dilating the vaginal canal, and destroying what little of its natural contractility inflammation has left, deprives the neck of the uterus of a very powerful and important natural support. In a word, I have no hesitation in asserting, that in forty-nine cases out of fifty in which pessaries are now employed, the patient is absolutely injured instead of benefitted by them.

The rational treatment of partial prolapsus is, after ascertaining the real nature and extent of the inflammatory disease which occasions it, to treat that disease by the means which I have enumerated.

Prolapsus exists, to a greater or less extent, in the great majority of the cases of inflammation of the cervix that are met with in practice; the uterus being so delicately poised, that the slightest increase in its weight modifies its position. As the cervix returns to a natural size, and as the vagina regains its contractility, under the influence of appropriate treatment, the prolapsed cervix gradually rises in the pelvis, and eventually, when all disease has been subdued, regains its natural position.

This gradual elevation of the cervix, as the inflammatory enlargement subsides, is all but universal, although, in some rare instances, it only partially takes place, even when the diseased state of the cervix has been removed. When this is the case, the vagina is either naturally very lax, or it has been rendered so by frequent parturition.

Even when the uterus does remain slightly prolapsed, after the removal of all inflammatory disease, I seldom find the patient complain of dragging or pain, unless after fatigue or over-exertion; and care, with rest, and the use of astringent or of cold water injections, are the only remedies required. In such cases I never think of introducing pessaries, the presence of which is only a source of distress to the patient, and calculated to irritate and inflame the internal tissues.

Almost the only cases, in my opinion, in which the use of pessaries is occasionally justifiable, are those in which complete procidentia has taken place, and does not give way to the removal of inflammatory disease, to rest, and to the subsequent use of astringent injections, exhibited with a view to restore the tone and contractility of the vagina. Even in these cases, however, pessaries may frequently be dispensed with; the womb often recovering its position in patients in whom it has appeared at the vulva, or has protruded externally, by merely following the above treatment.

In complete and incurable procidentia, when some artificial means of support is imperatively demanded, I generally find that a bandage, with a vulvo-perineal pad, is the most easily borne by

the patient. As, however, these bandages only prevent the uterus protruding, and do not obviate its falling in the vagina, vaginal pessaries ought to be preferred, although inconvenient and painful, if they exercised, in the course of time, a curative influence on the prolapsus, as commonly asserted, by allowing the ligaments to regain their tone. But I have not, in my own practice, or in that of others, found this to be the case, even in these extreme instances. Pessaries have always appeared to me a mere artificial means of sustentation, like a crutch to a lame man, exercising no beneficial influence whatever on the prolapsus, and allowing it to return to the full extent as soon as subtracted. On the other hand, I have seen, and still continually see, a great deal of harm result from their blind and indiscriminate use. Nor can it be otherwise, when we consider that pessaries are commonly employed to remedy what is, in almost every instance, merely a symptom of inflammatory disease of the uterine neck. Thus it is that such cases occur as the one I have narrated at page 141, in which a wooden pessary was forced up the vagina of a young, unmarried female, suffering from ulcerative inflammation of the cervix uteri, and that by an experienced uterine practitioner, in the face of the most conclusive evidence as to the existence of the disease.

Abdominal bandages and supporters have been much recommended and used by most practitioners in the treatment of prolapsus of the uterus. Their advantage is limited to taking off the pressure of the intestines from the womb, by the support afforded to the lower part of the abdomen. The uterus, in the non-pregnant state, being concealed within the pelvis, an abdominal bandage clearly cannot give it any direct support. It may really afford, however, considerable relief to women in whom the uterus is enlarged, sensitive, and prolapsed; but can only be considered a palliative remedy, principally valuable to females in whom the real nature of the inflammatory disease under which they are suffering has not been recognised, and who, being left to take their chance, are glad to adopt any means that can give the slightest relief. As soon as all inflammatory enlargement of the uterus has been subdued, and it has regained its normal position, it loses its morbid sensitiveness, and the

pressure of the abdominal organs is borne without being perceived. I therefore seldom recommend bandages to my patients, and generally find that those who have previously worn them, leave them off spontaneously long before the uterine disease is quite cured, no longer deriving any relief from their use. There are cases, however, in which the abdomen is large or loose, and in which a bandage gives great relief, appearing to contribute indirectly to keep the uterus in its position, both before and after treatment.

Retroversion of the neck of the uterus, with or without anteversion of the body, is a very common displacement in married females, as we have seen, and is by no means confined to persons suffering from inflammatory disease of the cervix. Attempts have been made, of late years, to treat this displacement instrumentally, although no such means can possibly remedy its existence. It is a mere delusion to endeavour to restore the cervix and the uterus to their proper position, when thus displaced, by introducing the uterine sound into the cervical cavity, and bringing the cervix forward, even if the operation be repeated daily for several weeks. Such a treatment only inflicts pain on the patient who is made to submit to it, without being of the slightest benefit to her. It does not remove, in any respect, the cause of the displacement, and the consequence is, that as soon as the instrument is withdrawn, the cervix falls back into its original position.

Retroversion of the cervix, it will be recollected, is partly the result of gravity, acting on an enlarged and indurated cervix, and partly of long-continued intercourse, taking place under the same circumstances; and the only chance there is of remedying it is to restore the enlarged and indurated organ to a natural size and consistency by judicious antiphlogistic treatment. When this has been effectually accomplished, the uterus rises in the pelvic cavity, and the cervix, ceasing to press upon the rectum, gradually reassumes, to a certain extent, its normal position. I say, to a certain extent, for it very seldom happens that the cervix thoroughly regains a normal direction, when it has once been much retroverted. This circumstance, however, is not of the least importance, as a slight deviation of the cervix posteriorly,

and of the uterus anteriorly, gives rise to no morbid symptoms, in the absence of inflammatory disease, and requires no treatment, a fortunate circumstance, as it is the usual position of the organ in many married women perfectly free from any kind of uterine disease.

The above remarks apply, in every respect, to anteversion of the uterus, which is nearly always connected with, and apparently the result of, extreme retroversion of the cervix.

Anteversion of the cervix is scarcely ever observed, except in connexion with retroversion of the body of the uterus. We shall examine its treatment when describing that for chronic metritis.

Pain.—The various local pains that have been elsewhere described constitute one of the prominent symptoms of inflammation and ulceration of the cervix, and vary considerably during the course of treatment. Generally speaking, they do not require any particular medication; they are, however, subject to exacerbations after cauterization, the application of leeches, overexertion, and the approach or presence of the menses, which may imperatively require relief. The most prompt and efficacious remedy for uterine pain, and for pain in the uterine regions,—the lower part of the back, and the vicinity of the ovaria,—is the injection of laudanum, or of any preparation of opium, into the rectum, in a small quantity of warm water, to be retained. The effect is much more decided than if the opiate were taken by the mouth. From fifteen to thirty minims of laudanum may be used at a time, and repeated in the course of an hour, if the desired effect is not obtained. A preparation of Mr. Squire's, to which he has given the name of solution of bimeconate of morphia, has appeared to me to occasion less sickness and headach than any preparation of opium that I have ever used, and I generally give it the preference on this account. The dose is the same as that of laudanum.

To the opiate injection may be added, sedative vaginal injections, the warm hip-bath, rest in bed, large poultices to the abdomen, leeches at the menstrual epoch, sulphuric ether administered internally, chloroform, and Indian hemp as a tincture or an extract.

Chloroform is a very valuable addition to our means of allaying severe uterine pain, in whatever shape it manifests itself, whether as an exacerbation of the ordinary aching pains, as an occasional attack of uterine spasm, or as a periodical neuralgic affection. In all these forms of pain I have often given it with great benefit. It may be administered by inhalation, or internally as a medicine, or by rectal injection.

The inhalation of chloroform, carried so far as to produce insensibility, but not muscular paralysis, has often, in my hands, allayed the most violent pain, and subsequently procured the patient several hours refreshing sleep. The same effect has been produced in many of my patients, by giving internally from thirty to forty minims beaten up with the yolk of an egg, or in a little thick gruel. I have obtained a like sedative effect from the use of the same quantity injected into the bowels. As chloroform does not mix with water, it is necessary to beat it up with mucilage, the yolk of an egg, or thick gruel, in order that it should remain in suspension. Very frequently, however, the rectum cannot retain it, owing, apparently, to its irritating effect on the mucous membrane.

Generally speaking, all uterine pains vanish when the disease of the cervix is cured. This is not, however, invariably the case. The pain in the back, more especially, may remain long after all trace of disease has disappeared from the uterus, varying in intensity without any tangible reason. The treatment which I have found the most beneficial in this neuralgic form of backach is, the repeated application of large blisters. Blisters generally relieve it, even when uterine disease is still in existence; but I seldom resort to them during treatment, as the relief is only temporary, and a blister in this region is rather a painful and annoying remedy. When the uterine disease is quite subdued, on the contrary, one, two, or three blisters, applied successively, will often permanently remove the pain. If not at first successful, their application will generally be found to be so a few months later. Opiate and belladonna plasters, cupping and leeching, are frequently useful, although by no means so efficacious as blisters.

When uterine or vesical pain is very constant, and only tem-

porary relief is obtained by the above means, I have repeatedly derived great benefit from the formation of an issue in the cellular tissue, just above the pubis, near the symphysis pubis. This issue should be kept up for several months. It also exercises a beneficial influence on the chronic uterine inflammation itself.

The pains in the left and right ovarian regions, which so generally accompany inflammation, and especially ulceration of the uterine neck, do not require any particular treatment. In the very great majority of cases in which they are met with, as we have seen, they are merely sympathetic pains of the nerves distributed to the ovary, and do not indicate the existence of ovaritis, either acute or chronic. Their almost invariable presence in the ovarian regions, however, when the cervix uteri is ulcerated, is a remarkable circumstance, which leads to numerous errors. In practice, I continually meet with patients who are supposed to be suffering from chronic ovaritis, because they present these pains along with tenderness in the ovarian region, and with whom the inflammatory disease of the cervix is, in reality, the only decidedly morbid condition, the ovaries being free from all inflammatory action, and merely sympathetically irritable.

Dilatation of the cervical cavity.—Menstruation appears occasionally to remain painful, after the subdual of inflammatory action in the cervix, from contraction either of the region of the cervical canal which has not been inflamed, or of that in which inflammation existed and has been cured. In the former case, the contraction is probably the result of the morbid thickening and enlargement of the cervix, diminishing the calibre of that part of the cervical canal that does not participate in the inflammation; for it will be remembered that inflammation of the cervical canal itself has invariably a contrary or dilating effect. In the latter case, the contraction is probably owing to the narrowing of the previously inflamed and dilated region which occurs from the treatment having been carried a little too far.

Even when narrowing of the cavity of the cervix does exist under the influence of either of these causes, as a sequela of inflammation, it is often only temporary, and is gradually re-

moved by nature without the necessity of any particular treatment. In the course of a few months, in the absence of inflammation, the remaining induration of the neck of the uterus may be gradually absorbed, and all pressure thus taken off the upper cervical region, whilst the lower region almost generally relaxes in time, however contracted it may be when the cure is first effected.

This being the case, it is clear that no remedial treatment for narrowing of the cervical canal is required, under ordinary circumstances, within the few first months of the cure of inflammatory disease. Should, however, menstruation, after a reasonable lapse of time, continue to be anomalously painful, all inflammatory action, both inside and outside the cervix, having been subdued, artificial dilatation of the cervical canal may be reasonably recommended. In deciding on the adoption of dilatation, the state of menstruation is with me the principal criterion. The condition of the cervical canal, as appreciated by the uterine sound, I do not look upon as a guide that can be entirely depended upon. I continually see instances in which the cervical canal is so narrowed, especially after treatment, as not to admit the uterine sound at all, and yet menstruation is easy, free from pain, and sufficiently abundant. In such cases, I should never dream of resorting to dilatation, unless it were with a view to remove a possible cause of sterility.

I am constrained, however, to confess that I do not believe that narrowing of the cervical canal is a frequent cause of sterility. The removal of this structural condition has proved of no avail in the majority of the cases in which I have resorted to it; and in those in which it has been followed by success, I am not certain whether the favourable result ought not to be attributed to the previous cure of the inflammation. The following case will illustrate the difficulty of forming an opinion on the subject.

In the spring of 1848 I was consulted by a young lady, aged twenty-five, married nearly two years. Of delicate constitution, she had for years suffered from dyspepsia and from dysmenorrhea, but had been much worse since her marriage. She also presented various uterine symptoms, and, on examination, I found

the neck of the uterus and the upper region of the vagina slightly inflamed, but not ulcerated. The local disease gave way, the general health improved under appropriate treatment, and in the course of about two months, I was able to pronounce her well, and to state that an important cause of sterility having been removed, it was not at all improbable that conception would subsequently take place. The uterus was then perfectly healthy, but the cervical passage was too small to admit the uterine sound in its entire extent, and I could not pass the smallest bougie through the os internum. Both the lady and her husband being anxious for a family, I mentioned this condition, and stated that it might be desirable at some subsequent period to remove the contraction, if it did not spontaneously disappear, and if the sterility persisted. A few months later I again saw her; her health had still further improved, and the uterus was, as before, free from disease, but the cervical contraction was not in any sense diminished. It was therefore decided that the dilatation should be effectually carried out on her return from the seaside, where she was about to spend a couple of months. Before she had been there a fortnight, however, she became pregnant. Had dilatation been effected when I last saw this lady in town, previous to her journey to the seaside, the inevitable conclusion would have been that it was the result of the dilatation only. The sequence between cause and effect would have appeared undeniable, and it would have received the entire credit of having removed the sterility.

Such instances as these show how difficult it is to arrive at the truth in the estimation of the value of remedial agents, and also that individual cases, however apparently conclusive, prove nothing. No medicinal or surgical agent can be considered the cause of a subsequent result, unless that result *generally* follow its administration or use. Judged by this test, dilatation of the cervical cavity has not proved in my hands a remedy for sterility that can in any respect be depended upon. Still, as contraction may possibly be the cause of sterility, I do not hesitate to advise it, and to resort to it, when inflammation has been thoroughly removed, and conception does not take place

after a reasonable lapse of time—that is, after three, six, or twelve months, according to circumstances; or when contraction exists in sterile females, independently of inflammation.

There are various means by which the cervical canal may be dilated. Dr. Mackintosh, of Edinburgh, to whom the idea appears to have first occurred, used metal bougies of different sizes, which he introduced into the cervix, allowing them to remain for a few minutes, and gradually increasing their size; thus applying to the dilatation of the cervical passage the principles which regulate that of the urethra in the male. Dr. Simpson has made several ingenious modifications and improvements in the dilatation of the cervical canal. Instead of long bougies, which can only be retained a short time, he uses small ones, only two and a half inches in length, terminated by a bulbous disc or extremity. The vagina closing round this disc prevents the bougie being expelled from the cervical canal by its contraction. A small-sized bougie is at first introduced and allowed to remain four-and-twenty hours, or longer, and the size is gradually increased as the canal dilates, until the os internum itself is opened, and the sound passes freely into the uterine cavity. Dr. Simpson also uses for the purpose of dilatation, cones of prepared and compressed sponge, which are introduced into the cervical canal by means of a stilet as far as they will pass, and which by their gradual expansion under the influence of the moisture and heat of the parts, gently dilate and open the cavity of the uterine neck. An instrumental dilator has long been used, formed of two blades, the length of the cervical canal, which open by the action of the handle, and when closed merely represent a conical staff. The blades are introduced closed, and on being opened, forcibly dilate the cervical canal. Dr. Simpson has likewise invented a very ingenious instrument, which he calls the uterotome, for dividing the os internum or the cervical canal. It presents a long narrow blade concealed in a bougie-like extremity, which also opens by the action of the handle.

Dilatation by means of the ordinary metallic sounds is tedious and inefficient. Owing to the great thickness of the walls of the cervical canal, and to the considerable amount of contractile power which they possess, the mere gentle introduction of a

metal bougie for a few minutes every two or three days, is powerless to efficiently dilate a contracted cervix: at least, it has always appeared so to me when I have tried it. On the other hand, if force is used, the space gained is more likely to be obtained at the expense of contusion of the tissues which form the immediate parietes of the cervical canal, than by the dilatation of the walls of the cervix, which it must not be forgotten are half an inch in thickness.

This latter objection applies with even greater force to the metallic dilator. Such an instrument might rationally be used to dilate a mere membranous canal, but in the cervical cavity it must act to a very great extent by bruising and crushing the tissues which it is meant to expand. It should therefore be entirely discarded.

The small, bulb-ended metal bougies of Dr. Simpson are free from these objections, and, if carefully used, are safe and effectual. No force need be employed, as we depend for dilatation on their gradually tiring out, as it were, the contraction of the part of the cervical canal into which they are introduced. A size is chosen which just passes, and which is sufficiently small to be grasped by the cavity of the cervix. Its sojourn in the cervical canal, if *there is no inflammation present*, is unattended with irritation or inconvenience, and in the course of a period varying from a few hours to four-and-twenty, the cervix relaxes around it, and becomes sufficiently open to admit of a larger-sized bougie. The great difficulty, however, with these bougies is their introduction, on account of the bulb. If the vulva is relaxed and open, nothing is easier; but if, on the contrary, as is very often the case, the vulva is small and contracted, it becomes extremely difficult to introduce the bulb, and subsequently to guide the other extremity to the os uteri, even with the assistance of the director used by Dr. Simpson, which fixes in the bulb. I endeavoured to obviate this difficulty by having small bougies made without a bulb, keeping them in situ by a small piece of sponge, introduced into the vagina as a pessary. This plan, however, does not answer, as the bougie, not having the support of the bulb, is easily expelled; moreover, the retention of the sponge is often attended with vaginal irritation.

The above objections and difficulties have induced me to resort nearly exclusively to the use of compressed sponge, as suggested by Dr. Simpson, for the purpose of dilatation. I use very small cones, from an inch to an inch and three quarters in length, tapering down to a small blunt point, and covered with a thin coating of wax. One of these cones—a small one—is introduced into the cervical canal, by means of the stilet, as far as it will go, and there left for four-and-twenty hours. The wax as it melts forms a coating to the sponge, and protects the tissues which it imperceptibly dilates; the slow dilatation of the sponge, under the influence of capillary expansion, thus overcoming the resistance of the cervix, and effectually opening the region in which it is introduced without irritating the mucous membrane. This, however, is only the case when the sponge is well covered with wax; if left bare, it irritates the mucous surface and makes it bleed. The sponge should be allowed to remain for twenty-four hours, when the patient herself can easily withdraw it, by means of a small piece of silk or thread, which should be fixed to it, and should be sufficiently long to protrude externally. The expansion of the sponge is seldom attended with any pain, or, indeed, with any sensation. Sometimes, however, the patient will say, that she feels as if something were being forcibly opened about the womb. If the sponge is allowed to remain more than twenty-four hours, it is generally expelled spontaneously into the vagina, apparently by the pressure of the mucus naturally secreted above the point where it lies. If imperfectly introduced, it may fall out long before, and be found lying in the vagina. It is generally easy to tell which part of the tent has expanded in the cervical canal, as it is much less swollen than that which has not entered, and which has freely expanded in the vagina. A decided contraction indicates the line of demarcation. If the entire tent is uniformly and fully developed, as if it had been soaked in water, the probability is, that it either never was really introduced into the cervical cavity, or that it was expelled before it had time to dilate.

When the os uteri is much closed, and very small tents are introduced, the use of a speculum cannot well be avoided, as the warmth of the vagina softens the tent or its point, before it can

be passed into the os. When the os is more open, and a larger tent can be employed, the speculum is not required, as it can then be easily introduced with the assistance of the director or of a stilet, the patient lying on her left side. The first will probably only pass a quarter or half an inch; but each time a new tent is inserted it penetrates further, until the entire cervical canal can be dilated. As I only introduce the tent every third or fourth day, in order to prevent irritation, the interval between two menstrual periods is generally required in order thoroughly to dilate the canal. The day the tent is withdrawn, as there is generally a certain amount of mucous discharge, I recommend a quantity of cold water, or an astringent solution, to be injected into the vagina, to allay any slight irritation which the interference may have occasioned.

By thus progressing carefully, ascertaining occasionally the state of the parts by instrumental examination, and suspending the dilatation if any irritation of the mucous surface is produced, in the course of two or three weeks the cervical canal may be efficiently dilated without any local injury whatever. This is certainly not always the case when more violent means are used. I have met with repeated instances in which much mischief had been produced by forcible dilatation, and by blind attempts to dilate the cervical cavity when in a state of inflammation.

At one time I used Dr. Simpson's uterotome frequently, in order to divide the os internum, and found it a very efficient means of removing the apparent constriction at that region. A mere slit laterally, on each side, not more than a line in depth, which is scarcely felt by the patient, is all that is required to establish a free communication between the two cavities. In order, however, to make this slight incision, the instrument *must pass through the os internum*, as otherwise the blade could not be made to bear on the spot which it has to incise; and since I have carefully analyzed the state of this region, when free from disease, I have ascertained that a degree of openness, that admits the passage of the uterotome *through the os internum*, is in reality more than is generally met with in the healthy female; and that, consequently, there can be no sound reason

for increasing it still farther. When, therefore, by means of the sponge tents, the cervical cavity has been dilated, and the os internum relaxed, so as to admit the passage of a moderate-sized bougie, or of the extremity of the uterotome, I now consider that the dilatation has been carried quite as far as is necessary or desirable, and consequently very seldom resort to the uterotome.

After the os internum has been divided by the uterotome, there is generally a slight oozing of blood for a few minutes. Were no means adopted to prevent union, the incised surfaces would probably heal by the first intention, in twenty-four hours; it becomes necessary, therefore, to introduce a moderate-sized metallic bougie, taking care that it be pushed sufficiently far to pass the os internum. This bougie should be retained four or five days, if its presence is unattended with pain or discomfort; if otherwise, it may be withdrawn for a few hours, or even a day, and then re-introduced.

By the above means the incisions may be prevented healing, but in the course of a few weeks or months the os internum invariably closes again. I have never examined a patient on whom I had performed this operation, after a lapse of some time, without finding the os internum as much closed as at first. Nor is it surprising that this should be the case, the os internum being *naturally closed*, as I have elsewhere explained; so that any attempt to establish a permanently free communication between the two cavities of the cervix and uterus is merely an attempt to establish what is not a natural condition.

Rest, Exercise.—A patient suffering from inflammation and ulceration of the neck of the uterus should remain, as much as possible, in a reclining posture, on a couch or easy chair. In this position there is no pressure on the uterus, and its gravity is not called into action; in the erect posture, on the contrary, the weight of the uterus drags it down, and in walking it is thrown against the adjoining tissues, which gives rise to pain. Complete rest is more especially advisable after any surgical interference, when the vitality of the inflamed tissues has been raised by local applications, and when the uterus is consequently more sensitive than usual.

I do not, however, consider it necessary for the generality of patients suffering from inflammatory disease of the uterine neck, to remain perpetually on a sofa or on an easy chair. Unnecessary exertion, standing, and going up and down stairs, should be avoided as much as possible; but if the motion of a carriage can be borne, it will, generally speaking, do no harm, and the fresh air will improve the general health. Even a gentle walk, taken for air more than for exercise, may be allowed, if there is not much hypertrophy and displacement, and if it does not bring on pain or uneasiness. In a word, we must be guided by the nature of the symptoms, the amount of disease, and the sensations of the patient, always bearing in mind that absolute confinement is an evil which we cannot avoid in some cases, but which should never be enforced without necessity. It is scarcely necessary to add, that during the treatment of this form of disease, separation of the husband and wife should be strictly enforced.

The Bladder and the Rectum.—We have seen that the bladder and the rectum generally participate, more or less, in the congestion which accompanies inflammation of the neck of the uterus, and that sometimes inflammation extends from the uterus to these organs. When this is the case, the means employed to mitigate the uterine disease—leeches, abdominal poultices, hip-baths, and vaginal injections—are equally efficacious in allaying the vesical or rectal irritation—all the morbid symptoms which the pelvic viscera present subsiding at the same time.

Irritability of the bladder, the result of extension of inflammatory action, must not be confounded with that which is produced by the contact of morbid urine. I shall revert to this form of vesical irritability, when speaking of the treatment of depraved digestion and assimilation.

I am in the habit of treating the irritable state of the mucous membrane of the lower bowel, and the kind of paralysis of its action which is so frequently met with, by a very simple means —the daily injection of a small quantity of cold water into the rectum. Injections of warm water relax the bowel, and appear, if persevered in for any length of time, to increase, or even to occasion, constipation. But this is not the case with *cold* water,

or cold linseed tea, when it can be borne, as is generally the case. It restores the contractility of the muscular fibres, and allays irritation of the mucous membrane. If injected in a small quantity only, not more than half a pint at the utmost, its presence is seldom attended with any uncomfortable sensation whatever. Indeed, it is not even necessary to take off the chill, unless the weather be cold, or the feeling of the patient requires it; for in some exceptional cases, the impression of cold on the bowel produces spasm.

When the rectum is perfectly inactive, and allows hardened fæces to remain for days in its lower region, without giving any intimation to the patient of their presence, or without having power to contract and expel them, as generally occurs in chronic uterine disease, the daily use of the cold injection after breakfast is invaluable. It clears the lower part of the bowel, without the patient being obliged to have recourse to aperient medicines, otherwise indispensable, and may be continued for months, or even years, without the slightest inconvenience or injurious effect. If the constipation is situated higher up in the intestinal canal, and the fæces do not reach the rectum, injections of all kinds are, of course, inefficacious. But even then, I often advise my patients to persevere in the use of the cold injection, merely as an additional means of applying cold to the pelvic viscera, in the anticipation of its gradually restoring the contractility of the rectum, and thus preparing it for its duty, when other causes of constipation have been removed.

General Treatment.

Although of the most vital importance, the general medical treatment of a patient suffering from inflammatory disease of the neck of the uterus may be considered accessory to the local means employed. That such is the case, is proved by the fact that general medication alone is totally powerless to subdue the disease; whereas, by local means, with attention to dietetic and hygienic rules only, the uterine inflammation may, generally speaking, be entirely subdued, and its sympathetic reactions removed.

The various symptoms indicating disordered digestion, assimi-

lation, nutrition, circulation, and enervation, being entirely sympathetic—that is, the result of the reaction of a diseased organ on the functions of organic and animal life, with which it is connected by its nervous system,—it stands to reason, that when the cause of all the mischief is removed, the economy must rally, even unassisted, unless too far depressed by disease. Fortunately, this is seldom the case, the system appearing almost always to retain the power of rallying, even when it has been lowered by a long life of disease. Thus I have frequently known females recover from the all but unassisted energy and vitality of their constitution, although for twenty years or more the existence of chronic uterine inflammation had rendered them confirmed invalids. We may therefore hope much from the latent strength of the economy, when local disease has been removed, independently of what we can do by medicinal and hygienic means, to assist the restorative efforts of Nature.

Although I thus give by far the greatest share to Nature in the restoration of the general health, when the uterine disease has been removed, I must not be thought to depreciate the powers of medicinal and hygienic means of treatment. Much may, no doubt, be done through their agency to hasten the recovery of the health and strength of the patient, as I shall endeavour to show.

The principal characteristic of the disordered state of the digestive system, which almost invariably accompanies chronic inflammatory disease of the neck of the uterus, is weakness. The stomach evidently participates in the general debility, and in the depression of the nervous system, and loses the power of transforming the food ingested into healthy chyle—digestion being either rapid and imperfect, or slow, laborious, and painful.

Such being the case, it evidently follows that the plan generally pursued with patients thus suffering, who, because they are weak and debilitated, are gorged with meat and stimulants, and drenched with steel and quinine, must be injurious, instead of beneficial. That it is injurious, my daily experience demonstrates. I constantly meet with patients who have been thus treated for months and years, and who, instead of deriving any benefit from the good living and tonics which were to build them up, have

gradually become more and more debilitated, emaciated, and feverish.

The fact is, that in such cases a large proportion of the food that is taken passes away undigested; whilst that which is digested with difficulty gives rise to such imperfect chyle, that, as soon as the lymphatics pour it into the blood, it is eliminated by the kidneys, as we have seen, in the shape of urate of ammonia, oxalate of lime, &c., giving rise, at the same time, to headach, palpitation, heartburn, restlessness, nightmare, and other similar symptoms.

It should never be forgotten that loading the stomach of a debilitated invalid with nourishing food is not nourishing to him, and that temporarily raising the circulation and the nervous system by the repeated administration of wine and other stimulants is not strengthening him. It is not what is taken into the stomach that nourishes, but that which, being thoroughly digested, furnishes a healthy chyle, susceptible of being assimilated, and of repairing the wear and tear of the system. Thus it is that a patient may starve and lose flesh on a diet of meat and wine, or ale, three or four times a day, and grow fat on rice and milk, or on any other light article of food, containing the necessary elements of nutrition, which the stomach can really digest.

The same remark may be made with reference to the principal tonic medicines, such as iron and quinine, which, although universally administered, irrespective of the state of the digestive system, are, in reality, totally incompatible with a disordered digestion. When given under such circumstances, far from being beneficial, they often positively do harm—occasioning headach, flushing, and general uneasiness, because the debilitated and disordered stomach cannot digest them. We see this fact exemplified in the treatment of intermittent fever. So long as the tongue is loaded, and the stomach out of order, it is of but little avail to give quinine; in order to ensure its being digested and assimilated, so as to produce its specific influence, it is first necessary to restore the integrity of the digestive system.

The only tonics that I have found beneficial in this morbid state of the digestive system, are the mineral acids and vegetable bitters, and more especially the former. Stimulants, such as

spirits, wine, and malt liquor, are decidedly injurious. They do not rouse the vitality of the stomach, and enable it to digest food, as is generally supposed, but tend, on the contrary, still further to increase the depraved condition of its secretions, and to diminish its power of transforming food into healthy chyle. Although this is invariably the effect of their administration in these cases, they are nevertheless generally advised and taken as a means of restoring strength. The patient is easily induced to believe that such is really the effect produced, as the immediate result of the ingestion of stimulants of this description is to temporarily dispel the sensations of extreme languor, debility, and depression experienced, and to give artificial strength, which conceals the real state of the system. In order, therefore, to appreciate correctly the actual condition of a patient who has been thus taking stimulants, she should be made to forego their use entirely for a few days, and then the debility will be seen as it really is. These observations also apply to diffusible stimulants, such as ammonia and sal volatile, when taken to excess.

The habitual use of opium, and of narcotic medicines generally, has the same pernicious effect. Their continued action both injures the patient, and conceals the real state of her health by the false calm or excitement which it occasions. The constant administration of opium in order to soothe pain, in cases in which the real nature of the disease is not understood, and in which, consequently, medical treatment utterly fails to subdue, or even to mitigate, the sympathetic nervous symptoms, is more especially pernicious. It not unfrequently so reduces the patient to the state of the professed opium-eater, that after all uterine disease is subdued, she may have to go through intense mental and physical misery before the habit can be conquered, and the system restored to a natural state.

The habit of taking large doses of laudanum as a means of lulling the bodily pains, and of soothing the mental depression and distress so frequently experienced in chronic uterine disease, is much more common than is generally supposed. Laudanum is at first prescribed medically, in small doses, by the medical attendant, and the patient finding relief from it, of her own accord gradually increases the dose, often concealing the fact

from those around her, until at last the quantity she takes daily becomes enormous, a wine glassful or more. When once this point has been attained, she may be considered a confirmed opium-eater, and the effects of the opium on the economy are pretty much the same as those which it would produce on a non-diseased person. Not only are the pains of disease obscured whilst the patient is under the immediate influence of the drug, but the nervous system is calmed, and the mind for the time recovers its pristine clearness and power. Thence it is that the female opium-eaters I meet with, under these circumstances, are principally very intellectual persons, who fly to it as a means of enabling them to accomplish their social duties and obligations, notwithstanding the prostrating influence of the disease under which they are labouring. They cannot resist the temptation offered to them by a drug which, even for a time, restores to them their former mental energy, and enables them to soar above the frailties of their corporeal frame—and that although perhaps aware that they are sowing the seeds of destruction in their frame, and aggravating the disease from which they suffer. One of the results of the habit of opium eating experienced by some, but not by all, is a tendency to dream whenever sleep closes the eyes. The dreams may be, and often are, for a time, wild, fantastic, but agreeable; later, however, they become horrible and terrifying, assuming the form of a nightmare, which pursues the patient whenever she attempts to sleep. I have met with illustrations of both these conditions.

Under the influence of this pernicious and fatal habit, not only does the local uterine disease make rapid strides, but the functional derangements which it occasions increase in the same proportion, and others supervene, more especially the result of the opium. The symptoms which I would more especially refer to the latter are congestion and irritation of the liver, giving rise to frequent attacks of bilious vomiting and purging, alternating with obstinate constipation. The general nutrition also flags, and in the course of time the emaciation becomes extreme. When I meet with cases of this kind, I merely diminish the quantity of opium taken until the uterine disease be cured, and then oblige the patient to leave it off altogether and at once.

The attempt is always a severe trial, and requires great courage on her part and great and constant attention on the part of her medical attendant. The mental prostration and distress, and the bodily restlessness and agitation for the first few weeks are often truly deplorable. I have always succeeded, however, hitherto, in breaking the habit, although often only after great trouble and anxiety. It is a fact that should be borne in mind, that patients are generally very loath to confess to this habit. I have repeatedly attended persons for many months without being made aware of it.

From what precedes it must be evident that the strengthening plan of treatment generally pursued in cases of general debility and functional derangement, the result of unrecognised chronic uterine inflammation, is essentially wrong. It is adopted under the impression that the languor and debility are idiopathic, the evidence of a low vitality, and to be met by tonics. Nothing, however, as we have seen throughout this work, can be more irrational than these views, which are founded, on the one hand, in ignorance of the existence of local inflammation, and on the other, in being unaware of the injurious effects of the attempt to increase the nutrition of the system, by stimulating and over-taxing the powers of the stomach, when debilitated by disease. Great as these errors are, however, they are daily committed by the most eminent practitioners. I am constantly consulted by anemic females labouring under chronic uterine disease, and great derangement of the digestive and nutritive system, who have for years been plied with animal food, stimulants, and tonics, and tortured by exercise, in order to remedy what was erroneously considered to be "idiopathic debility!"

The principles on which the disordered state of the digestive and nutritive functions in these cases should be treated, are twofold. Firstly, the local uterine disease, which, through its sympathetic reaction on the stomach and digestion, occasions these morbid conditions, should be subdued by the local means already enumerated, in order that all morbid reaction may cease; otherwise general treatment is vain. Secondly, the stomach and digestion should be taxed as little as is consistent with the reparation of the system.

The stomach is a muscular organ, which, even in health, like all other muscular structures, requires rest. Even the heart, although apparently in motion, is so constructed, that its muscular elements rest during a considerable part of the twenty-four hours. How much more necessary, therefore, must rest be to the stomach when it is debilitated and diseased, when its secretions are depraved, and when its powers of carrying out the processes of digestion are weakened? And yet this is the very state that is often chosen, as we have just seen, to pour into it, at short intervals throughout the twenty-four hours, animal food and irritating stimulants; the former requiring, it should be recollected, three, four, or more hours of constant trituration. This system is adopted under the plea of general debility, with a view to invigorate the system by nourishing food. But of what use is it to furnish materials in such abundance, if the organ which is to transform them into chyle participates in, or even originates, the general weakness, and, being unable to accomplish the duty imposed upon it, either gets rid of the food in an undigested state, or elaborates imperfect chyle, which, when it reaches the circulatory system, merely poisons the economy, and is speedily eliminated and thrown out by its emunctories the kidneys, in the shape of urate of ammonia, oxalate of lime, &c.

The more rational course, the one which I invariably follow, is, to allow the stomach as much rest as possible, taking into consideration, that by its labours the wants of the system have to be repaired. I treat it as I would a sprained joint. No person in his senses would think of walking all day with a sprained knee, or ankle, in order to strengthen it; and it appears to me equally absurd to keep the weakened or diseased stomach constantly full and at work, eighteen hours out of the twenty-four, in *order to invigorate it*. Actuated by these views, I discard, in the treatment of the morbid conditions of the stomach, the precept so generally followed in dyspepsia—"a little substantial food taken often." On the contrary, I only allow animal food once a day, restrict the patient to three light meals, and endeavour to arrange her diet, so that everything taken should be as easily digested, and consequently as soon out of the stomach, as possible. By

these means, the "labour" of the stomach may be limited to eight or nine hours in the twenty-four, and yet a sufficient quantity of chyle be furnished by digestion to supply the wants of the economy; better, indeed, than they are supplied by the imperfect digestion of five times the amount of more solid, and, according to the popular idea, more nourishing food.

The constant craving for food, and the sinking sensations which are so often present in a disordered state of the digestion, are decidedly morbid symptoms; the presence of which is owing, probably, either to the food ingested leaving the stomach in a semi-digested state, or to the chyle formed being morbid, and unfit for the purposes of assimilation, and to its being eliminated by the kidneys in a short time after it reaches the blood. This fact illustrates the fallacy of the popular opinion, that the stomach should not be allowed to remain empty during the state of wakefulness. If the food taken is thoroughly digested, and affords to the system sufficient reparative elements, hunger is appeased for some time, and the emptiness of the stomach is borne without any uneasy sensation. It is, indeed, a period of rest for that organ, during which it recovers its strength, as it were, and prepares for subsequent exertion. If the food, on the contrary, owing to weakness or disease, is not so digested as to afford to the economy the elements of nutrition, hunger is again felt within a very short time after its ingestion. This morbid craving is thus more effectually met by a light and rather spare diet, than by an abundance of solid food, which only perpetuates and increases the evil.

The form of dietary which I generally recommend is as follows:—For breakfast: thin cocoa, made with part milk, or very weak tea, with stale bread-and-butter and an egg if desired. For luncheon: an egg, or broth, or a light farinaceous pudding, or merely a little bread-and-butter. For dinner: fish, poultry, game or meat alternately; vegetables, if they agree. The dinner to be completed with some light pudding, rice, bread-and-butter, sago, arrow-root, &c. If the digestion is very much disordered, the patient had better confine herself to fish and poultry for some time. When meat is taken, not more than an ordinary-sized mutton-chop should be eaten; when poultry,

not more than the wing of an ordinary fowl. In the evening, a little very weak tea may be allowed, without anything solid.

If in these three meals the patient takes from eight to ten or twelve ounces of bread, from ten to sixteen ounces of milk, in one shape or another, from two to three or four ounces of animal food, a little butter, vegetables in small quantities, if they agree, and broth, or an egg, as accessories, there need be no fear of the system not being nourished. This amount of food is not, in reality, a very low diet, and is quite sufficient to supply all the wants of the economy, not only in an invalid, but also in most dyspeptic persons, otherwise in health. It is a singular fact, the truth of which is daily more and more demonstrated to me by observation, that those who suffer from dyspepsia extract a sufficient amount of nourishment from a comparatively small quantity of food. Even when in perfect health, with them the wants of the system are supplied from a less amount of nutritive elements than is required by persons who are free from any tendency to dyspepsia, and whose digestion is much stronger.

As I have already stated, all kinds of stimulants, including strong tea and coffee, are prejudicial. The patient should therefore be limited to water, or toast-and-water, and very weak tea, as a beverage. A little strong coffee may sometimes be taken in milk, for breakfast, without any injurious effect. When it can be borne, it is an agreeable change; but the milk should be merely flavoured with coffee. Thus taken, it is the *café au lait* of the Continent. Strong tea to many persons thus suffering is a very pernicious beverage, giving rise, almost immediately, to spasms and cardialgia.

Some patients, especially when they are thus made water-drinkers against their inclination, fall into the error of not taking enough fluid. It should, however, be recollected, that fluid is just as necessary to carry on the operations of the animal economy as food, and that not less than about two pints, in one shape or another, should be taken in the twenty-four hours. I have often known the urine to become permanently lithatic merely for want of the necessary quantity of fluid.

The regulation of the hours for meals is of great practical

importance. As a general rule, I do not approve of breakfast being given to invalids or dyspeptic patients, as soon as they awake, in bed, or immediately on rising. I think it much better to wait a little, and to allow the stomach time to recover itself, and thus to prepare for the morning meal; the more so, as hunger is rarely experienced immediately on awaking in the morning. From nine to ten o'clock, therefore, according to the hour at which the patient rises, is quite early enough. Dinner must be early or late, according to the habits and constitutional peculiarities of the patient. Persons who have dined early all their lives seem to digest their principal meal better in the middle of the day than later; they should therefore dine early, but not sooner than two, if possible; as otherwise the system becomes exhausted before night, and supper is almost imperatively demanded, under the penalty of loss of sleep. When an early dinner is taken, of course luncheon is not necessary, but the tea must be more substantial, and taken late, between six and seven, so as to render supper unnecessary. There are many persons, however, who cannot digest animal food early in the day; it would seem with them as if the stomach required the entire day to rally and collect strength for its digestion. Such persons should merely make a light luncheon in the middle of the day, and dine at five or six at the latest, making that the last meal.

I have been thus minute in laying down dietetic rules, because it is principally on their observance that I depend for the recovery of the digestion and nutrition of the patient, when the local uterine disease has been subdued. Great assistance may be derived, it is true, from medicinal agents, but assistance only. If the powers of the stomach are constantly overtaxed, and it is continually irritated by stimulants, medicinal treatment merely mitigates the intensity of the morbid symptoms, failing to restore the patient to health, even when all local disease is removed.

The above dietetic rules, however, it must be remembered, are for dyspeptic invalids, and not for persons in health taking exercise. As the tone of the stomach returns, as the powers of digestion increase, and more exercise is taken, the diet may be

made fuller and more animalized, if the patient finds it really to her advantage.

The medicinal preparations which I find of greatest use in these conditions of the digestion, are the alkalies, and principally liquor potassæ, the mineral acids, more especially dilute hydrochloric acid, the vegetable bitters, hydrocyanic acid, and the tris-nitrate of bismuth. When administering the alkalies or acids, I generally give them largely diluted with water, about an hour after breakfast and dinner, having remarked that the ingestion of fluid at that time appears to prevent the formation of lithates in the subsequent periods of digestion. At least, if they are formed, they are often retained in solution, so as not to render the urine turbid. This precaution is more especially advisable when the presence of lithates in the urine creates or keeps up irritability of the mucous membrane of the kidneys, ureters, and bladder.

When a patient, whose real debility has been long concealed by stimulants and high feeding, is placed on a low diet, and deprived of the accustomed stimulation, she necessarily for some time feels excessively prostrated, languid, and unwell. Whilst taking rum-and-milk early in the morning—a favourite prescription with some practitioners, porter or ale at luncheon, and two or three glasses of sherry or port at dinner, the system is kept in a state of feverish excitement, which affords artificial strength, and, flushing the countenance, gives to the face, in the eyes of a superficial observer, the hue of health. It is, consequently, often difficult to persuade the patient and her friends that it is better for her to be left to her real weakness, to appear as pale, as languid, and as debilitated as she really is. There can, however, be no doubt that such is the case. If a patient is really debilitated and anemic, her state should be accepted by herself, her friends, and her medical attendant, and met by therapeutic means directed to the morbid conditions which occasion the anemia. It is infinitely preferable that, until her health be really improved, she should lie languid and exhausted on a sofa, than that she should be performing, with misery to herself, in an imperfect manner, the ordinary duties of life, under the excitement of wine and other stimulants.

If the patient has good sense enough to accept the debility as a symptom of the disease for which she is under treatment, and to follow these directions, she soon feels the benefit of the change of system; she ceases to be alternately flushed and excited, or miserably depressed; her sensations gradually become calm and more natural, and as the local disease improves, and the sympathetic re-actions decrease, she gradually regains strength, not artificially and temporarily, but really and permanently.

Some females, however, are so self-willed and so imbued with the idea that strength can only be regained by feeding and stimulants, or are so much influenced by relations or previous medical attendants, who entertain these opinions, that no reasoning can convince them that they would not die of starvation if they were not to be continually eating meat and taking "support" in the shape of porter, wine, or spirits. With such persons it is in vain to argue; the languor at first felt in the absence of the accustomed stimulation is taken as evidence of its being indispensably requisite, and in order to retain their confidence during the treatment of the local disease—the original and principal cause, after all, of the morbid condition—liberal concessions must be made with regard to diet. When this is the case, the local disease eventually gets well, although often with much trouble, but a disordered state of the digestion frequently remains. In some rare instances, however, stimulants, medicinal or other, *must* be given, although injurious, owing to the system being reduced so low by disease as to render temporary stimulation indispensable.

The irritability of the mucous membrane of the urinary organs, kidneys, ureters, and bladder, but more especially of the latter organ, so frequently observed in these diseases, is, as I have stated, in most cases the result of the mechanical irritation occasioned by the lithatic state of the urine. The anomalous salts which it holds in suspension irritate the mucous surface, and often bring on a state of extreme irritation, bordering on subacute inflammation. Such being the real cause of the irritation, no effectual relief can be afforded to the patient until the digestion be restored to a healthy state. As that, again, is under the

influence of the uterine disease, we, step by step, revert to the latter, as the affection that must be cured before we can expect to remedy the vesical irritation, of which it is the primary cause.

Even when the urine has been restored to a healthy state, owing to improvement in the functions of the stomach, the bladder, unfortunately, in many cases, does not at once cease to be irritable. In the natural state, the urine, although an irritating fluid to other surfaces, mucous or cutaneous, is not so to the mucous membrane of its own reservoir, the bladder, its contact with which occasions no uneasy sensation. When, however, the sensibility of the bladder has thus been anomalously raised, even the healthy urine often long remains a source of irritation, giving rise to a frequent desire to pass water, and to pains, on its excretion, in the urethra, and especially at the neck of the bladder. I have tried many medicinal substances, with a view to modify this most distressing state, but with very little immediate success. It appears to me not to yield so much to the influence of medicinal agents, as gradually to die away, from the absence of the cause that produced it—viz., the morbid state of the urine and the proximity of uterine disease. When this irritability has existed for many years, the bladder may become so permanently contracted as to be unable to retain more than a few ounces of urine, even in the absence of any morbid state. This is a very miserable condition, as the urine has to be passed every hour or two, and the probability of its cure becomes very doubtful.

The immediate effect of the cure of uterine inflammation and ulceration, as we have seen, is not unfrequently, at first, unfavourable with regard to the irritation of the bladder, which greatly increases, or even appears when previously absent. Under the impression that this may be the result of the absence of the accustomed counter-irritation, I have repeatedly, with benefit, applied an issue in the cellular tissue, just above the pubis, keeping it open for several months. The medicinal preparations which have appeared to me the most beneficial in these cases are the alkalies, alone or combined with hyoscyamus or with camphor, balsam copaiba, and other resinous substances.

Constipation often exists when the digestive functions are

disordered, from inaction of the upper part of the large bowel. In this case, the fæces never reaching the rectum, injections fail to procure an evacuation. Should dietetic means, such as brown bread, and fruits, when they agree, not succeed in removing the constipation, aperients must be given. I only have recourse, however, to their assistance when they are absolutely indispensable. A few grains of compound rhubarb pill, or a pill composed of hyoscyamus and colocynth two grains, aloes one grain, or of some other mild purgative, taken on the night of the second day, if the bowels have not been moved by the cold injection, will generally suffice to open them once, which is all that is required. I always regret to be obliged to have recourse habitually to aperients, as their regular use renders it more difficult to restore the digestion to a state of integrity. They also increase the tendency to hemorrhoids and to prolapsus ani, which is often very marked in patients suffering from inflammatory disease of the uterus.

When these latter affections co-exist, they do not, generally speaking, require any particular treatment. It is, however, more than ever necessary to keep the lower bowel free from any accumulation of fæces, the pressure of which, by interfering with the intestinal circulation, materially increases the rectal disease. The cold injection is of the greatest use in these cases, as a topical remedy, to the congested and relaxed mucous membrane. When the uterine affection is finally subdued, and health returns, the prolapsus ani often entirely disappears without further treatment. This is also the case, although less frequently, with hemorrhoids.

When congestion extends to the liver, and bilious symptoms supervene, or when they manifest themselves independently of congestion, in connexion with the disordered state of the digestive system, it may be necessary to have recourse to the administration of calomel or blue pill. The former is the most efficacious, especially if bilious diarrhea or vomiting has set in. It is seldom, however, necessary or desirable to continue its use. Leeches alone generally fail to relieve the symptoms occasioned by a congested state of the liver, whatever the cause; but they may, when timely applied, prevent uterine congestion from extending to it,

and thus obviate the periodical explosion of biliary attacks, if the tendency exists. It is, indeed, on the occasional application of leeches after the catamenia that I principally rely, in the cases to which I have elsewhere alluded, in which, after the cure of uterine disease, menstruation remaining scanty, or being finally suppressed, a tide of congestion gradually extends from the uterus to the abdominal circulation, giving rise to biliary symptoms when it reaches the liver.

The emaciation and defective state of the general nutrition which so frequently accompany chronic inflammatory disease of the uterus, being in a great measure the result of the disordered condition of the digestive system, can only be treated by removing the primary cause of the evil. The sympathetic reaction which the diseased uterus exercises on the stomach strikes at the root of the functions of nutrition, as it were, and the only remedy is to annihilate this morbid reaction by curing the uterine disease. Unless this be accomplished, the chyle supplied by digestion continues to be defective, and the general nutrition becomes more and more deteriorated; the uterus no doubt exercising also, directly, a depressing sympathetic action on the functions of assimilation and nutrition. Thus it is that the patient loses flesh, and becomes in the course of time thin, pale, sallow, and anemic. What satisfactorily proves that this anemic state of the economy depends principally on depraved digestion is, that if the stomach resists the action of the local disease, and retains its functional activity, the patient may remain many years a sufferer from the local disease without becoming weak and debilitated, and without losing the outward characteristics of tolerable health.

The disordered condition of the special senses, of sight, hearing, and cutaneous sensibility, which is occasionally observed in chronic inflammatory disease of the cervix uteri, does not call for any particular treatment. These states are merely symptomatic of the general morbid condition of the system, and can only be treated by curing the disease in which they originate. Their increase is thus almost invariably prevented; but even the complete restoration of the patient to health is not always followed by their entire disappearance.

Convulsive hysteria occurring under the influence of uterine disease is generally a very formidable complication. The convulsive attacks are often severe and frequent, occurring whenever any exacerbation takes place, and sometimes under the immediate influence of the remedial means employed to subdue the local disease which occasions the hysterical affection. The practitioner may thus be placed in a painful dilemma. If the uterine malady is not treated, the convulsions gradually become worse, and may, as we have seen, threaten the life of the patient. On the other hand, the cauterization of the ulceration which generally exists in these severe cases, is often attended with a repetition of the convulsive attack.

Between these two dangers, however, we must choose the least. As the recovery of the patient, both from the uterine disease and from the convulsive affection which it occasions, depends on the subdual of inflammation and on the healing of ulceration, the means absolutely necessary must be cautiously adopted, irrespective of their immediate effect; but every precaution must be taken to prevent the subsequent convulsive attack, or to mitigate its intensity. The most efficacious means that can be resorted to for this purpose are the injection of preparations of opium into the rectum, and the use of chloroform administered by inhalation, or by the stomach. Generally speaking, the convulsions cease when the uterine disease is cured, or only occur at the menstrual epoch, and that merely for a short time. Whether it be cured or not, the most efficacious remedy for the convulsive attacks produced by the approach or by the existence of menstruation, or following its cessation, is the application of leeches to the neck of the uterus. Leeches, mustard-poultices, or blisters, applied to the sacro-dorsal region, are also often very useful.

The want of sleep, or its very disturbed and unrefreshing character, is only remedied by improvement of the local disease, and of the morbid conditions sympathetically produced. Opiates and other sedatives merely increase the mischief which they are given to allay. The return of quiet, refreshing sleep, is always a very favourable symptom.

Inflammation of the Neck of the Uterus considered generally.

By the local and general means of treatment which I have described, inflammation, ulceration, and hypertrophy of the neck of the uterus, may always be subdued, and the patient is, generally speaking, restored to health.

In most cases, all local symptoms disappear along with the disease which occasioned them. This, however, is not always the case. The pain in the back, the vesical irritation, or the inability to walk may remain, in a more or less marked degree, for a considerable period after the entire removal of the local disease; but they invariably all but disappear eventually, unless the body of the uterus remain chronically inflamed and enlarged, or unless the ovaries be diseased or permanent morbid changes have taken place in the bladder or rectum.

The same remark may be applied to the general symptoms, although in a more limited degree. The general health may have received so severe a shock, that a lengthened exemption from uterine disease is necessary, to allow the powers of the system to rally and throw off the morbid results which it has produced. Thus digestion and nutrition may remain long impaired, nervous and hysterical symptoms may long continue to hang on the patient; but in the course of time, in the numerous majority of patients, all disappear, unless the morbid conditions above enumerated persist in an incurable form. Generally speaking, except in extreme cases, the general health rallies as the uterine disease progresses towards a cure; and within a comparatively short period of its entire removal, the patient is restored to health. Sometimes, however, even in the absence of any lingering morbid condition, the general health does not completely rally, the powers of life appearing to have been too prostrated for a complete recovery to take place; but these cases are fortunately rare exceptions.

The duration of treatment necessarily varies, according to the nature, the extent, and the intensity of the disease, to the structural changes which it may have produced, and to the influence exercised by menstruation over its phenomena. When

the latter is unfavourable, it is always prolonged. This is also generally the case when ulceration and hypertrophy are both present; it then mostly lasts many months. Since I have made it a rule minutely to investigate the state of the cavity of the cervix, and never to dismiss a patient so long as there is the slightest vestige of disease remaining, I am much longer in curing my patients; but when they are once cured, I *never* have any relapse of the ulcerative disease. The relapses which I formerly used continually to witness in the practice of the French surgeons, were clearly owing to the disease not being followed into the interior of the cervical canal, and thus not being entirely eradicated.

On the whole, there are few diseases that give more satisfactory results under treatment than those which I have described in this work, provided their real nature be recognised, and rational means of treatment adopted. I am continually seeing pale, weak, and helpless females completely restored to health, whose life had been a misery to them for years, who during that time had never been free from the most gloomy, the most depressing feelings and the most painful sensations, and who had wandered in vain in search of relief, from physician to physician, from place to place. To them the recovery of health is often a kind of resurrection. Stranded, as it were, on the shores of life, all but devoid of hope, they once more find themselves able to resume their social duties, and to take a part in active occupations.

One of the most striking results of the removal of uterine disease is the entire subduction of that fretful, irritable, nervous, and hysterical state of the mind which often characterizes it, especially in the higher and more cultivated classes of society. The most intellectual and strong-minded women are not exempt from this reaction of uterine disease on the nervous system. Under its influence they become irritable and capricious, without the slightest suspicion being entertained by those around them as to the cause of the change that has taken place in their mental state. They thus meet with blame instead of the pity they deserve, for their feelings are all but uncontrollable. I have, indeed, no hesitation in stating that the very frequent

existence of uterine disease, modifying the temper and mental state of women, without suspicion being entertained as to the real physical cause of the change, either by friends or by medical attendants, has unfavourably influenced the opinion of moralists respecting the female character. My experience would tend to prove that when a female, whatever her rank in society, is perfectly well, she is rarely irritable, nervous, or capricious, and that when these mental conditions are present in a very marked degree, they will be too often found referable to the unsuspected existence of chronic uterine disease.

INFLAMMATION OF THE UTERINE NECK IN THE VIRGIN—DURING AND AFTER PREGNANCY—AND IN ADVANCED LIFE.

The rules which I have laid down for the local and constitutional treatment of inflammation and ulceration of the uterine neck are so generally applicable to the disease, in whatever stage of female existence it may be observed, that I have but little to add that the medical knowledge of a well-informed practitioner will not supply.

With unmarried females the entire difficulty of treatment lies in the instrumental part of it. When the disease has once been reached, the treatment differs in no respect from that of the same affection in married women.

The existence of pregnancy, so far from being an obstacle to the local treatment of inflammatory and ulcerative disease of the uterine neck, is a strong reason why it should be adopted and carried out without delay, unless the patient have reached the latter period of her pregnancy. If so, as the child is viable, and it becomes rather difficult to bring the cervix fully into view, owing to the very lax state of the internal mucous surfaces, it is as well, unless the symptoms be urgent, merely to resort to astringent injections, and to reserve all instrumental treatment until after the confinement. During the first six or seven months, on the contrary, it is the absolute duty of the medical attendant to treat the disease, as by curing the ulceration, or even by modifying its irritability, not only is much suffering spared to the patient, but abortion is often prevented.

The local treatment must consist in astringent injections, and cauterization with the nitrate of silver, or the acid nitrate of mercury. I never think of using the potassa cum calce, as the reaction after its use, under such circumstances, would be much too powerful to be safe. Moreover, the pregnancy itself is doing gradually what deep cauterization is partly intended to effect when resorted to—melting the induration. Neither do I find leeches necessary, nor should I knowingly like to have recourse to them, in the more advanced stages of pregnancy. I have, however, repeatedly applied them to patients who were one or two months pregnant without my being aware of the circumstance, not only without any bad result, but with positive benefit; and this has emboldened me to apply them in some cases in which abortion had occurred, after the removal of actual disease, in a subsequent pregnancy, with a view to diminish congestion, and carry on gestation. This has been attended with decided success.

When there is reason to suppose that ulcerative disease of the cervix exists after parturition or abortion, I never interfere until four or five weeks have elapsed, unless the abortion be a very early one. I then examine the patient, whether the hemorrhage has stopped or not, and cauterize at once the ulcerated surface with the nitrate of silver. Whether the blood comes from the ulceration or not, the cauterization almost invariably stops its excretion, and the case then falls into the general category. I may here remark, which I believe I have omitted to do before, that for some time after parturition, and during the entire period of lactation, the mucous membrane of the vagina retains a very vivid congested hue. It is then, evidently, the seat of a sympathetic physiological congestion, which must not be mistaken and treated as a morbid condition.

The only special observation that I have to make with respect to the treatment of this disease in the aged, is with reference to its intractability. A very minute amount of disease will often resist all mild means of treatment, and only give way, at last, under the influence of the most powerful, the actual cautery, or potassa fusa. When the disease is cured, the natural process of atrophy which usually occurs in the uterus after the definitive

cessation of menstruation often takes place with astonishing rapidity, the congestion of the pelvic circulation, previously kept up by the disease, entirely giving way.

ACUTE METRITIS.

Acute inflammation of the unimpregnated uterus seldom extends to the peritoneum, it is not therefore necessary to resort to antiphlogistic treatment with the same energy as when the disease occurs in the puerperal state.

In young plethoric females, in whom the inflammatory symptoms run high, the abstraction of blood from the arm may be advisable or necessary. Generally speaking, however, the external application of leeches to the lower hypogastric or ovarian regions is alone required. From ten to twenty should be applied, according to the intensity of the attack; and they should be repeated in the course of about twenty-four hours if the inflammatory symptoms do not abate. It must be remembered, that although there is very little fear of inflammation extending to the peritoneum, there is great danger of its passing to the lateral ligaments, and giving rise to abscess. Thence the necessity for resorting, at an early period, to such means as are likely to arrest the progress of the disease. The application of leeches would, no doubt, be more decidedly beneficial, were it possible to apply them directly to the neck of the uterus; but in acute metritis, the sensibility of the organ, and of the adjoining parts, is so great, that the introduction of the tube by means of which they are applied cannot possibly be resorted to.

Light poultices, large enough to cover the lower part of the abdomen, are beneficial, and when their weight can be borne, generally afford great relief. They appear to act principally by relaxing the abdominal parietes. When the tenderness is too great for the weight of the poultice to be endured, warm anodyne fomentations may be substituted.

The general treatment must consist in absolute rest in bed, abstinence from all solid food, the administration of purgatives, of diaphoretic saline medicines, and of tartarized antimony in small doses. It is very seldom necessary to give this latter substance in large doses, or to administer calomel and opium, as

in puerperal metro-peritonitis. Should, however, the inflammatory symptoms, instead of giving way to the means enumerated, increase in intensity, and there be evidently danger of the extension of the disease to more important structures, these powerful agents for controlling inflammation should not be neglected.

Under the judicious use of the above means, acute metritis generally terminates by resolution in the course of from five to ten or twelve days. It may, however, notwithstanding the resort to early and active treatment, extend to the lateral ligaments, giving rise to abscess, or it may pass into the chronic stage.

CHRONIC METRITIS.

Chronic metritis is a most intractable disease, whether it occupies the entire uterus, or is limited, as is usual, to one particular region. It is, however, most obstinate when confined to the posterior wall of the womb, and when the result of the gradual extension of chronic inflammation and induration from the cervix to the body of the organ. When it is the immediate result of acute inflammation, or of inflammation and suppuration of the lateral ligaments, it is, generally speaking, much easier to subdue.

If chronic metritis is occasioned or kept up by ulceration, or by subacute inflammation of the neck of the uterus, the first thing to be done is to subdue the local disease by the means already pointed out. This is absolutely necessary, as it acts like a thorn in the part, keeping up irritation throughout the entire uterine system. The local depletion, and other antiphlogistic means used for this purpose, combined with the regulation of the general health, by the dietetic rules and the medicinal agents already indicated, as generally applicable in chronic uterine inflammations, not unfrequently remove the disease of the body of the organ simultaneously with that of its neck. In some cases, however, in which the cervix is evidently the part primarily in fault, chronic inflammatory induration of the body of the uterus remains, after the entire removal of all morbid conditions of the cervix.

In these cases, as also in those in which chronic inflammation originates in the uterus, apart from any affection of its neck, the tenacity of the disease and the difficulty of removing it are extreme; so much so, indeed, that, as a general rule, it is impossible to form even a surmise as to the length of time that may be required to accomplish this desirable end. A few months may suffice, or it may be years, before the disease is subdued, even when active treatment is perseveringly resorted to. In some exceptional cases, indeed, the disease is never perfectly subdued, proving rebellious to all treatment, however energetic and continuous.

The local means of treatment most generally applicable under these circumstances are, rest in the horizontal posture, the use of emollient or astringent vaginal injections, and the occasional application of leeches to the neck of the uterus, before or during, but more especially after, menstruation, according to the period at which they appear most serviceable. It is to a great extent the existence of the menstrual flux that feeds and keeps up the chronic inflammation, and nothing gives such effectual relief in the exacerbations of inflammation and pain that occur at this time, as the abstraction of blood from the womb, by the direct application of a few leeches. During these exacerbations, the injection of opiates into the bowel, or the use of chloroform in the various modes indicated, often afford great relief, and assist in enabling the patient to pass over the catamenial period without the occurrence of any permanent increase of the uterine disease. In extremely obstinate cases, I sometimes apply an issue just above the pubes, keeping it open for some months, and have frequently derived great benefit from this plan of treatment, for which the profession is indebted to M. Gendrin.

In addition to the general means of treatment already described, we may resort to the exhibition of iodine or mercury. I must, however, confess that I have not obtained that benefit from the use of these medicines that might be anticipated from the assertions of other practitioners. This discrepancy between the results furnished by my practice and that of others admits of explanation; but the explanation I give, if correct, will go far to prove that the experience of those who attach so much im-

portance to the action of these medicines in the treatment of chronic inflammation and enlargement of the uterus is not to be depended upon.

Most of the patients labouring under chronic metritis whom I meet with have been suffering from uterine disease for many years; and the general health has, in consequence, long been completely broken down. With such patients I do not feel authorized, as I have elsewhere stated, to give such medicines as iodine or mercury, unless the necessity be absolute and imperative; the more so, as they must necessarily be administered for a lengthened period if they are destined to act on the nutrition of a chronically inflamed organ, and mercury and iodine, when taken so as thoroughly to saturate the system, produce of themselves a species of cachexia. Persons already reduced to a state of extreme debility and emaciation by chronic disease, are certainly not those in whom it is desirable to give medicines, which can only add to the evil.

Entertaining these views with regard to the administration of mercury and iodine, in whatever mode or form they may be given, and never resorting to them until all ordinary means, both local and general, have failed, I have thus ascertained that they are seldom necessary, the chronic inflammation generally giving way without their assistance. On the other hand, in the few obstinate cases in which I am obliged to resort to their use, I do not find the effect they produce by any means so beneficial as is generally asserted. I am therefore, I consider, warranted in concluding that if they succeed oftener in the hands of other practitioners, it is because they are generally used from the first, in the early stage of treatment, in conjunction with other means, which alone would probably suffice to remove the disease.

When all ordinary therapeutic agents, including the internal administration of mercury and iodine, fail to remove the chronic inflammation and induration of the uterus, I have often established, as a counter-irritant, an artificial ulceration or issue on the neck of the uterus itself, with potassa fusa or potassa cum calce, independently of any disease of that region, and with very great benefit to the patient.

The first case in which I resorted to this rather severe mode

of treatment was that of a lady who had been under my care for nearly two years, without any permanent benefit having been derived from the numerous means employed. There were several very painful nodosities on the posterior wall of the uterus, which was much enlarged and retroverted: the disease had existed many years. Finding that an issue applied over the pubis had done more good than anything else, it occurred to me, that if the issue were applied on the cervix uteri, which was healthy, but rather hypertrophied, the counter-irritation would be much more efficacious. I long hesitated, fearing that the inflammatory reaction might extend to the inflamed uterus, and occasion acute metritis; but I was at last induced to waive all scruples, and to try the application of the issue, owing to the sufferings of my patient being very great, and to the slight hope that remained of a cure being ever effected by ordinary means. The issue was applied four times, at intervals of about six weeks, and with very decided benefit. The nodosities of the posterior region of the uterus much diminished in size, the enlargement of the organ greatly abated, and the patient became much freer from pain and uneasy sensations. Several years have now elapsed since the last issue was applied, and the patient continues in a greatly improved state, although still an invalid, and suffering considerably at the monthly epochs. The womb remains tender, and enlarged posteriorly.

Since then I have often adopted this derivative plan of treatment with equal, and even greater success, and that without the occurrence of any untoward symptom. Although much more pain and much more general sympathetic disturbance is experienced than when potassa fusa is used to the cervix, in the absence of inflammation of the body of the uterus, there does not appear to be much reason to fear too severe an amount of inflammatory reaction; the more so, as we must not forget that a certain amount of uterine reaction is necessary in order that the vitality of the diseased tissues may be deeply modified. At the same time, I should never think of recommending such treatment, except in extreme cases, which have long been under treatment, and against which all other means have failed.

When the inflammation exists principally in the posterior wall

of the uterus, and the latter is retroverted on the rectum, as is usually the case, it becomes difficult to remedy the constipation, which is nearly always a prominent symptom. The injection of cold or tepid water, so useful in other cases, cannot be resorted to, as the dilatation of the lower bowel, raising the retroverted and inflamed womb which lies upon it, generally gives rise to very severe pain. We must, therefore, inevitably have recourse to mild aperients, in as small doses as possible, choosing those that act more especially on the lower bowel. The aperient, however, should not be given oftener than is necessary to prevent a collection of hardened fæces taking place above the retroverted womb, the passage of which, under such circumstances, is a source of extreme pain. In these cases, the mere fact of the patient becoming able to bear the injection is a proof that great improvement has taken place.

It is not only useless, but most pernicious to the patient, to attempt, by mechanical means, to replace the inflamed and retroverted uterus. The organ is retroverted because it is inflamed and enlarged, and the only rational treatment of the displacement is the cure of the disease which occasions it. The uterus, as we have seen, is not, like a joint, liable to dislocation, and then susceptible of being reduced by mechanical means; but an organ lightly suspended or poised in the pelvic cavity. It is therefore most irrational to attempt to restore it to its natural position, by means of a sound or a bougie, when it has fallen backwards from inflammatory hypertrophy. The retroverted organ might be twisted round by the uterine sound, if not bound down by adhesion, a hundred times, and a hundred times it would again fall, as soon as the sound were withdrawn; there being nothing to keep the organ in situ when it has been "replaced."

The cases of retroversion of the uterus that I meet with may be classed under three heads: either the retroversion is accompanied by the formation of fibrous growths in the posterior wall of the uterus, which carry the uterus backwards by their weight; or, whatever its cause, it is *accompanied* by inflammatory disease of the body of the uterus, or of its neck; or there is merely the retroversion present, without inflammation.

In the first instance, there are usually no morbid symptoms, unless the fibrous tumour should enlarge greatly, and not escaping, as is commonly the case, from the cavity of the pelvis, should, by its pressure, interfere with the passage of the fæces. Unfortunately, whether the tumour and the retroversion be little or great, there is nothing to be done. When small, it is in vain for us to bring the womb forward, it is sure immediately to fall back again; when large, if it does not spontaneously emerge from the pelvis, or cannot be displaced, it generally becomes fixed and immovable.

When inflammation of the uterus, of its neck, or of its cavities, accompanies retroversion, whatever the cause of the retroversion, it is principally the inflammatory disease, and not the retroversion, that occasions the morbid symptoms. It is the inflammatory disease, consequently, that requires to be treated. If the contrary opinion prevails now with some practitioners, it is because they are under the influence of erroneous theoretical opinions. Overlooking the real disease, they merely treat the imaginary one, and thus do more harm than good. Not only is this serious error apparent in their writings, but I am continually seeing it illustrated in practice, in cases in which very evident inflammatory disease has thus been overlooked, and left untreated, whilst the patient has been tortured by useless attempts to replace the retroversion — the imaginary cause of her ill-health.[1]

[1] Since the above was written, I have been consulted by a lady whose case very aptly illustrates this fact. Her history is as follows:—Menstruated rather late in life, the catamenia were at first irregular, and she always suffered considerably. She married at twenty-two, and six months afterwards accompanied her husband to a tropical climate. Soon after her arrival she began to suffer from whites, pain in the back and ovarian regions, and pain in congress. Her health rapidly gave way, it was supposed under the influence of the climate, and she was ordered home within a year of her arrival. On reaching England, she placed herself under an eminent general physician, and was treated as one whose health had given way from residence in a tropical climate; no suspicion of the existence of uterine disease being entertained. During the two years that she spent in England, she consulted various physicians, without any further light being thrown on her state, which only slightly improved; the local symp-

What proves retroversion of the uterus to be merely an epiphenomenon in the class of cases to which I am now alluding,—those in which it is accompanied by some inflammatory condition,—is, that when the latter is thoroughly cured, all morbid symptoms disappear, without any therapeutic means having been directed to the retroversion, and that, in very many cases, the uterus gradually resumes, partly or entirely, its natural position. But, even if it does not, the circumstance is of little or no consequence. I have now restored to the active duties of life a very considerable number of females, in whom the uterus was retroverted when they left me, and is so, probably, to this day; and yet they are totally unconscious, from any symptom which they experience, that the organ is not in its normal position. Nor do I find, as has been asserted, that such displacement subsequently prevents impregnation. The impediment to im-

toms persisting, although mitigated. She then rejoined her husband abroad, but immediately became ill again. The uterine symptoms rapidly increased, great debility followed, and she was attacked on two occasions by the fever of the country. The existence of uterine inflammation was this time recognised by her attendants, but nothing was done to remedy it, and she was again sent home for medical advice and for change of climate. On her arrival in England she applied to an eminent accoucheur, who has adopted the mechanical doctrine of uterine displacement. She was then suffering from severe pain in the lumbo-dorsal, ovarian, and hypogastric region, had a muco-purulent discharge, great bearing-down, and could scarcely walk. She was pale and emaciated, suffered agonizing pain at the menstrual epochs, could not bear congress at all, from the extreme pain it occasioned, and was a victim to dyspepsia, cardialgia, cephalalgia, and insomnia. Indeed, she evidently presented all the symptoms, both general and local, of chronic inflammatory uterine disease.

After being carefully examined digitally, she was told that she was *merely suffering from displacement of the womb*, that the uterus was retroverted, and that if it were once restored to its natural position she would be quite well. In accordance with this view of her case the womb was "replaced," with the uterine sound, at short intervals, during six weeks, and then Dr. Simpson's permanent pessary was introduced and allowed to remain. The replacing of the womb with the sound always gave intense pain, as also did the introduction of the permanent pessary. After much suffering, however, she got accustomed to the latter, and retained it during six months. After that time, it was taken away by the practitioner who had introduced it, who told her that the womb "was in its right place,"

pregnation, generally speaking, is the inflammatory disease that accompanies the retroversion, and not the retroversion itself.

When retroversion, not complicated with tumour, is met with, no inflammatory condition being present, I never find any morbid symptom of any importance existing as the result of the displacement, and, consequently, never deem treatment of any kind applicable.

Dr. Simpson himself admits (*Dublin Quarterly Journal*, vol. v. 1848, page 394), whilst laying down rules for the treatment of retroversion, that "the restoration of the uterus temporarily, from day to day, with the bougie, is insufficient;" adding, "that some more permanent means of keeping the organ replaced and retained are necessary." These means Dr. Simpson believes he has found in a double-stem pessary, one part of

the displacement having been permanently removed, that all had been done for her that medical art could do, and that she would soon be restored to health.

This took place two years before she consulted me, and during that time she continued a confirmed invalid, no better in any respect than when she returned to England, nearly three years ago. Under the impression, however, that all had been done that was possible by medical skill, she did not take any further advice. I found the general and local symptoms exactly as described above, and on examination, ascertained that the body of the uterus was very much enlarged, thoroughly retroverted, so as to lie completely on the rectum, and so exquisitely painful on pressure as scarcely to bear the contact of the finger. The cervix was also inflamed and enlarged, and its os and cavities were open and extensively ulcerated.

It is perfectly clear that, in this case, the disease from the first was uterine inflammation, and that the retroversion of the uterus was solely the result of its inflammatory enlargement, and merely a symptom of that condition. To consider the retroversion as *the disease*, as the cause of all this lady's sufferings since her marriage, was most irrational, and to treat her by mechanical attempts to "replace the womb," without doing anything to remove the inflammation that occasioned the disease, was an error both of omission and commission. Such treatment could only aggravate the inflammation, and thus, by increasing the enlargement of the uterus, increase the tendency to displacement which it was meant to remedy.

This lady rapidly improved under rational antiphlogistic treatment during the time she remained under my care, and has since got quite well.

which is introduced into the uterine cavity, whilst the other rests externally on the anterior part of the pubis. He states that he has used this pessary extensively, and with very beneficial results. I can quite understand that this uterine pessary may be worn without any great pain or inconvenience, when the uterus, the cervix, and its cavity, are free from inflammatory disease—provided the uterine stem do not pass beyond the os internum of the cervical canal—but when there is inflammation, it must irritate the parts, and do mischief. I have met with several instances in which this had evidently been the case, and in which ulceration of the cervical canal, and great irritation of the uterus and its cervix, were either produced or greatly aggravated by its use. These patients had not been under Dr. Simpson's care, but under practitioners who adopt his views and treatment of the displacement in question. Moreover, several cases have been published in which fatal peritonitis has followed the use of this pessary. I am also in possession of one of a similar nature, not hitherto published, and communicated to me by Mr. Keyworth, of York.

For some years I have been looking for cases in which the use of such a pessary appeared to me really indicated, and have been quite prepared to give it a fair trial, but I must confess that I have not yet met with them. I have seen very many cases of retroversion, both in private and in public practice, for it is a very common displacement, but none in which mechanical treatment appeared to me indicated or even justifiable. Either there were tumours present, which must have rendered any attempts at mechanical replacement irrational and nugatory, or the retroversion was accompanied by inflammatory lesions, the existence of which contra-indicated mechanical interference, and the removal of which dispersed all morbid symptoms—or there were no morbid symptoms to indicate the presence of the retroversion, and under such circumstances I did not feel justified in interfering. I have, on the other hand, repeatedly been called upon to extract the stem pessary from patients in whom it had been introduced by other practitioners, and who could not bear its presence. In two or three instances in which I have tried it myself, against my own judgment, I have also been obliged to

withdraw it, owing to the great pain and general disturbance which it created. I must confess, however, that these were cases in which it was not likely to be borne, as the uterus was not only retroverted, but the seat of great vitality.

In Paris, Dr. Simpson's pessary has several warm advocates, amongst whom the most enthusiastic is M. Valleix. When I was last there (1841) he showed me a ward full of females wearing it, all, he stated, without inconvenience, and many with decided benefit.

INTERNAL METRITIS.

Inflammation, existing in the interior of the uterine cavity, is generally subdued by the means adopted to cure the inflammation of the cervix or of the cervical canal, which almost invariably accompanies it. Although, therefore, from the first, the fact of the os internum being open, and of the inflammation extending to the uterine cavity may be recognised, it is not necessary at once to carry the local applications beyond the cervical canal. The co-existence of this form of internal uterine inflammation, however, should be considered a sufficient motive for pushing antiphlogistic measures, such as the application of leeches, farther than might otherwise be deemed necessary.

Should the internal metritis not give way to these means of treatment, and persist after all subacute inflammation of the uterus, of its cervix, and of the cervical canal, have been subdued, it may be necessary to apply caustics directly to the uterine mucous membrane. The solid nitrate of silver can be easily used by means of an instrument similar to that which is employed to cauterize the urethra. Its application is exceedingly painful, and is generally followed by a copious exudation of blood, sometimes quite amounting to flooding. Indeed, the pain produced by the cauterization of the lining membrane of the uterine cavity, under any circumstances, is nearly always so great, and continues so long, and is attended with so much general disturbance of the system, that I can scarcely understand how it can have been proposed as an ordinary therapeutic agent in amenorrhea, to induce menstruation. The remedy is too

severe and painful, in my opinion, to be adopted for this latter purpose—the more so, as the flow of blood is not menstrual, but merely blood thrown off under the influence of local irritation. The application of a few leeches to the cervix appears a much more simple and more rational mode of treatment.

Solutions of nitrate of silver have been much used on the continent, as injections in what they term internal metritis. As I have shown elsewhere, however, continental practitioners have universally mistaken, described, and treated inflammation of the cervical canal for inflammation of the uterine cavity. What they say, therefore, of injections in internal metritis, must be considered to apply merely to their influence in disease of the cervical canal. When disease really exists in the uterine cavity, the injections would, no doubt, do much good, and, were they safe, would be preferable to the solid nitrate of silver, applied with the porte-caustic; but there is reason to believe that uterine injections are not safe, and I consequently never resort to them. Several deaths occurred in Paris, during my residence there, from metro-peritonitis, brought on by their use. One took place in the female ward of M. Jobert, at the Hôpital Saint Louis, and under my own care, as I was then his house-surgeon. The patient, a fine healthy young woman, of twenty-four, was afflicted with a large fibrous tumour of the uterus, which had much developed that organ, and had, no doubt, *opened the os internum*. M. Jobert was at that time trying the effects of the so-called uterine injections, and injected some astringent solution into the cervical canal of this young female, there being a slight muco-purulent discharge from the os. Shortly after, she was seized with rigors, fever, and severe abdominal pain, and in a few days, died of peritonitis. I performed the post-mortem, and found nothing but the lesions of peritonitis, and the ovarian tumour, embedded in a womb developed to the size which it presents in the fourth month of pregnancy. The fluid of the injection must have penetrated freely into the uterus, through the open os, and thence have passed along the Fallopian tube into the cavity of the peritoneum, thus causing fatal peritonitis.

This accident would probably have occurred much oftener than it has done, in the hands of French practitioners, were it not

that the natural coarctation of the os internum must have generally prevented the fluid injected from penetrating into the *uterine cavity*, where the disease is erroneously thought to exist.

Sometimes internal metritis is so obstinate, that even the use of the solid nitrate of silver does not appear to remove the morbid action. I have, in cases of this description, carried the acid nitrate of mercury, pure or diluted, into the uterine cavity, and thus succeeded in re-establishing healthy action, and curing the disease. In order to pass the caustic through the cervical canal, I first introduce into the cavity of the cervix a small silver tube, or piece of a common sound, through which the caustic may be carried by means of a camel-hair brush. I never have recourse to this means of treatment, however, except as a last resource. The cavity of the uterus bears surgical interference, as we have seen, less than any other uterine region; its cauterization being nearly always attended with extreme pain, nausea, or even sickness, copious hemorrhage, and considerable febrile reaction.

Fortunately it is very seldom indeed that the internal application of caustics becomes necessary. Internal metritis, as I have stated, is not a common disease, and when it does exist, usually gives way to ordinary antiphlogistic means, along with the acute metritis, which it often accompanies. If, however, this does not take place within a reasonable time, it is generally most obstinate, and the local means mentioned may become imperatively necessary. The success of the treatment resorted to is shown by the change that takes place in the nature of the uterine discharge. It first ceases to be sanious, or sanguinolent, and assumes a purulent character; it then becomes mucous, and finally ceases.

INFLAMMATION OF THE VULVA.

The remedial agencies required in the treatment of inflammation of the vulva are general and local. The local means consist in emollient and astringent fomentations and lotions, such as linseed tea, poppy-head or marsh-mallow decoctions, and solutions of acetate of lead, alum, sulphate of zinc, &c., and in

the use of tepid or cold hip-baths. If the inflammatory symptoms run very high, a few leeches applied on the outer surface of the labia majora, near the groins, are of great utility. When applied to the inner surface of the labia they are apt to be followed by considerable swelling. If the mucous follicles are extensively ulcerated, a solution of nitrate of silver will be often found more efficacious than any other lotion, especially when pruritus exists. As the inflammation generally passes more or less into the vagina, the medicated lotions should likewise be injected into that canal, so as to act simultaneously on it. The patient should remain lying, and be kept on a low diet, the general treatment consisting in purgatives, salines, and cooling medicines. It is all but needless to add, that the cause that has produced the inflammatory attack should be avoided.

If it occurs merely as the extension of disease of the more internal genital organs, as soon as it has been sufficiently subdued to admit of an examination, their state should be carefully investigated, and the disease found at once treated.

The above rules for the treatment of acute vulvitis, will also be found to apply, with some slight modification, to the chronic forms of inflammation of the sebaceous and hair follicles. In the more confirmed stage of the disease, when emollients and astringents fail, solvents and stimulants, such as the iodide of potassium, or the iodide of lead, the sulphuret of potassium, applied locally in the form of ointment, or mercurial ointment, will often succeed.

Should the vulva be attacked by the special forms of cutaneous inflammation, the means of treatment usually resorted to in other parts of the body will also be found applicable. The repulsive disease which has been described under the head of esthiomene, or lupus, requires the same treatment as when it occurs in the face. If it has evidently originated under the influence of a scrofulous or syphilitic constitutional taint, the treatment should be principally directed to the re-establishment of the general health. At the same time, the local agents enumerated as applicable to vulvitis in all its forms must be resorted to. Should both local and general means fail, an attempt may be made, if possible, to

extirpate the diseased tissues with the knife. This, however, is often impossible, owing to the extension of the malady to regions with which it is impossible to interfere surgically. Thus it is that, notwithstanding every effort made to restore the patient, death often closes the scene, the disease generally proving much more serious and more frequently fatal than in the face. That this should be the case is easily understood, when we consider that the affected parts are constantly exposed to irritating discharges from the urethra, the vagina, and the anus, and to the periodical congestions connected with menstruation.

INFLAMMATION OF THE VULVO-VAGINAL GLAND.

Hyper-secretion, simple or purulent, of the vulvo-vaginal gland, generally ceases on the removal of the cause or causes of irritation which produced it, combined merely with simple antiphlogistic means, such as hip-baths, and emollient and astringent injections.

When the gland itself is inflamed, swollen, and tender, in addition to these means, the application of a few leeches, along with purgatives and salines, is often very serviceable, and if resorted to sufficiently early, will frequently prevent the formation of matter. When once pus has formed, whether in the duct or in the gland, it is better to make an artificial opening for its escape, than to allow it to make one for itself. In the latter case, the orifice of the opening is often very small, and soon cicatrizes, when the matter may again collect; whereas, if an artificial opening is formed, it may be made sufficiently large to afford a free escape for the pus, and to be easily kept open until the inflammation of the gland have subsided, when it can be allowed to close without risk. This remark also applies to the abscesses that form in the proper tissue of the labia. It is the absence of this precaution that accounts for the constant recurrence of abscesses in this region which has been so frequently noticed by modern surgeons. The treatment of the cysts that form in the vulvo-vaginal gland, and

present, in some respects, such a great similitude to these abscesses, should be conducted on the same principles. They ought to be freely opened, a portion even of their walls excised, and the orifice kept free so as to allow of the cavity of the cyst becoming obliterated by the inflammatory process that is set up.

VAGINITIS.

Simple non-blennorrhagic vaginitis should be treated on exactly the same principles, and in the same manner, as vulvitis. When complicated with, and the result of the extension of, vulvitis, we have merely to carry the agents used beyond the vulva into the vagina, to subdue it along with the more external disease. When it is only a symptom of inflammatory disease of the neck or body of the uterus, and the result of its extension to the vagina, the uterine affection must be attended to at the same time that emollient and astringent injections are used; otherwise it is in vain that the vaginitis is treated. Any improvement obtained is lost as soon as the means resorted to are for a time abandoned. Thence the continued recurdescence of vaginal discharge observed in these cases when the uterine disease is not recognised and treated. As I have stated when speaking of the use of vaginal injections in the treatment of inflammation of the neck of the uterus, their success in vaginitis depends principally on the mode in which they are employed. I must refer the reader to that part of the work for a more detailed account of the manner in which these remedial agents should be used in the treatment of vaginitis.

OVARITIS, ACUTE AND SUB-ACUTE.

Acute ovaritis requires the same treatment as acute metritis, the only difference being, that general blood-letting is seldom demanded, the application of leeches, generally speaking, proving sufficient. These may have to be repeated several times within the first few days of the attack, the aim of the practitioner being, if possible, to prevent suppuration. Acute ovaritis, having a tendency also to pass into the chronic stage, it is well to

ascertain that all inflammatory action has subsided before the patient is left to herself as cured.

In subacute ovaritis the principal reliance must be placed on the application of leeches to the ovarian region, the repeated use of blisters, and on resolutive frictions with ointments containing the iodide of potassium or of lead, or with mercurial ointment. To these local means of treatment must be added such general antiphlogistic agencies as the state of the economy seems to require, or as the strength of the system appears likely to bear. I need scarcely add, that any coexisting disease of the uterus, or of the cervix, should be removed as speedily as possible.

INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES.

The treatment of inflammation of the uterine appendages, or lateral ligaments, in the first or acute stage, is the same as that of acute ovaritis and metritis. As, however, the danger of suppuration, if the inflammation be not speedily subdued, is much greater, it is generally desirable to have recourse, with even greater promptitude and energy, to antiphlogistic measures, and more especially to local and even general blood-letting.

When the existence of inflammation in the lateral ligaments is recognised from the first, and it is energetically treated, the formation of pus is often prevented, or the pus formed is absorbed. Should this not be the case, and the pus, in its efforts to find a vent by one of the natural apertures, becomes perceptible from the vagina, it has long ago been proposed to make an artificial opening, so as to allow of its escape. Paulus Ægineta describes this operation at some length; and in our own days M. Recamier has revived it, and strenuously advocates its adoption.

Were the phlegmonous tumour absolutely to point in the vagina, and the fluctuation which it produces to become so evident as to show that it is in immediate contact with the

vaginal parietes, I should not hesitate to adopt this course; but this is so rarely the case, that it is very seldom indeed that the operation, thus restricted, becomes applicable. To make an incision in the vagina, in the direction of obscure fluctuation, or tumefaction only, would be highly dangerous and reprehensible.

When the inflammation is not subdued by active antiphlogistic treatment, and the pus has found its way to the exterior by the vagina, rectum, abdominal parietes, or bladder, all that can be done is to meet the symptoms as they present themselves, to assist Nature in her efforts gradually to restore the parts compromised by inflammatory disease to a healthy state, and to endeavour, by every feasible hygienic and medicinal means, to support the strength of the patient during the tedious process of reparation which has inevitably to take place. In this stage of the disease, the rules laid down for the general treatment of chronic inflammatory disease of the uterus and its neck equally find their application.

The periodical exacerbations which occur at the monthly periods, during the first few months, often require mild antiphlogistic treatment by leeches, purgatives, and salines. Subsequently, rest in bed for a day or two, and warm poultices applied to the abdomen, alone suffice. The diarrhea occasioned by the opening of the abscess into the rectum soon subsides, generally speaking, under the influence of starch or opium injections. It is then often succeeded by constipation, which must be remedied by very mild aperients, or by cold or tepid enemata.

In that more severe form of the disease which is observed during the puerperal state, the pelvic mischief, as we have seen, is often so great as to react most unfavourably on the general health, and to reduce the patient to the greatest state of marasmus. When this is the case, powerful stimulants, such as wine and quinine, may become absolutely necessary to keep her alive. It is more especially in these severe cases that abdominal perforation takes place. As soon as fluctuation is distinctly felt underneath the walls of the abdomen, and the skin reddens, it is best to make an artificial opening, in order to allow the pus

to escape. This opening may be made with the lancet, or with potassa fusa, but I prefer the former mode of operating,—it is more prompt, and equally safe.

Desperate as the state of these unfortunate patients often appears, they almost invariably rally under judicious treatment, and eventually recover, although the process of recovery may be a very tedious and lengthened one.

PART II.

CONNEXION BETWEEN UTERINE INFLAMMATION AND OTHER MORBID UTERINE STATES.

In the first part of this work, I pointed out, as I progressed, the great influence that inflammation of the uterus and its annexed organs exercises in developing disordered functional conditions of the uterine system, that is, morbid menstrual states, sterility, abortion, &c., and in producing the various displacements of the uterus. Inflammation may also be complicated with polypi and fibrous tumours of the uterus, and greatly modify their symptoms. In the neck of the womb, syphilitical ulceration presents peculiar characters, which require elucidation, in order that it may be distinguished from inflammatory sores. It is in the neck of the womb, that cancer also generally first makes its appearance; and although the morbid changes produced by inflammation are in reality easily distinguished from those resulting from cancer, they have been, hitherto, generally confounded with the latter, with which they are erroneously supposed to have great affinity. I now intend carefully to examine these various morbid conditions in their connexion with inflammation, to point out in what manner it influences their origin and development, and to establish their diagnosis on full and accurate data.

MORBID MENSTRUAL STATES.

The history of morbid menstrual states, Dysmenorrhea, Menorrhagia, and Amenorrhea, is so inextricably mixed up with that of uterine inflammation, that the influence exerted by the latter cannot be duly appreciated unless they be studied generally. I shall therefore give a brief but complete account of these conditions in all their forms, and of the treatment they require.

CHAPTER XIII.

DYSMENORRHEA — AMENORRHEA — MENORRHAGIA — UTERINE HEMORRHAGE GENERALLY — LEUCORRHEA — STERILITY — ABORTION.

DYSMENORRHEA.

By the term *dysmenorrhea* is implied painful and difficult menstruation. Most females experience slight uterine and ovarian pains accompanied by some external tenderness in the hypogastric region, with or without aching pain in the back, for the first few hours previous to and after the advent of menstruation. When these feelings are not usually experienced they will often manifest themselves, accidentally, as the result of over-fatigue or mental emotion, or without any appreciable cause. To such conditions, however, the appellation of dysmenorrhea cannot be applied; it must be reserved for those cases in which a very considerable amount of pain is experienced, either invariably or by exception.

Dysmenorrhea may exist—First, Permanently as a constitutional condition, or accidentally and temporarily in connexion with general morbid states. Secondly. It may be the result of the presence of uterine or ovarian disease, or of a contracted state of the cervical canal.

Constitutional Dysmenorrhea.—This form of dysmenorrhea is often observed in females whose uterus appears naturally predisposed to congestion, and with whom menstruation is very abundant and is preceded and followed by a white leucorrheal discharge. It is met with also when this is not the case. It may be limited to the first day or two, or extend throughout the entire period. In such women the dysmenorrhea is evidently functional, the result of the distention produced by over-congestion, or of a peculiar susceptibility of the uterine innervation. The pain is by no means the same in intensity at every

period, but varies according to hygienic and moral circumstances. Under the influence of fatigue, excitement, or anxiety, and frequently without any appreciable cause, the dysmenorrhea will become much more intense than usual, and last a much longer time. In some instances I have known it to come on only at every second period. This form of dysmenorrhea may persist with varying intensity throughout the entire duration of the menstrual function, although occasionally it is modified or even removed by marriage, by parturition, or by the mere influence of time. Although verging on disease, constitutional dysmenorrhea can scarcely be considered a morbid condition. It may be said to be characterized by its commencing with the menstrual function, by the entire and complete absence of all uterine symptoms in the interval of the monthly period, and by the general similarity of the menstrual epochs. Although one period may be, and often is, more painful than another, on comparing menstruation during any two given periods of several months, the amount of pain suffered, and the mode of manifestation of the function, are found to be pretty nearly the same. If a permanent increase of pain occurs, it is a suspicious circumstance, as indicating the possible or even probable existence of some inflammatory condition of the cervix uteri, to which these females, as we have seen, are peculiarly liable, or of some morbid ovarian condition.

Accidental Dysmenorrhea.—Dysmenorrhea may occur *accidentally* in a female who usually menstruates without pain, as the result of over-excitement or fatigue, from exposure to cold, or as the result of some temporary disturbance in the general health. When this is the case, the dysmenorrhea is probably occasioned by a disturbed or congested state of the uterine circulation, or by an exaggeration of the nervous susceptibility of the uterine organs. It is characterized by its merely temporary existence, and by the fact of its passing away with the cause that produced it.

Inflammatory Dysmenorrhea.—Non-constitutional dysmenorrhea, however, according to my experience, is much more frequently the result of inflammatory disease of the uterine organs, and principally of the cervix, than, as is generally supposed, of functional derangement, or of nervous susceptibility. When menstruation, naturally easy, becomes permanently painful, or

when naturally but slightly painful, it becomes extremely so, we are warranted in looking for local disease. Such a change *does not take place without a cause,* and that cause is, generally speaking, inflammation of the cervix or body of the uterus; dysmenorrhea being one of the most prominent and most ordinary symptoms of that disease.

This fact applies to the virgin as well as to the married female, and is of great importance, as affording a key to those extreme cases of dysmenorrhea, accompanied sometimes by spinal irritation and hysterical epileptiform convulsions, which appear to resist every form of treatment, and are alike distressing to the patient, her friends, and her medical attendant. Since I have ascertained that such is the case, nearly all the instances of *extreme* dysmenorrhea in the unmarried female that have come under my notice, have proved to be of this description, and, however intractable before, have yielded as soon as a proper antiphlogistic treatment has been adopted.

The history of two patients formerly under my care, strongly illustrates these facts, and their importance. In the younger female, a young, unmarried lady, dysmenorrhea from the first was the prominent symptom. She had always suffered *slightly* from painful menstruation, but not to such an extent as to inconvenience her. About two years before I saw her, the dysmenorrhea became much more intense, and at last so agonizing, as to produce hysterical epileptiform convulsions, which ended in partial paralysis. In the other lady, who was thirty years of age, and the mother of a family, the uterine inflammation commenced six years before, with a laborious confinement. The most prominent symptom with her, also, was dysmenorrhea, which increased rapidly, so as at last to bring on intense convulsions at every monthly period, and thus to occasion partial paralysis of the left side, as in the former case. Both these patients were considered to be merely suffering from hysteria, spinal irritation, and functional derangement of the uterus, and had been treated, for several years, solely in accordance with these views; whereas, in reality, they were labouring under severe inflammatory ulceration of the uterine neck.

In these cases the dysmenorrhea is a mere symptom of the

inflammatory condition of the uterine organs, and is only to be removed by their restoration to a healthier state. Generally speaking, it is the neck of the uterus that is found to be the seat of the disease that occasions the dysmenorrhea. The latter is nearly always very intense when the body of the uterus is affected. Sub-acute inflammation of the ovaries may also give rise to dysmenorrhea, but I cannot agree with Dr. Tilt that it is a frequent cause. This difference of opinion is connected with that which exists between me and my esteemed friend respecting the frequency of sub-acute inflammation of the ovaries, inasmuch as I consider the symptoms which Dr. Tilt supposes to indicate the existence of such inflammation—pain and tenderness in the ovarian regions—to be merely symptomatic of disease of the uterus or of its neck, in nineteen cases out of twenty in which they are observed.

We may connect with inflammatory dysmenorrhea that form which has been described under the head of pseudo-membranous, and which is characterized by the expulsion of shreds and casts of plastic lymph from the cavity of the uterus. I believe that the formation of these membranes coincides almost invariably with the present or past existence of uterine inflammation. In other words, I have found, in the great majority of cases of this description that have come under my observation, that there has been at first inflammatory disease, although the removal of this disease has not always freed the patient from the liability to the formation of the pseudo-membranous casts. It would appear as if habit alone sufficed in some instances to perpetuate their formation, or at least their occasional occurrence, even after the removal of inflammation, if once they have occurred under its influence. M. Pouchet states, that in all females, even in virgins, a delicate decidual membrane or cast is formed in the cavity of the uterus at every menstruation, and is thrown out about the tenth day. If so, the deciduous pseudo-membranes of dysmenorrhea may be considered as merely an exaggeration of a natural condition, but occurring, generally speaking, only under the influence of inflammatory disease. The expulsion of these pseudo-membranous shreds is always preceded by an

aggravation of the uterine suffering, and not unfrequently by tormina similar to labour-pains, which are evidently occasioned by the efforts of the uterus to get rid of the casts formed in its cavity. That the difficulty of expulsion is partly the cause of the uterine tormina, is proved by the fact that I have repeatedly relieved them by dilating the cervical canal in the interval of menstruation, in females who continued to expel pseudo-membranes, and to suffer, after the removal of all uterine disease.

Inflammatory dysmenorrhea may be said to be characterized by the development of pain as a permanent menstrual condition, in a female previously free from it, or by the increase of pain experienced constitutionally, but in a less marked degree. In other words, as pain during menstruation may exist constitutionally without local lesions, its value as a symptom of disease can only be ascertained by comparing the past with the present state of the patient. Generally speaking, other uterine and general symptoms are present *during the interval* of menstruation, which tend to assist the diagnosis. This, however, is not always the case. I recently attended a young unmarried lady, only twenty-one, who had suffered ever since the menses appeared, at seventeen, from severe dysmenorrhea. The pain was indeed so severe, that for the first five days she was always obliged to keep her bed, writhing in agony, and for eight days out of every lunar month she was confined to her room. In the interval she had not an uterine symptom, and beyond a certain amount of general languor and anæmia, which the mere physical pain she had to go through at short intervals sufficiently explained, the general health did not appear to have much suffered. Previous to my seeing her, she had been under constant medical treatment, and the total inefficacy of the remedial means usually resorted to in such cases had been over and over again tested. Under such circumstances, after treating her without any result for sub-acute ovaritis, I considered myself warranted in making an examination of the uterine organs, being impressed with the idea that dysmenorrhea of so severe a character, and so rebellious to general treatment, must be occasioned by some local morbid

condition, and probably by congenital contraction. To my surprise, I found the cervix the seat of decided inflammatory ulceration. I may also add, that the dysmenorrhea has quite subsided under the influence of appropriate treatment for the local disease. This case, however, is an exceptional one, even to me, from the entire absence of all uterine symptoms in the interval of menstruation, and shows the difficulties which occasionally surround the diagnosis of these forms of uterine disease.

Physical Dysmenorrhea.—Dysmenorrhea may also depend, as demonstrated by Dr. Mackintosh of Edinburgh, on a physical imperfection of the uterine neck, on contraction of the os internum, or of the canal which constitutes the cavity of the cervix. This contraction may be either congenital, or the result of inflammation. The peculiar character of the dysmenorrhea, when caused by congenital contraction, is the absence of *any* uterine symptom during the interval of menstruation, and intense agonizing pain for a few hours before the flow of blood appears, either then disappearing, or lasting throughout the period; these pains commencing with menstruation in early youth. If they are occasioned by inflammation, there are the same symptoms at the time of menstruation, but there is not the same immunity from uterine symptoms in the interval of the catamenia.

The cause of the pain experienced under these circumstances is evident. The cavity of the non-pregnant healthy uterus not containing more than about ten or eleven drops of fluid, as soon as the catamenial secretion commences from the lining membrane of the uterine cavity, unless the blood find a free exit through the os internum and the cavity of the cervix, it distends the uterus, and gives rise to great pain. The obstruction may merely be at the os internum, spasmodically contracted; in which case, as soon as it has been overcome, the blood escapes freely, and pain disappears. But if the os internum is permanently contracted, or the contraction exists in the cervical canal, the pain may continue throughout the catamenial period.

A contracted state of the upper part of the cervical canal, or of the os internum, is not, I believe, an unfrequent complica-

tion of inflammation of the cervix, from the swelling and hypertrophy of the substance of the organ which it occasions. This remark, however, does not apply to the *inflamed region* of the cervical canal, which is uniformly dilated by the existence of inflammation.

I do not, however, think that Dr. Simpson's criterion of the existence of contraction of the os internum is entirely to be depended upon. Dr. Simpson believes, if I am right in my interpretation of his views, that unless the uterine sound pass without effort into the uterine cavity, there is contraction of the os internum. Now the careful examination of many hundred females with the sound, has led me to a different conclusion. There evidently exists at the os internum a kind of muscular sphincter formed by a strong band of the circular muscular fibres of the cervix, and destined to close the uterus during the latter stages of pregnancy. Generally speaking, this sphincter, in the natural state, is sufficiently closed to prevent the uterine sound passing into the cavity of the uterus, unless a considerable amount of pressure be exercised. In nearly all the females I examine, in the interval of menstruation, the sound passes easily along the cervical cavity, but stops at the os internum, and that when there is no reason whatever to suppose the existence of a morbid coarctation.

It appears to me, on the contrary, that a free communication between the cervical and uterine cavities, allowing the *easy* introduction of the uterine sound, is generally an anomalous condition, indicating the existence of disease, unless observed soon after menstruation, when the os internum relaxes, or soon after parturition, when it has not yet had time to recover its normally contracted state. The principal morbid conditions in which I have observed a free communication between the two cavities, are inflammation and uterine tumours. If the inflammation which exists at the os uteri, and in the lower part of the cervical cavity, ascends as far as the os internum, it appears to relax the muscular contractility of that region. The os internum is always open when the inflammation passes into the uterine cavity, and implicates its lining membrane. The same effect is also produced by the development of the uterine cavity, through the

formation of tumours in the substance of the uterus, or from any other cause; the os internum gradually opening as the uterus enlarges, probably by the same mechanism as in pregnancy. This is so generally the case, that the fact of the uterine sound penetrating easily through the os internum into an enlarged uterine cavity, may be considered a valuable symptom of the existence of such tumours, to add to those with which we are already acquainted.

Extreme dysmenorrhea from congenital contraction of the cervical canal and os internum, independent of inflammation, is, I believe, of *rare occurrence*. This is a fortunate circumstance, as it is most embarrassing to treat, requiring an amount of interference with the uterine organs which it is very painful to have to propose to an unmarried female. Dilatation of the contracted cervical canal is, however, sometimes the only means we have of remedying an amount of suffering at the catamenial period, so extreme as to render life nearly a burden, and as to re-act deeply on the general health.

A very strongly marked illustration of this fact occurred to me some time ago, in dispensary practice. A young female, aged twenty-two, was sent to me by a medical practitioner in town for dysmenorrhea. It appeared that she had suffered in the most excruciating manner at every menstrual period, since the menses first appeared, at the age of eighteen. The pain always continued without intermission throughout the three days and nights that the catamenia lasted, and was of so severe a character that she never closed her eyes, and was confined to bed for the whole time. She had generally been under medical treatment, and the usual remedies had been repeatedly tried—antispasmodics, anodynes, sedatives, &c. Latterly she had been taking very large doses of opium without the slightest benefit. On inquiry, I found that after the menstruation ceased, the pain gradually subsided, and that during the menstrual interval she was perfectly well, and was then *altogether* free from any uterine symptom. In appearance she was rather stout and healthy-looking. The hymen was intact, but dilatable, and I was thus enabled carefully to examine the neck of the uterus, which I found perfectly natural in size, colour, texture, and density, and

free from any tenderness. The cavity of the cervix, however, was evidently very narrow, not even admitting a very small-sized bougie. Thinking this might be the cause of the dysmenorrhea, I at once decided on dilating it. This I effected to a considerable extent in the course of the three weeks which ensued before the next monthly period, by means of small sponge tents. I had not, however, dilated the os internum sufficiently to admit of the sound penetrating into the cavity of the uterus, and was consequently rather surprised to hear from the patient, after a week's absence, that not only had the catamenia been more abundant than usual, but that she had been entirely free from pain. The dilatation was continued irregularly, and as the next period was equally free from pain, I ceased all treatment, although the os internum was still undilated; at least, it was only sufficiently open to admit of the entrance of the small extremity of the wax bougie.

The dysmenorrhea which accompanies inflammation of the cervix, is evidently increased in some cases by the narrowing of the cervical canal, which the inflammation occasions, inasmuch as it may persist in a mitigated form after the inflammatory disease has subsided, and be readily removed by dilatation. The persistence of dysmenorrhea from this cause after the removal of uterine inflammation, is not, however, of itself sufficient to necessitate, or even to warrant, dilatation of the cervical canal being resorted to, except in some special cases, until a few months have been allowed to elapse. After the removal of inflammatory disease of the uterus and of its cervix, a resolutive action is set up by nature, which will often soften and relax the still swollen and indurated tissues, and thus open the cervical canal, and render mechanical dilatation unnecessary. It is therefore well to give the patient the benefit of this chance of recovery without further surgical treatment.

Whatever may be the cause of dysmenorrhea, the mode in which the menstrual secretion takes place is modified by its existence: instead of a flow of bright blood, regular and continuous, although generally increasing by exercise and diminishing by rest, we have a dark, interrupted, and clotted discharge. After severe uterine pains, which may last many hours, and are

often accompanied by tenderness, and swelling in the ovarian regions, and pain in the back and down the thighs, more or less dark, clotted blood is thrown out. Its expulsion is generally followed by relief, and by a freer flow for a while, when it again diminishes, and the same ordeal again takes place. Sometimes the interruption will be complete for one, two, or three days, the pains subsiding with the menstrual flux, and returning when it again makes its appearance. The venous condition of the menstrual secretion shows plainly that, either from inflammation, congestion, or some other cause, the uterine circulation is defective, the blood stagnating in the vessels of the uterus, remaining in its cavity, and distending it after it has been secreted.

Treatment.—The attacks of constitutional dysmenorrhea may be palliated, but can seldom be removed, by medical treatment. A great deal of subsequent uterine disease would, however, be spared to those young females who unfortunately suffer from it, were mothers more generally aware that its existence constitutes throughout life a strong predisposition to uterine inflammation, and that they cannot take too great care of such of their daughters as labour under it. For such young females the discipline of *public* schools may be said to be nearly always too severe, and often to lay the foundation for much future physical and mental misery. That this must be the case, will be easily understood when we reflect that the domestic treatment of this form of dysmenorrhea consists principally in *rest* and *warmth*. Females who suffer habitually from dysmenorrhea, whatever their age, should remain quietly at home, taking care to preserve themselves from atmospheric vicissitudes during the first day or two of menstruation, which is the period during which the pain is mostly felt. A warm hip-bath will often be found useful. If the pains are very decided, it is best even to confine the sufferer to bed, and to apply warm linseed poultices to the lower abdominal region—a valuable and simple mode of soothing pain.

In mere constitutional dysmenorrhea, these simple means nearly always suffice to render the pain very bearable. If they do not produce relief, that fact alone constitutes a suspicious circumstance, and should induce the medical attendant to scru-

tinize narrowly the state of his patient, lest there should be some morbid or physical cause in action.

In severe dysmenorrhea, connected with uterine disease, the only *efficacious* treatment is that directed to the cause of the disease which occasions the dysmenorrhea. As time is required, however, to effect this, we are often called upon, even in these cases, to treat the dysmenorrhea as a symptom; and, warmth and rest failing, recourse must be had to medicinal agents. By far the most efficacious remedy with which I am acquainted is the injection of laudanum, or any other preparation of opium, into the bowel. From fifteen to thirty minims of laudanum, mixed with a little warm water, should be injected into the rectum, and will generally exercise, if retained, as much influence in soothing the uterine pain as would double the quantity taken by the mouth. Moreover, the nausea and headach which opiates occasion are much less likely to be produced when they are thus administered. If the first opiate injection is not retained, a second, given half an hour later, will generally be more successful. I have also found chloroform of great value in these cases. It may be inhaled, or administered by the mouth in doses of from twenty to forty minims, mixed with mucilage, the yolk of an egg, or with camphor, which favours its suspension in water. I have given it by injection, but with less success, as it appears, generally speaking, to irritate the rectal mucous membrane, and is consequently not retained. When, however, it is retained, the sedative effect is nearly always effectually produced. Although chloroform may thus often be resorted to with great benefit in dysmenorrhea, I do not find that as much reliance can be placed on it as on opiates.

There are various other medicinal agents, principally antispasmodics and narcotics, which may be administered with benefit in dysmenorrhea. We may mention more particularly the various ethers, and especially sulphuric ether, hyoscyamus, belladonna, musk, valerian, and camphor. It must not, however, be forgotten that these remedies are mere temporary palliatives; that dysmenorrhea, when constant and not constitutional, nearly invariably depends upon some physical cause, generally speaking, uterine or ovarian inflammation, and that it is this cause which we must find out, and remove, during the interval of menstruation.

It is the fact of dysmenorrhea being so frequently caused by inflammatory disease, that explains the success which often attends bloodletting, both general and local, and which has induced so many authors to recommend it, although unaware of the pathological state which it relieves. General bloodletting acts by revulsion; whilst local bloodletting directly relieves the congested and embarrassed abdominal circulation. I seldom, if ever, resort to general bleeding in dysmenorrhea, because the relief which it gives is obtained at too great a sacrifice of the strength of the patient, and, moreover, cannot be depended upon. A few leeches applied to the groin, or, better still, to the neck of the uterus, when possible, if the discharge is scanty, or temporarily arrested, is much more likely to mitigate the pain, and with less loss to the economy. Purgatives, which are frequently useful, act in the same way as leeches, by depleting the abdominal circulation. Some authors—amongst others, Dr. Gooch—have considered dysmenorrhea to be frequently akin to rheumatism, and have recommended colchicum, guaiacum, and other medicines usually given in rheumatic affections. That the uterus may be the seat of such an affection is undeniable; but I am persuaded that its frequency has been greatly exaggerated, as has likewise that of irritable uterus. Indeed these two conditions may be said to have been, to a great extent, mere theoretical creations, destined to account for pathological conditions, the real nature and meaning of which have, until recently, been a mystery to the profession.

It will be seen, by what precedes, that dysmenorrhea is by no means so simple a disease, or so easy to treat, as has been generally supposed, involving, as it often does, the question, whether or not local disease requiring local treatment may not exist as the real cause of the morbid state. If it resists all general treatment, it is probably the result of such disease, and the health and happiness of a young female are seriously endangered. Of course the medical practitioner has a duty to perform to his patient, before which all scruples must be made to succumb. I, however, here repeat, what I have so often said before, especially with reference to unmarried females, that nothing can warrant manual or surgical investigation and treatment, but months, or

even years, of unsuccessful treatment, and the conviction, with the latter, that unless they be resorted to, the case must be abandoned as hopeless. I would also urge, that a consultation should always be held first when the patient is unmarried, to decide the point, whether the examination of the uterine organs be warranted and necessary.

AMENORRHEA.

We understand by the term amenorrhea, the absence, when physiologically due, of the sanguineous discharge by which menstruation is *externally* manifested. The menstrual function consisting, as we have seen, not merely of the periodical secretion of blood from the interior of the uterine cavity, but also of the maturation and elimination of ova from the ovary, it is necessary to make the above distinction. Ova may, by exception, be matured and evolved from the ovary in the human female, as well as in the lower animals, without any sanguineous discharge taking place, as is evidenced by the repeatedly recorded fact of the conception of young females who have never menstruated, and by the pregnancies which occur in women who are nursing, without menstruation having returned. Thus, the external excretion of blood can no longer, in our present state of knowledge, be considered as comprising the entire function, although, as the rule, its manifestation is an evidence of the existence of those all-important ovarian phenomena with which it is generally connected.

Amenorrhea may be studied under two principal forms: in the first, which we will call "constitutional amenorrhea," menstruation has never taken place; in the second, which may be termed "accidental amenorrhea," it has manifested itself, but has been suddenly or gradually suppressed.

Constitutional Amenorrhea.—In order to appreciate this, the first form of amenorrhea, we must recall to mind some of the principal facts connected with the physiology of menstruation noticed in a former chapter. Thus, we must recollect, that the first appearance of this function follows no strict rule, oscillating, in health, between the ages of eleven and nineteen or twenty, an

interval of nine or ten years; and that the average age of fourteen or fifteen is obtained by the inclusion of the exceptionally extreme cases. We must also bear in mind, that, apart from constitutional and family peculiarities, the acceleration or delay of menstruation appears to be more the result of favourable or unfavourable hygienic conditions than of climate, as was formerly taught and believed.

Such being the physiological conditions of menstruation, it is evident that its non-appearance after the average age of fourteen or fifteen is not to be considered a morbid state, so long as the delay is unaccompanied by any symptom of disease or ill-health. Thus we occasionally meet with young females, non-menstruated, of the age of seventeen or eighteen, or even older, whose frame is well developed and healthy, and who complain of no ailment beyond an occasional headach or backach, and sometimes not even of that. With them, menstruation is merely late in its manifestation: they are not suffering from amenorrhea.

In a considerable proportion, however, of the young females who reach the age of eighteen or more without having menstruated, the delay is either attended with great discomfort and distress, apart from any physical deficiency; or is connected with defective general and sexual development; or is occasioned by some local or general morbid condition; or is prevented by some physical impediment. Each of these states may be said to constitute a distinct form of amenorrhea.

In those who belong to the first category, we find a well-formed frame, properly developed breasts, as also the other external signs of puberty; but the patient suffers from constant headach and flushing of the face, severe pains in the back and loins, extending to the lower part of the abdomen and down the thighs, and often from a leucorrheal discharge. It is evident that the changes that precede and accompany menstruation, both in the internal and external organs of generation, have taken place, but that the function has a local difficulty in establishing itself: thence an irregular state of circulation, determination of blood to the head and face, congestion of the uterus, vagina, and ovaries, with consequent pain in the uterine regions, and the leucorrheal discharge. This state is not unfrequently connected with a

plethoric condition of the system, and may last from a few months to several years. The advent of the menstrual hemorrhage generally relieves the patient at once, although she may still continue to suffer at times, as above described, if menstruation fails to establish itself regularly.

The second division comprises non-menstruated females, who, although they have attained, or even passed, the ordinary age of puberty, do not present that development of the mammæ and other external organs of generation, by which this period of life is usually characterized. They remain thin, angular, and flat-chested, and retain all the characteristics of girlhood, mental as well as bodily. It would appear as if in these cases the ovaries remained dormant, and as if the general stimulation which their progressive maturation imparts to the economy were not supplied.

We have seen that, physiologically, mestruation is retarded by bad living and unfavourable hygienic conditions; whereas its advent is accelerated by good living and favourable hygienic conditions. From this fact alone, we might conclude that all diseases that debilitate the economy would have a tendency to retard the menstrual flux; and such is really the case. Phthisis, scrofula, chlorosis, fevers, indeed all diseases that weaken, produce this effect. None, however, more frequently occasion amenorrhea than chlorosis, a disease of the blood, in which the solid constituents of the vital fluid are diminished, and the fluid or serous part increased. The delay or suppression of the menses, under the influence of this malady, is so prominent a feature in its history, that many writers have very erroneously connected it with the uterus, and have described it as a uterine disease. In reality, the state of the menses is a mere symptom of the anemia and debility occasioned by the morbid state of the blood. It is only in a few exceptional cases that I have found chlorosis connected with actual uterine disease.

Lastly, the menstrual secretion may have taken place, but the excretion may never have occurred, owing to congenital or accidental closure of the genital passages. The os uteri, the vagina, and the hymen, may be all closed together, or they may be each closed separately. If the closure exists at the os uteri, the

menstrual fluid accumulates in the cavity of the uterus, and gradually developes it, so that the enlarged organ rises out of the pelvis, and appears above the pubis, simulating pregnancy. If it is the lower part of the vagina or the hymen that is imperforate, the menstrual fluid first accumulates in the vagina, which it distends to an extreme degree before it enlarges the uterine cavity. If the fluid collection reaches the hymen, it generally pushes it forward, and forms a tumour, which appears between the labia. This distention of the internal uterine organs is generally attended with great suffering, both local and general, and is marked by periodical exacerbations, corresponding to the monthly periods.

Accidental Amenorrhea.—The second class of cases comprises those in which menstruation has existed, but has been suddenly or gradually suppressed.

The sudden suppression of menstruation is generally the result of exposure of the body, and especially of the feet, to cold or to wet; of a mental shock, from fear, grief, pain, or anxiety, &c.; or of a sudden attack of disease. It not unfrequently occurs, for a time, as the result of a sea-voyage, or of change of climate, without giving rise to much distress, and without requiring medical treatment, the return taking place spontaneously. The sudden suppression of the menses, under the influence of the other causes mentioned, is often followed by the development of inflammation in the uterus, ovaries, or lateral ligaments. Even when suddenly suppressed, however, the suppression may be unattended with any unfavourable symptom, beyond slight pain in the back and hypogastrium, flushing, and headach. Amenorrhea, thus suddenly induced, seldom extends over more than one, two, or three periods, under proper management, although the suspension may be considerably lengthened, and is sometimes indefinite.

A gradual suppression of menstruation is sometimes observed in those females in whom the function has set in late and with difficulty, without there being any evident cause, general or local. It would appear as if the ovarian and sexual vitality were anomalously low; and after making one or more efforts, at irregular periods, to establish itself, menstruation ceases, not to

return, except under the influence of treatment. When this occurs, the health is scarcely ever good, the constitution generally remaining delicate and weak.

In such cases, however, we are warranted in suspecting ovarian or uterine disease. Generally speaking, in the absence of the chlorotic or tubercular cachexia, the gradual suppression of the menses is connected with such disease. The development of the various tumours to which the ovaries are liable, frequently causes amenorrhea; and the chronic inflammatory affections which are so often observed in the neck and body of the uterus may have the same result. Menstruation first becomes irregular, being delayed days, weeks, or months, and then ceases completely. I have often been consulted for amenorrhea by females who were labouring under these forms of disease, and in whom it had evidently come on subsequently to the uterine affection.

When menstruation does not return, the uterus, and especially its cervix, even in the absence of positive disease, appear sometimes to be the seat of a kind of permanent congestive irritation, which ultimately may bring on hypertrophy and induration of the latter region. I have seen the cervix become thus enlarged, under my eyes, as it were, in the course of four or five years, although there was never any really tangible disease during that time. In one instance, that of a married woman, now twenty-eight, the menses, which from the first had been irregular, stopped immediately after marriage at twenty-three. Soon afterwards she began to suffer from uterine symptoms, and when she consulted me, I found the cervix inflamed and ulcerated, but not hypertrophied. The disease was soon subdued, but the menses have only returned once or twice. The uterus has appeared to remain in a state of semi-congestion, and the cervix has gradually enlarged. This female remains delicate, although in very tolerable health, free from pain, and not suffering under any other morbid state.

Suppressed menstruation, either sudden or gradual, is not unfrequently followed, even when uterine inflammation is not developed, by serious general symptoms, obstinate vomiting, severe hysteria, and sometimes by the establishment in the economy of a supplementary hemorrhage, to which the name

of "vicarious menstruation" has been given. The mucous membrane of the nasal fossæ, of the lungs, stomach, and bowels, are the most ordinary seat of this hemorrhage, which takes place in some instances with the regularity of normal menstruation, and in others at irregular periods. All the other mucous membranes, as also the skin itself in various regions, have been the seat of vicarious menstruation. It has not unfrequently been observed from the surface of wounds or sores. Such being the case, it is evident that hemorrhage occurring from any of these sources in a young female in whom the menses are suppressed, has not that importance which it would have under other circumstances. The hemorrhage may be, and probably is, merely an effort of nature to establish a supplementary issue for the menstrual secretion, which has not taken place.

Treatment.—The rules which should guide the practitioner in the treatment of amenorrhea must be drawn from an attentive consideration of the causes by which it is occasioned, and must vary as they vary. In a general point of view, however, the indications are, 1st, to give tone to the economy, if tone be deficient, and to remove general or local disease, if such disease be present; 2ndly, to favour and promote, within reasonable and judicious limits, the menstrual function. We will now briefly see how these indications are best carried out in the various forms of amenorrhea above described.

When the advent of the menstrual flux is retarded in well-developed young females, who evidently suffer, both generally and locally, from the delay, a little judicious management will often determine its appearance. The state of the health should first be carefully scrutinized, and any general or functional derangement remedied by proper treatment. If the patient is weak and delicate, the various preparations of iron, with a generous dietary, are often of great use. If, on the contrary, she is plethoric, and subject to headach and flushing of the face, a light diet, gentle exercise, and alterative or saline medicines, are indicated. A young female suffering in this way is better at home, under the eye of a devoted and attentive mother, should she be fortunate enough to possess such a parent, than in a public school, where the rigid discipline usually enforced renders

it difficult to pay that attention to her state which it requires. Under the influence of these general means, the menstrual function usually manifests itself, and becomes regularized in the course of a few months. Should they prove inefficient, slight periodical stimulation of the uterine system should be resorted to. The plan I most frequently adopt is, the application of large mustard poultices to the breasts, and to the inner and upper parts of the thighs, alternately, night and morning, during five or six days, every four weeks. The mustard poultices should be allowed to remain on until the skin reddens and begins to feel painful, but not long enough to blister it, as that would prevent their being replaced the following day. The feet may also be put in hot water night and morning, for a few minutes, and if there is any pain in the hypogastric or ovarian regions, large warm linseed poultices, sprinkled over with laudanum, may not only afford relief, but also promote the menstrual excretion. When the symptoms of local congestion are very marked, the application to the vulva of a few leeches every month, or about the fifth day of the local treatment, may be of great assistance. The commencement of this local treatment should be made to coincide with the menstrual nisus, when it manifests itself periodically. When it does not, a certain date should be taken, and adhered to at the interval stated—that is, every twenty-eight days. In such cases the medicines known as emmenagogues, which exercise a special influence over the uterus, are scarcely, in my opinion, admissible, the object being to *gently* promote the natural function, and not to violently stimulate, and probably irritate, the uterine organs.

In amenorrhea connected with deficient uterine and bodily development, the local treatment should be conducted on the same principles, only it generally requires to be carried out more perseveringly and for a greater length of time. In addition to the means mentioned, I have also derived great benefit from electricity, the electric current being carried through the pelvis from the hypogastric to the sacro-lumbar region, for an hour night and morning, during the week that local means are resorted to. In these cases it is evident that the non-development of the body is often in a great measure the *result* of the

dormant condition of the uterine organs, inasmuch as I have repeatedly succeeded in rousing them to action by the local treatment above detailed, when the most judicious and persevering general treatment had failed. In these cases I have invariably seen the bodily structures subsequently develop themselves with great rapidity. At the same time, the knowledge of this fact must not for a moment prevent our employing every possible means of invigorating the general health, of vitalizing the economy, and of promoting the regular play of the various functions. After removing any morbid functional condition which a careful scrutiny may detect, recourse should be had to the mineral and vegetable tonics, and especially to ferruginous preparations, to which should be added a generous diet, moderate exercise in walking or riding, cold bathing or sponging, early hours for retiring and rising, and, if possible, a residence in the country.

When amenorrhea can be traced to a debilitating disease, such as chlorosis, phthisis, scrofula, &c., the best mode of proceeding is the treatment of the disease to which it is referrible. Thus, in chlorosis, the menstrual flux gradually diminishes, and may finally cease altogether under the influence of the progressive deterioration of the blood, without there being any uterine disease or any other uterine symptom than the scantiness and final disappearance of the secretion. As under appropriate general treatment the blood becomes healthy, in the immense majority of cases menstruation returns, or again becomes gradually more and more normal, without any local treatment being necessary. The same may be said of scrofulous and other forms of constitutional debility. In pulmonary phthisis, the falling off and final disappearance of menstruation is a symptom of much more serious import, as it is generally connected with the more advanced stages of the disease, and with an amount of tubercular deposit, and of consequent marasmus, through defective nutrition, which renders the chance of a recovery very problematical.

Amenorrhea from physical obstacles can only be remedied by surgical means. If the hymen is imperforate, or the lips of the vulva are adherent, and the menses have collected behind, a crucial incision in the centre of the bulging hymen, or vulvar

protuberance, is all that is required. Care, however, should be taken, when the menstrual fluid has been evacuated, that the divided surfaces do not unite and cicatrize. This is to be prevented by the use of small sponge or cotton tents for a few days, or by the application of the nitrate of silver to the edges of the incisions—a more painful but equally efficacious process. When the vagina is partially or wholly absent, or closed, either congenitally or by adhesion from accidental causes, the case is a much more serious one, and more difficult to remedy. If there is merely adhesion of the walls of the vagina, this adhesion can generally be removed by the dilatation of the vagina, coupled with the gradual and careful division of the adherent surfaces. When the vagina is partially or entirely absent, the symptoms produced by the retention and accumulation of the menses in the uterus may be sufficiently serious to render it imperative to attempt to form an artificial passage, by surgical means, to the distended uterus. In such cases the difficulty and risk of the operation depends on the distance that separates the vaginal cul-de-sac or the imperforate vulva from the uterus, the operator having to make his way between the rectum and the bladder. Considerable assistance in diagnosis is derived from a careful rectal examination. It is of great importance to find a vent for these uterine accumulations of menstrual fluid, as, in addition to the suffering endured, there is positive danger to life. Cases are on record in which the distention of the uterus extended to the Fallopian tubes, and in which death occurred from the peritonitis occasioned by their rupture.

Occlusion of the os uteri, as a congenital occurrence, is rare; but since I first recommended the use of potassa cum calce as a last resource in obstinate inflammatory disease of the cervical canal, I have seen several cases in which its use had been followed by all but complete occlusion, and by partial retention of the menses, or at least their difficult excretion. This was evidently owing to the want of due caution at the time of application and during the period of healing afterwards. The tendency of the tissues thus treated to contract being very great, it should be counteracted, if necessary, by the occasional use of wax bougies, until the process of repair has been fully accom-

plished. The possibility of this accident occurring through want of caution in the operator, does not in the least invalidate the utility of the remedy as an exceptional and ultimate one. I have generally, but not always, found this form of occlusion easy to remove by progressive dilatation. Should occlusion of the os uteri exist congenitally, when it is recognised it is easily remedied by a slight incision in the region of the os, and by subsequent dilatation.

When menstruation is accidentally arrested or prevented, by exposure to cold and wet, by illness, or by any other of the causes enumerated, the amenorrhea is seldom of long duration. The condition in which it originated having ceased to obtain, the function generally rights itself; the only treatment usually required being that which is most calculated to restore the general health of the patient. In some cases it may also be necessary to resort to the local means already detailed, when menstruation appears to have a difficulty in re-establishing itself.

The catamenial function appears more especially liable to be arrested, from accidental temporary influences in those females who present the low degree of sexual vitality to which allusion has been before made, and with whom menstruation appears late, and with difficulty. In such constitutions, indeed, it sometimes stops for many months, or even permanently, if no treatment be resorted to, without any apparent cause. Under the influence of decided general and local treatment, the menses will often return for a time, but flag and cease as soon as the treatment is suspended. If there is no positive disease of the uterus or ovaries, the emmenagogues, such as ergot of rye, savine, &c., may be cautiously tried. I have known also the married state, especially if followed by conception, produce a complete change in the functional activity of the uterine system, and menstruation become regular and natural. It is in these cases that the application of the nitrate of silver to the cavity of the uterus, or the scarification of its mucous surfaces, has been proposed. I must confess, however, that I do not think we are warranted in thus interfering with so delicate and sensitive a region of the uterus for such a purpose. In the unmarried female the application of leeches to the vulva, and in the married to the neck

of the uterus, answers every purpose, without being open to the same objection.

The development of inflammatory disease in the neck or body of the uterus, or in the ovaries, and of cystic and scrofulous tumours in the ovaries, is one of the most frequent causes of amenorrhea in those in whom the function has once been fairly established, and especially of partial amenorrhea. When such lesions exist, they generally give rise to other symptoms which an attentive and well-informed observer may easily recognise. This remark, however, applies more to the uterus than to the ovaries, for important morbid changes are not unfrequently found after death in the latter organs, which, during life, have given little other evidence of their existence than the modification or arrest of the catamenial functions.

In all these cases, the amenorrhea is merely a symptom of the ovarian or uterine disease. The latter is the condition to be treated, the only indication the amenorrhea itself supplies being the advisability of having recourse to such local means as are calculated to promote menstruation, whenever nature appears to be making the least effort to establish the menstrual flux.

In vicarious menstruation, our first effort ought to be directed to the restoration of the integrity of the uterine organs, if it be impaired. We should then, by all the means enumerated, attempt to divert the molimen hemorrhagicum of menstruation from its abnormal to its normal seat. The most important of these means is the abstraction of blood from the vulva or cervix uteri, which should be resorted to every month, a day or two before the vicarious menstruation is expected, and may be repeated after it has begun, should the strength of the patient admit of such a step. By this treatment the menstrual nisus may nearly always be diverted into its natural channel; whereas, any attempt to stop the morbid hemorrhage, by means applied directly to the organ from which it takes place, might be productive of mischief to the system at large.

MENORRHAGIA.

Menorrhagia is profuse, prolonged, and too frequent menstruation, and uterine hemorrhage generally, in non-pregnant females, when not occasioned by the existence of uterine tumours, or by malignant disease.

From this definition it will be perceived that the forms under which menorrhagia may manifest itself are varied. Thus, it includes menstruation normal as to duration and periodicity, but hemorrhagic in quantity; menstruation normal as to periodicity and the amount of blood lost during a given time, but hemorrhagic from its being prolonged beyond the physiological duration; and menstruation normal as to quantity and duration, but too frequent in its return. Again, all these modes of hemorrhagic manifestation may be combined, and menstruation may be too profuse, too prolonged, and too frequent; or the hemorrhage may be continuous, with irregular or periodical exacerbations denoting the menstrual nisus. In a word, a marked increase in the quantity of blood usually lost during the menstrual flux by the individual in question constitutes menorrhagia. It must, however, be borne in mind, that, as we have already seen, there is no *general standard* by which the menstrual flux can be measured, and by which the normal state can be separated from the abnormal. What is normal in one woman would be hemorrhagic in another, and *vice versâ*. The only standard for each individual female is her own condition, when indisputably in health.

Menorrhagia is generally considered to be the result of an active or passive state of congestion of the uterus, existing independently of local disease, and connected with or occasioned by general conditions of the economy. This, the opinion of both ancient and modern pathologists, is founded in ignorance of the facts enunciated in the preceding pages. In reality, the quantity of blood lost during menstruation is seldom increased so as to constitute hemorrhage, and the menstrual periods are seldom morbidly approximated, *for a continuance* (apart from tumours, polypi, and cancer), unless there exist some chronic inflammatory

disease of the cervix or of the body of the uterus, or unless menstruation be finally disappearing. Idiopathic menorrhagia, except at the change of life, is as rare as hemorrhage from the lung under the influence of mere congestion, apart from any organic disease, tubercular or other. In the uterus, as in the lung, there is nearly always some organic lesion which produces the congestion that precedes hemorrhage. This assertion is not the result of theory, but of scrupulous observation, and must become equally evident to all practitioners who will accurately investigate the state of the uterine organs of patients so affected. Congestion of the uterus exists, it is true, in confirmed menorrhagia, but it is all but invariably, with the exceptions above made, the result of uterine inflammation, and assumes an active or passive character, according to the natural constitution of the patient, and to the amount of reaction produced by the disease and by the loss of blood on the system at large. If the uterine inflammation is of an active nature, and has not had time sympathetically to debilitate the patient, the hemorrhage is considered active or sthenic. If, on the contrary, the local disease has long existed, and has produced great anemia, and been attended with great hemorrhage, the hemorrhage is said to be asthenic.

Accidental Menorrhagia.—The above remarks, however, apply only to *confirmed* menorrhagia, and not to those cases in which menorrhagia appears in a casual and evanescent form, under the influence of some accidental and temporary cause, such as mental emotion or violent exertion. Under such influences the menstrual flux is not unfrequently increased in quantity, prolonged in duration, or morbidly approximated, in the absence of local disease. This is more especially observed in those females who are habitually menstruated profusely, and with whom menstruation presents the extreme physiological duration. These casual hemorrhagic manifestations, however, very rarely become permanent, and cease without treatment; the function, as it were, soon righting itself.

Inflammatory Menorrhagia. — Menorrhagia originating in chronic inflammation of the cervix or body of the uterus, occasionally persists after the removal of the morbid condition which

at first occasioned it. When this is the case, its persistence is generally the result of a torpid, languid state of uterine circulation, giving rise to obstinate congestion; a not unfrequent sequela, as I have elsewhere stated, of long-neglected uterine disease. This congested condition of the uterine circulation may or may not be connected with chronic enlargement or hypertrophy of the body of the uterus. I have, however, met with such enlargement in most of the cases of menorrhagia which have obstinately persisted after the subdual of local inflammatory disease. In these cases, the uterine hypertrophy did not appear to be connected with actually existing inflammation of the body of the uterus, but to be traceable to a previously diseased state of the cervix or uterus, which had prevented the latter organ returning to its normal size after parturition. Indeed, I think I may state, as the result of observation, that the *actual existence* of chronic inflammation in the tissue of the body of the uterus, generally diminishes the menstrual flux, and retards its appearance, whilst inflammation of the cervix renders it more profuse and more frequent than usual. Inflammation of the mucous membrane lining the uterine cavity, on the contrary, is often a cause of hemorrhage.

A congested state of the portal circulation, connected with hypertrophy and passive congestion of the liver, or with other abdominal lesions, has occasionally, in my experience, given rise to obstinate uterine hemorrhage, especially in cases in which the tone and contractile powers of that organ had been simultaneously weakened by chronic inflammation.

Menorrhagia from Ovaritis.—Sub-acute inflammation of the ovaries may no doubt sympathetically re-act on the uterus, and produce menorrhagia. Notwithstanding, however, the intimate physiological connexion between the ovaries and the function of menstruation, I have not often been able to trace, clinically speaking, menorrhagia to such disease, when unaccompanied by uterine lesions. At the same time, it is quite possible that the irritable state of the ovaries, which inflammatory disease of the uterus so very frequently induces, may re-act on the menstrual function, and contribute to exaggerate and pervert it. In these cases, however, the uterine lesion is generally, according to my ex-

perience, the primary and principal cause of the menorrhagia; on its removal the ovarian irritation disappearing along with the menorrhagia.

Menorrhagia at the dawn and close of Menstruation.—Menorrhagia is occasionally met with at the dawn and close of menstruation, from mere uterine congestion, apart from any local inflammatory disease.

Thus, the first manifestation of the menses may be characterized by a severe attack of hemorrhage, the subsequent periods being physiological; or the menses may continue to appear hemorrhagically at irregular intervals for several months. This latter type of menorrhagia, however, is much less frequently met with than the first. When, also, the menses are about to cease definitively, and become physiologically irregular, profuse menstruation, amounting to flooding, is not unusual, as a result of mere congestion. Thus the menses will disappear for two or more months, and then return with excessive abundance. It is very seldom, however, even at this period of life, that hemorrhagic menstrual fluxes occur frequently, and assume a continued character, in the absence of tumours or malignant disease, unless there be inflammatory ulceration of the cervix. In nearly all the instances of very obstinate hemorrhage at the change of life which I meet with, I find, on examination, that the congestion and hemorrhage are kept up by inflammatory and ulcerative disease. Indeed, some of the very worst instances of protracted and severe hemorrhage that I have ever seen, have been cases of this description; and what satisfactorily proves that the inflammatory affection is the cause of the continued hemorrhage is, that when it is cured the hemorrhage generally ceases. This is not, however, invariably the case. I have occasionally met with females at the critical period of life, in whom hemorrhage obstinately persisted after the removal of the inflammatory and ulcerative disease of the cervix, which had probably in the first instance given rise to it. In several of these cases, however, time or dilatation of the cervix has subsequently proved that the hemorrhage did not proceed from a sound uterus, but was connected with the presence of a polypus, or of a fibrous tumour, so small and obscurely situated as not to have been recognised at first.

Menorrhagia during Pregnancy.—The periodical hemorrhages which occasionally occur during pregnancy, are considered by some writers to be of a menstrual character. Without denying the possibility of a true menstrual flux taking place from the cervical canal during pregnancy, I would mention that in nearly all the cases of this form of hemorrhage—not merely temporary, and not proceeding from separation of the ovum—that have come under my observation, I have discovered inflammatory ulceration of the cervix. This fact certainly offers the most natural explanation, at least in the majority of instances, of the presumed menstruation of pregnant women. On examining these patients, I have generally found blood escaping from the ulcerated uterine neck, the ulcerations presenting the peculiarly turgid and luxuriant appearance which I have already described as characteristic of such lesions during pregnancy. When a pregnant female suffering from ulceration of the cervix is instrumentally examined, the ulcerated surface bleeds freely on the slightest touch, and women in whom abortion or premature confinement is brought on by such disease are very frequently found, on inquiry, to have experienced repeated hemorrhagic fluxes during the pregnancy, which are often mistaken for menstrual periods.

Menorrhagia after Parturition.—The continued and obstinate hemorrhage which is often observed after parturition, both before and after the return of menstruation, is nearly always complicated with and occasioned by inflammatory ulceration of the neck of the uterus, with or without disease of the body of the uterus. This form of menorrhagia may be protracted for months after the labour, until the patient be reduced to the last stage of anemia, if the real cause be not discovered and efficiently treated.

In the various forms of menorrhagia occurring in the non-pregnant female, and accompanied by ulcerative lesions, does the blood escape from the lining membrane of the uterine cavity, as in ordinary menstruation, or from the ulcerated surface? I believe that both these surfaces are often simultaneously the sources of the hemorrhage, although sometimes it may proceed from one only. I have frequently seen the blood oozing from

the diseased surface under all the circumstances mentioned, and have often checked it instantaneously, by freely cauterizing with the solid nitrate of silver the *entire* ulcerated surface, both internally and externally to the os uteri.

Treatment.—The views and facts which I have above developed are of extreme practical importance. Not only do they render unnecessary, in the immense majority of cases, the hair-drawn distinctions of pathologists with reference to the constitutional state of the patients suffering from menorrhagia, but they also greatly simplify treatment. The hemorrhage being in reality nearly always the result of local disease, the latter is, in most cases, the real element to be attacked and subdued. Instead, therefore, of an intricate and complex system of therapeutics, founded on a host of indications, the practitioner has, generally speaking, merely to *bring to light and treat* the disease which causes the mischief. By so doing, he removes the morbid condition which keeps up the hemorrhagic state, and menstruation spontaneously returns to a natural condition.

In those forms of menorrhagia in which the absence of any local disease is evident, or at least to be presumed,—at the beginning and termination of the menstrual function, for instance, or when the hemorrhage occurs in an accidental manner from some easily-assignable cause, mental or bodily,—very little medicinal treatment, generally speaking, is required. If the patient is kept at rest in a horizontal posture, and the cause be removed, the hemorrhage will generally subside of itself, without leaving any trace on the general health beyond temporary debility, which quiet and a moderately nourishing dietary soon remove.

This is not, however, always the case; the hemorrhage may, even under these circumstances, be so severe and so prolonged, that it would be imprudent to trust to the unassisted efforts of nature. When such is the case, the indications are, to moderate the activity of the circulation by means of sedatives, such as opium, hyoscyamus, digitalis, hydrocyanic acid, Indian hemp, and other medicinal agents similar in their action; to modify the plasticity of the blood by the administration of vegetable and mineral acids; and to exercise a revulsive action on the intestinal

canal by the means of saline purgatives. The application of cold to the lower abdominal region, and the injection of cold astringent lotions into the vagina, may also be resorted to, should these means fail. It is as well, however, to wait, unless the hemorrhage be excessive, until the normal duration of the menstrual flux in the patient have passed, lest the impression of cold should suddenly arrest the excretion of blood, whilst the physiological flux towards the uterus is still in force, as extreme congestion, and even inflammation, might ensue. This appears to me a desirable precaution, and one which I usually adopt, although the direct impression of cold on the uterine organs during menstruation does not appear to be in reality as dangerous as it is usually considered.

In this the most simple form of menorrhagia it is seldom necessary to resort to those medicinal agents which have a direct influence upon the uterus, such as ergot of rye and savine. It must not, however, be forgotten that they are very valuable anti-menorrhagic remedies, and often succeed when all other medicinal means fail to arrest the hemorrhage. As a last resource, we can resort to plugging the vagina; but this is a means of treatment which may be said to be scarcely ever necessary in mere accidental menorrhagia, and which may be kept in reserve for the more formidable forms of hemorrhage, of the treatment of which we have yet to speak.

Should the antecedents of the patient, carefully scrutinized, reveal the existence of any decided uterine symptoms, or lead to the impression that uterine disease may exist, as soon as the hemorrhage has stopped or has been temporarily arrested by the means above mentioned, the state of the uterus and of its cervix ought to be investigated—firstly, by the touch, and secondly, by the speculum, should the finger detect disease, or a suspicious condition of the uterine neck and of its cavity. In those cases in which the hemorrhage is continuous, or all but continuous, it is not necessary to wait for its entire subsidence to examine the patient. When the exacerbation which corresponds to the menstrual epoch in the patient has passed, and the hemorrhage has abated, the state of the uterine organs should be ascertained without delay.

When inflammation, and more especially inflammatory ulceration of the neck of the uterus is discovered, and the absence of cancerous lesions, or of fibrous growths, has been ascertained, the practitioner may consider that, in nineteen cases out of twenty, he has found the key to the menorrhagic state, and that the most efficacious and prompt means of treating it is to treat the disease he has discovered. From that moment he may look upon all medicinal anti-hemorrhagic agents as mere adjuvants —useful, no doubt, but of very secondary importance compared with the treatment of the local disease. Very often the hemorrhage stops as soon as the irritability of the inflamed surface is modified, and long before the disease is cured.

The menorrhagia, however, may persist with more or less intensity, notwithstanding the gradual improvement of the local disease. It is with such patients more especially that great advantage may be derived from the administration of ergot of rye in substance or infusion, of savine in powder, of gallic acid, and of the other medicinal agents mentioned. I generally begin with scruple doses of the ergot or savine two or three times a day, gradually increasing the dose if required.

In those cases in which, as we have seen, the hemorrhage persists after the entire removal of local disease, owing to enlargement of the uterus, to the presence of a small unrecognised polypus or uterine tumour in the cavity of the uterus and its neck, or from the mere hemorrhagic habit, I have of late resorted, with encouraging success, to plugging *the os uteri itself*, instead of the vagina. It occurred to me that the usual plan of filling up and distending the vagina by pieces of sponge or a handkerchief, was a very clumsy, painful, and inefficient mode of opposing mechanical resistance to the exit of blood from the undeveloped uterus, when its orifice could be so easily brought into sight. Acting on this idea, I have, in several instances, brought the cervix uteri into view, and passed inside the os two or three small pieces of cotton, tied to a piece of thread, which I wedged in firmly, covering the whole cervix with two or three larger pieces left in close contact with it on the withdrawal of the instrument. In most of the cases in which I have resorted to this plan, I have easily arrested the hemorrhage. Indeed,

this modification of the ordinary practice appears to me so simple and so consonant with common sense, that I cannot but think it will be often adopted in severe cases. In the ordinary operation of plugging the vagina, that canal has to be distended by a large mass of sponge or linen, soaked with clotted blood, which often interferes with the functions of the bladder and rectum, is invariably a source of great discomfort to the patient, and is not always efficient; whereas, by the plan I describe, the end proposed is much more effectually encompassed, with scarcely any annoyance to the patient beyond that which the use of the speculum occasions.

Owing to the natural contractility of the cervical canal, and the pressure of fluids from behind, if the cotton is not well pushed in, it is soon forced out. The plug may be left without renewal twenty-four or even thirty-six hours; but in the latter case it is generally expelled spontaneously. A small piece of sponge may be used, and is more likely to remain *in situ*, owing to its expansion; but as it must necessarily be very small, it is more likely to be permeated by the blood. If sponge is used, great care should be taken to extract the piece passed into the os, to which a small piece of thread should always be tied, as the os uteri might not be able to expel it alone, owing to its great expansion.

In the class of cases of which we are now treating, I have occasionally found that a few leeches applied to the cervix uteri after menstruation have arrested the hemorrhage.

I need scarcely add, that any disease of the abdominal viscera that appears to favour the hemorrhage should be treated, and that the debility occasioned by menorrhagia must be met, during the intervals of the attacks, by as nourishing a diet as the patient will bear, and by those tonics which are suited to her state. It must, however, be borne in mind, that when the hemorrhage is accompanied or occasioned by inflammatory uterine lesions, the stomach is generally sympathetically affected, and unable to digest much food, so that a free dietary may be positively injurious, and increase the mischief.

I have not spoken of the hemorrhage that is observed in fibrous tumours and polypi of the uterus, and in cancer, because

it is so much a symptom of these diseases, that it can only be properly treated of in connexion with them.

LEUCORRHEA.

The term leucorrhea is applied indistinctly to all vaginal discharges of a non-sanguinolent nature. These discharges may be the result of very varied morbid conditions, it is therefore evident that leucorrhea, thus defined, must include a very wide pathological range. In the course of this work the conditions of circulation and disease which give rise to vaginal discharges, as also their nature and character, have been minutely described: it would, therefore, be useless to again enter into them at length, and I will now merely recall in a few words the principal facts connected with their history. A vaginal non-sanguinolent discharge may consist of natural mucus, of white mucus, of transparent or ropy mucus, and of pus, or of the four combined.

The mucous follicles of the vulva, vagina, and uterine neck, when in a perfectly physiological state, free from all congestion or morbid influence, secrete in more or less abundance a slightly glutinous transparent fluid, of the same description as that which is secreted by mucous follicles in other parts of the body. This, the natural mucous secretion of the female sexual organs, is best observed for a day or two after menstruation in a healthy female, the vulva and vagina being then, generally speaking, freely lubricated by mucus of this description. This mucous secretion is also increased under the influence of uterine orgasm. In the healthy state, it is never sufficiently abundant to constitute a discharge, merely lying on the parts where it is secreted, and moistening them.

The white creamy mucus is secreted by the mucous membrane of the cervix, and possibly of the upper part of the vagina when congested; and as congestion of these membranes may exist physiologically, its presence does not necessarily indicate disease. A large portion of the female population of towns present more or less of this white leucorrheal discharge during the physiological congestion which precedes and follows menstruation, but so long as they are free

from local inflammation, its existence is of no importance, as alone it neither gives rise to local nor to general symptoms. When, however, it is very abundant and persists throughout the menstrual interval, the circumstance is a suspicious one, and on examination there will be generally found some inflammatory condition of the cervix which keeps up the congestion. If the white mucus is mixed with the transparent mucus, or with pus, the existence of inflammation is certain. But in that case there are always some local or general symptoms. Such being the case in nineteen instances out of twenty in which a female *seeks professional advice* for leucorrhea, she will be found, on examination, to be suffering from some inflammatory disease of the uterine region. Were there not local disease, she would attach no importance to the discharge, feeling no inconvenience from its presence.

The ropy transparent discharge is secreted by the numerous mucous follicles of the cavity of the uterine neck, and its existence in any quantity is a certain sign of inflammation of that part. This ropy mucus may possibly be merely a hypersecretion of the mucous follicles of the cervical cavity, the result of the inflammation of the vascular framework of the mucous membrane in which they are imbedded. Whether or not this be a correct explanation of the fact, it is certain that whenever an abundant ropy secretion exists, the os and cavity of the cervix are, on careful inspection, found open, red, and inflamed, or ulcerated. The same secretion is observed in inflammation of the nares. In what is popularly called "cold in the head," the discharge is of a similar transparent nature.

Pus, as a matter of course, indicates severe inflammation or ulceration, as does also a muco-purulent discharge; when either are present, there are nearly always some local or general symptoms. A very abundant secretion of pure pus seldom exists in simple inflammatory disease of the cervix and vagina; when pus flows in a stream from the vagina, the disease is almost invariably of a blennorrhagic character.

These three forms of vaginal discharge may be combined, as is generally indeed the case when there is ulcerative disease of the cervix. It must not, however, be forgotten, that ulceration

not unfrequently exists without any leucorrheal discharge whatever; at least, without any of which the patient is cognisant, the morbid secretions being absorbed in the vagina.

When a patient is examined instrumentally, the exact nature of any existing discharge can be at once ascertained, but it is often difficult to obtain by any other means correct information on the subject. Thence the precise determination of the physical characters of a vaginal discharge for the purpose of diagnosis, when a physical examination is not made, is not of such importance as might be supposed; the more so, as we have seen that other and more important symptoms exist to guide us in the appreciation of the state of the uterine organs.

STERILITY.

Chronic inflammation of the body and of the neck of the uterus, and also of the ovaries, is a very frequent, and a generally unsuspected, cause of sterility.

Chronic inflammation of the body of the womb appears to prevent conception taking place, by modifying the vitality of the uterus, and perhaps, in some instances, by closing the Fallopian tubes. Inflammation and ulceration of the cervix not only occasion sterility by the same morbid reaction on the uterine functions, but also superadd a physical impediment. When the os uteri and the cervical cavity are inflamed and ulcerated, the viscid muco-pus secreted closes the uterine cavity, and probably prevents the spermatozoa reaching that part, where its presence is supposed by physiologists to be necessary for impregnation. It is also stated by some French pathologists, as the result of experiment, that the contact of this morbid mucus instantaneously kills the spermatozoa. The hypertrophy of the central tissues of the cervix produced by inflammation, and the spasmodic contraction of the os internum, may also close the uterine cavity.

With some females, however, none of these morbid conditions appear to prevent fecundation, owing to their peculiar aptitude to conceive. With them this aptitude to impregnation seems so remarkable, that they conceive under the most adverse circumstances, even when suffering from serious uterine disease. Thus

there are cases on record in which the partial destruction of the uterus from cancer did not prevent fecundation.

Sterility, as the result of chronic inflammation of the uterus and its neck, may be observed both in females who have never conceived, and in those who have. In a very large proportion of the cases of confirmed sterility from the onset of marriage for which I have been consulted, I have found chronic inflammation, or inflammatory ulceration of the cervix and its cavity, to exist; and, on minute inquiry, I have generally been able to trace the symptoms of the disease to the first weeks of marriage, or even to a period antecedent to marriage. I am therefore fully warranted in looking upon inflammatory disease of the cervix as one of the most frequent causes of this species of sterility. On restoring the uterus to a state of integrity, some of my patients have become pregnant, but many, as yet, have not. I must, however, remark, that in those cases in which conception has followed the removal of disease, it has generally been only after an interval of a year or more, so that I may eventually prove to have been more successful than is now apparent. It would seem as if time were required for the uterus to recover its physiological powers.

In most of the cases in which I have been consulted, the inflammatory disease and the sterility had existed for many years—from three to fifteen. It is possible, therefore, that the long-continued existence of inflammation in such cases, may, with some, modify the physiological powers of the uterus beyond recovery, even when the morbid condition is removed. Or it may be attended, in the course of time, by inflammation, contraction, and obliteration of the Fallopian passages. It has been proposed recently to dilate the Fallopian tubes by means of a sound; but this plan of treatment, useless in case of mere closure of the canal from mucus, and dangerous in more decided stricture, from the risk of perforation, appears to have been abandoned even by its author. In several of the cases successfully treated, I have dilated the cervical canal and divided the os internum subsequently to curing the inflammatory and ulcerative disease of the cervix. One was a lady, aged thirty-two, who had been married seven years when I first saw her,

during the whole of which time she had presented symptoms of uterine disease. The ulceration was extensive; and when it was quite cured, I dilated the upper part of the cervical canal, which was contracted. She became pregnant eighteen months after, and went to the full time. The other was a younger lady, aged twenty-four, who had been married four years when she consulted me. Like the former patient, she had presented uterine symptoms ever since her marriage. The inflammatory ulceration was less extensive, and after it was cured, I also dilated the cervical cavity, and divided the os internum with Dr. Simpson's metrotome. She became pregnant six months after, but miscarried at four months, a year or two ago. I have not since heard of this patient.

In the above cases, as both inflammatory disease and contraction of the os internum existed, it is difficult to say whether the dilatation had anything to do with subsequent impregnation. Conception may have been solely the result of the removal of the inflammatory disease, inasmuch as I have seen many other cases of sterility from inflammation, in which the patients have become pregnant after treatment, without dilatation being resorted to, although the contraction of the os internum was quite as marked. One case of this description has just occurred to me. A lady, aged thirty, married seven years, sterile, and living in a tropical climate, consulted me last winter, in a very debilitated condition. She was labouring under severe inflammatory ulceration, which gave way under appropriate treatment. She left England to return home at the beginning of the present year, and I have just heard that she became pregnant immediately on her return home, and is now expecting her confinement.

On the other hand, I have, in at least ten or twelve instances, dilated the cervix, and divided the os internum, in patients cured of inflammation, who have remained sterile. I have never performed this operation on a patient who had not previously suffered from inflammation. Indeed, I seldom meet with such cases; and have no doubt that other practitioners will say the same, if they scrutinize as carefully as I do, the uterine health of their patients.

It will be perceived from what precedes, that I am still rather uncertain as to the influence exercised by contraction of the cervical passage, and of the os internum, in the production of sterility. My own experience has left doubts on my mind, which the researches of Dr. Simpson will, I trust, solve when they are brought before the profession. I am indebted to this talented practitioner for having had my attention turned, a few years ago, to this cause of sterility. I then embraced his views with enthusiasm, and at first lost no opportunity of testing their correctness. Latterly, I have been rather discouraged, I must confess, and have often shrunk from exacting from my patients, on the score of sterility only, submission to so tedious and annoying a treatment as dilatation of the cervical canal.

Women who have had families frequently become sterile when affected with inflammatory ulceration of the cervix. Sterility thus occasioned is generally removed by the cure of the disease. I am continually seeing illustrations of this fact. Sometimes they become pregnant before the disease is quite cured, and sometimes after a year or two only. Occasionally, however, the uterus seems to have been morbidly modified, as in the preceding class of patients, and the woman remains permanently sterile.

Chronic inflammatory disease of the ovaries is no doubt occasionally a cause of sterility, but not, I believe, as frequently as uterine disease, owing partly to the existence of two ovaries, which can replace each other in function, and which are only simultaneously affected in severe cases.

Although I thus attach so much importance, in the production of sterility, to local inflammatory lesions of the uterine system, including those of the ovaries, Fallopian tubes, and broad ligaments, which have been described in a former section of this work, it must not be supposed that I underrate the physiological causes of sterility. Fecundation is one of the most capricious of all human functions; and there are, no doubt, many physiological causes in operation which may produce sterility, the precise nature and mode of operation of which is concealed, and probably always will remain hidden, from us. It is thus that we see a female conceive

with a first husband, and not with a second, and *vice versa*, although she herself is in the same physiological state, and both husbands may have had children by other women. It is thus, also, that we see healthy females remaining sterile for some years, and then conceiving with the same husband; or females having children at very variable intervals of their married life, although under precisely the same hygienic conditions. I firmly believe, however, that these anomalies and apparent inconsistencies are often merely the result of latent inflammatory disease, and, as such, susceptible of being explained and remedied.

ABORTION.

I have elsewhere (page 191, *et seq.*) entered so fully into the consideration of the connexion which exists between inflammation and ulceration of the uterine neck and abortion, that it only remains for me here to recall, in a few words, what has been previously stated.

Abortion is often occasioned by inflammatory ulceration of the cervix, and likewise often occasions it. In the latter case, abortion occurs accidentally, under the influence of some of its generally recognised causes, and leaves behind a morbid state of the cervix and its cavity. Local disease of this nature may follow an abortion of the simplest kind, one from which the patient rallies in a few days; although it is more generally the result of those that are accompanied by inflammatory and hemorrhagic symptoms. Ulcerated disease of the cervix when once established, from whatever cause, is itself a frequent cause of abortion.

When abortion is the result of the actual existence of inflammatory disease of the cervix, it may be produced in various ways. The vitality of the womb may be so modified in the earliest stage of pregnancy, by the existence of the inflammatory disease, that the fœtal germ dies; in which case it is either expelled along with the membranes, or it is partly or entirely absorbed, the membranes continuing to enlarge for some months, and being eventually expelled under the form of a mole or false conception. Or the pregnancy may advance to a farther period,

until the third or fourth month, when the womb, becoming too irritable, or being unable to develope itself, or the fœtus dying, the membranes separate, flooding ensues, and the contents of the uterus are expelled. At a later stage still, when the muscular structure of the womb is more fully developed, the presence of inflammation at its mouth may bring on strong reflex action, and occasion premature confinement, independently of any disease of the child, or of its membranes.

Abortions, no doubt, frequently occur under the influence of accidental causes alone, and of constitutional cachexia, such as scrofula and syphilis, without there being any local disease of the cervix. It may, however, be laid down as a rule, that a great majority of the abortions which are preceded or followed by morbid symptoms, and of those which occur spontaneously without any evident cause, and in the absence of uterine tumour or constitutional cachexiæ, are occasioned by inflammatory disease of the cervix. It may also be considered as all but certain, that inflammatory and ulcerative disease of the cervix exists when abortions quickly succeed one another, and when a female does not seem able to carry the product of impregnation to the full time.

CHAPTER XIV.

DISPLACEMENTS OF THE UTERUS AND THEIR CONNEXION WITH INFLAMMATION — PROLAPSUS — ANTEVERSION — RETROVERSION—RETROFLEXION.

It will have been perceived, in the first part of this work, that, according to my experience, prolapsus and all other displacements are generally the result of increased volume and weight of some part or other of the organ, produced either by inflammatory action or by morbid growths. This view of the origin and nature of uterine displacements is, however, so different from that entertained by modern uterine pathologists, and more especially by those who have recently written on the subject in this country, that it requires elucidation. I am the more inclined to enter at some length into this subject, as I believe that the doctrines which have recently been brought forward by several leading authors are fundamentally wrong, and calculated to lead practitioners into serious practical errors.

PROLAPSUS OF THE UTERUS.

Prolapsus, or falling of the uterus, either partial or complete, is generally attributed to laxity of the uterine ligaments. This opinion I believe to be mistaken, and to be founded on an anatomical error. The uterus is not so much supported and retained in situ by its ligaments as by the pressure of the surrounding organs and the contraction of the upper part of the vagina on its lower segment. In a word, it is more poised than suspended in the centre of the pelvic cavity; and that such was the intention of Nature is obvious from the small size and lightness of the virgin and unimpregnated uterus. It is certainly one of the

problems of the animal economy that an organ which weighs several pounds when its functions are fully called into action, at the moment of parturition, should, in a state of vacuity, only weigh an ounce and a quarter. A large heavy organ would, however, have required powerful means of sustentation, which would have been incompatible with the enlargement and change of position that takes place in pregnancy.

The necessary result of this extreme lightness of the unimpregnated uterus, and of the slight amount of support afforded by its ligaments, is, that it is naturally very moveable. In order to test this point, the finger need only be passed per vaginam to the cervix of a healthy female, and it will be found, that by acting on the cervix as a lever, the body of the uterus may be moved in any direction. This natural mobility of the uterus becomes still more apparent if the left hand is simultaneously placed on the hypogastric region, whilst the patient is reclining on her back. The uterus will then be grasped, as it were, between the finger of the right hand, carried behind the cervix internally, and the left hand placed externally, and may be moved backwards and forwards, to the right or to the left, to a considerable extent.

This anatomical fact accounts for the displacements which inevitably occur when any *one* region of the womb increases in weight. Should it be the cervix that becomes enlarged and heavy, as is the case when it is the seat of inflammation, the entire organ falls in the direction of the axis of the pelvic outlet, and approximating to the vulva, constitutes partial prolapsus; the extent of the prolapsus depending principally on the extent of the hypertrophy of the cervix, and on the contractility of the vagina.

The vagina, in the healthy state, is not a mere open pouch, but a contractile closed canal, like the rectum, which closes on and supports the uterine neck, and, in my opinion, has, generally speaking, almost as much to do with the support of the uterus as the uterine ligaments themselves. In virgins, with whom the vagina is very contractile, prolapsus seldom exists to any extent. In married women who have had children, it is often considerable, the cervix with them frequently reaching the

vulva, occasionally protruding externally, and even dragging after it the entire uterus, so as to constitute complete prolapsus, or procidentia uteri.

This latter form of prolapsus is nearly always accompanied by complete relaxation of the vagina and vulva, the former constituting a wide non-contractile pouch, and the latter offering no kind of support to the prolapsed uterus. It is occasionally, also, connected with lacerated perineum. In the great majority of cases of procidentia uteri, the cervix is found inflamed, ulcerated, and enlarged. The frequency of ulceration of the cervix in complete uterine prolapsus has long been generally recognised, and it has always been a source of surprise to me that its existence, under these circumstances, did not lead pathologists to look for inflammatory ulceration in the non-prolapsed uterus. The ulcerations, however, were thought to be merely the result of the friction of the prolapsed cervix against external objects.

In these extreme cases, the procidentia is generally the result of the combination of all the causes that give rise to prolapsus—increased weight of the lower segment of the uterus, laxity of the ligaments, and more especially the complete annihilation of all contractile power of the vagina and vulva. Complete prolapsus of the uterus would, I am convinced, be much more frequent than it is in married females who have had children, and who are suffering from inflammatory enlargement of the cervix, were it not that in them the hypertrophied cervix is very often retroverted. Being thus lodged, as it were, in the cavity of the sacrum, on the rectum and perineum, the uterine neck receives an artificial support, which prevents its following the axis of the pelvic outlet, and appearing externally.

That partial prolapsus of the uterus is really owing, in the immense majority of cases, solely to increase in the volume and weight of the cervix, and to the relaxed state of the vagina, induced by inflammation and distention, must soon become apparent to any practitioner who gives himself the trouble accurately to ascertain the position of the enlarged and inflamed cervix when a patient first applies to him for advice, and to compare it with that which it occupies when the ulceration is healed, the hypertrophy reduced, and the vagina restored to a

healthy state of contractility. He will then almost invariably find the cervix two or three inches higher; the finger, which at first found the cervix low down, just behind the vulva, being often barely able to reach it. The patient herself is generally aware of the change, and will often say, towards the close of such treatment, that she feels the pain of the cauterization in quite a different position, very much higher up than she did at first.

Such being the real cause of partial prolapsus in nearly all the cases that are met with in practice, it is evident that the mechanical means of sustentation generally resorted to, such as pessaries, &c., are perfectly useless as curative agents; that so far from curing, they actually increase the tendency to prolapsus by irritating the inflamed tissues, and destroying, through distention, the natural contractility of the vagina.

RETROVERSION OF THE CERVIX AND ANTEVERSION OF THE UTERUS.

Retroversion of the cervix is exceedingly common. In this form of displacement, the cervix lies in the cavity of the sacrum, resting on the rectum, and the body of the uterus is more or less thrown forward or anteverted. This is one of the forms of uterine displacement which have been misunderstood and misinterpreted by modern writers. By them it is represented as in itself an important morbid condition, the cause of a host of symptoms.

In reality, retroversion of the cervix is, in the very great majority of cases, merely one of the ordinary results of inflammation, comparatively of but little importance, and easily explained. Patients suffering from uterine inflammation, finding that walking and standing are painful, generally lie or recline as much as possible. In this position the uterine neck, if hypertrophied and heavy, not only falls in the vagina, but bears on the posterior vaginal wall, and in the course of time becomes retroverted, especially if the contractility of the vagina has been relaxed by inflammation.

In married females, intercourse exaggerates, and may even alone occasion, this displacement of the cervix. As long as the cervix is healthy, it remains small and elastic, and yields easily

to pressure; but when it becomes enlarged and indurated as the result of inflammatory disease, it offers resistance to pressure, and is gradually thrust more and more backwards, by intercourse, into the cavity of the sacrum. Indeed, the combined action of these causes operates so powerfully in married women, that it is only an exception to find the hypertrophied cervix in them in any other position. In unmarried females, on the contrary, retroversion of the cervix is rarely observed, even when the cervix is considerably enlarged. This is owing to the uterine neck not being exposed to physical pressure, and to the vagina being, generally speaking, more contractile, so that it guides the hypertrophied cervix, as it were, towards the vulva.

The extent to which the retroversion of the uterine neck is carried depends partly on the degree of the hypertrophy, and partly on the length of time that it has existed. When the cervix is very voluminous, has been so for years, and the patient has uninterruptedly been living with her husband, it is often thrust so far back towards the sacrum, that it can scarcely be reached with the finger, and the speculum has, as it were, to search it out of the sacral region. Some of the most difficult instrumental cases that I have met with have been of this description.

If the cervix, not being very voluminous, is only turned backwards, and does not press upon the rectum, so far from the displacement giving rise to serious symptoms, I do not think it occasions any, or that the patient is made aware of its existence by any abnormal sensations. The morbid symptoms which have been described as the result of this displacement are, in reality, the symptoms of the inflammatory and ulcerative disease which occasion it, and which is nearly always in full activity when the displacement is recognised. To regard inflammation, ulceration, and the local functional and general symptoms in these cases as the result of the displacement, is an utter delusion; it is simply to substitute cause for effect.

According to my experience, displacements of the uterus and of its neck, *in whatever direction they occur*, when slight, and when they have taken place gradually, do not occasion any symptoms whatever, if there is no inflammation present. The uterine ligaments are organized by nature to give way to gradual

traction, without pain or uneasiness, as we daily see in pregnancy; and the pressure of the anteverted uterus and cervix on the bladder, or of the retroverted uterus and cervix on the rectum, unless the organs involved be rendered sensitive by inflammation, only gives rise to marked symptoms when the displacement is so great as to interfere with the functions of the organs compressed. Under all other circumstances only, slight sensations of discomfort or bearing-down are experienced, and even these are often absent.

The history of fibrous growths permits no room for doubt on this question. These growths almost invariably attain a considerable size, and deeply modify the position of the uterus, giving rise to retroversion or anteversion, and exercising considerable pressure on the pelvic viscera, before they occasion any appreciable symptoms. In fact, my experience shows that patients thus suffering seldom complain at all, unless there be some concomitant inflammatory affection of the cervix or its cavity, until even the external appearance of the abdomen be modified by the size of the tumour, or until hemorrhage supervene; the first period of the existence of the tumour, and the displacement which it occasions, passing unperceived and unnoticed by the patient herself and by her medical attendant. The impunity with which pressure may be exercised on viscera and organs by tumours, the growth of which is very gradual, may be observed in every part of the economy. Even the brain, the most sensitive of all to pressure, will bear it, if very gradually applied. Thus we often see exostosis and tubercular formations greatly compressing the cerebral substance without the supervention of any symptom until the growth has reached a considerable size, or until inflammation supervene. It may, indeed, be considered an axiom in pathology, that all organs will largely accommodate themselves to pressure, provided such pressure be gradually applied, not carried to the extent of seriously interfering with their functions, and be unaccompanied by inflammatory action.

My principal reason, however, for thus attaching but little importance to mere displacement of the uterus, when not carried to an extreme degree, is derived from the results obtained in

practice. I have now for many years been in the habit of treating inflammatory diseases of the uterus, without directing any particular therapeutic means to the cure of the displacements by which they are almost invariably accompanied. I have always recognised and taken the displacement into consideration, but considering it merely a symptom of the inflammatory affection, or of the morbid growth which accompanied it, I have directed my attention mainly to what I considered the cause of the malposition. That I have not erred in so doing is proved by the fact that I have found the displacement occasioned by the inflammatory enlargement of the body or the neck of the womb, either to entirely disappear, or at least to be very much modified by the removal of the original disease. If the displacement is not entirely remedied, owing to the uterus having contracted adhesions in its new position, or to its remaining permanently enlarged after the entire subsidence of inflammation, there is, generally speaking, a complete absence of all morbid symptoms. When these symptoms, either local or general, persist, I usually find that the uterus remains partially inflamed; sufficiently so to account for the symptoms present, without attributing them to the displacement.

The errors which have been and are still made with reference to the pathological importance of retroversion of the cervix and of the body of the uterus, are susceptible of explanation. To a practitioner unacquainted with the extreme frequency of inflammation and ulceration of the uterine neck, and whose finger has not been educated to recognise these lesions, the most prominent feature, on a digital examination, in a case of inflammation of this organ, accompanied by retroversion, is undoubtedly the retroversion. He is therefore, naturally enough, inclined to attribute the sufferings of the patient to the retroversion, not being aware of the existence of other lesions which constitute the real cause of the morbid symptoms.

Even those who resort to instrumental examination of the uterus may thus be led astray. The fact on which I have laid so much stress—namely, the very frequent penetration of inflammatory and ulcerative disease into the cavity of the cervix, and its tendency to lurk therein, and to perpetuate the symptoms

of the inflammatory disease, is but little, if at all known. Thus the practitioner may recognise an ulceration of the cervix in a case of inflammatory induration and retroversion, and may, to all appearance, cure the ulceration without the symptoms disappearing. Under such circumstances, he thinks himself warranted in concluding that the retroversion is the cause of the remaining symptoms, whereas, were he to evert the lips of the os uteri with a proper bivalve speculum, and carefully examine the state of the cervical canal, he would detect disease still in existence,—the real cause of the persistence of the morbid symptoms. I am continually meeting with cases of this description—cases in which the pains in the back and in the side, the bearing-down, inability to walk, and disordered state of health, persisting after the apparent cure of ulcerative disease of the cervix, are erroneously attributed to retroversion; whereas, in reality, they are occasioned by latent and unrecognised inflammatory action in the cavity of the cervix. Patients of my own, thus suffering, have applied to practitioners professing these doctrines, and have been told that these symptoms were owing to retroversion, and were only to be remedied by instrumentally replacing the uterus,—the internal disease of the cervical cavity being entirely overlooked. They have again applied to me; the internal cervical inflammation has been subdued, and they have lost all the morbid symptoms, although the uterus remained more or less displaced.

When the cervix is not very voluminous, even if considerably retroverted, it does not press to any great extent on the rectum. If, on the contrary, it is very much hypertrophied and enlarged, it becomes embedded in the anterior part of the rectum, and may interfere materially with the escape of the fæces. The passage of fæces through the rectum, however, is seldom attended with that excruciating pain which is experienced when it is the inflamed body of the uterus that is retroverted on to the bowel, and which has to be raised to allow of the escape of its contents. The explanation is obvious; the hypertrophied cervix is scarcely ever very sensitive to pressure, whilst the inflamed uterine body is always acutely so.

If the retroversion of the cervix be extreme, the body of the

uterus may be thrown considerably forwards, so as to press slightly on the bladder. Whenever this is the case, any irritability of the bladder which may co-exist is at once attributed to the pressure. Although I am quite prepared to admit that pressure of this description may occasion vesical irritation, I think it seldom does, and that this painful symptom is generally the result of that morbid state of the mucous membrane of the urinary system which I have described at length, when speaking of the symptoms of inflammation of the cervix. I am the more inclined to hold the opinion, that in retroversion of the womb during pregnancy, in which the cervix may be pressed against the symphysis pubis to such an extent as entirely to prevent the escape of urine from the bladder, it is not so much irritability that is experienced, as difficulty or even total inability to void urine. Again, when pressure is exercised from above on the body of the bladder by the pregnant uterus, by an ovarian tumour, or by a fibrous growth of the uterus, ascended into the abdomen, the patient does not experience pain and irritation, but a frequent desire to pass water, owing to the bladder being pressed upon, and unable to dilate. Lastly, I continually see patients in whom the anteversion of the uterus is considerable, but who present no vesical irritation whatever. I may also remark, that anteversion from inflammatory enlargement and displacement is very rarely carried to such an extent as for the uterus absolutely to rest and press on the bladder.

Retroversion of the cervix and anteversion of the uterus being the result of the physical causes which I have described, especially in married females, in whom it is principally observed, the use of pessaries and bougies alone can be of little avail in permanently remedying the displacement. The hypertrophied cervix, even after successful treatment, nearly always retains a slight increase in density and volume, which is quite sufficient to oppose resistance to pressure, and to allow of its being thrust back again as soon as marital intercourse is allowed. Indeed, I find retroversion of the cervix existing, to a greater or less extent, in most married females in whom the neck of the uterus is at all elongated naturally, and this in the absence of any morbid change in its structure. The simple fact of the cervix offering a

certain volume, appears sufficient to occasion it to be thrust towards the sacrum in the way I describe.

Although, as it will have been perceived, I do not believe in the advantage of the instrumental treatment of this form of displacement by bougies and pessaries, I do not mean to say that the displacement ought not to be taken into consideration in the treatment as one of the morbid elements of the case. I have, however, more fully explained my views on this subject when speaking of the treatment of inflammation of the uterus and of its sequelæ.

RETROVERSION OF THE UTERUS, AND RETROVERSION OF THE CERVIX.

Retroversion of the unimpregnated uterus is a displacement of common occurrence, although it has only latterly been carefully studied. The profession is principally indebted to Dr. Simpson for directing attention to it, the distinguished Edinburgh Professor having published various interesting memoirs on the subject, the first in the "Monthly Journal of Medical Science" for July, 1843, the last in the "Dublin Quarterly Journal" for May, 1848. Between the date of these essays, various communications have appeared in the medical journals, the most important of which are by Dr. Rigby, Dr. Protheroe Smith, Mr. Hensley, Mr. Safford Lee, Dr. Beatty, Dr. Joseph Bell, and Dr. Oldham. All these writers, with the exception of the last three, adopt, without restriction, and amplify, the views expounded by Dr. Simpson.

Retroversion of the uterus consists in the displacement, backwards, of the body of the uterus, which then rests on the rectum. This displacement has been termed retroflexion, or retroversion, according as the body of the uterus forms an angle with its neck or not. If the neck of the uterus is healthy and soft, the body of the uterus, in falling, does not alter the position of the cervix, and a bend or angle takes place between the two, the concavity of which is backwards and downwards. On the contrary, if the cervix is enlarged and indurated, and the induration extends into the body of the uterus, the cervix is thrown up towards the

symphysis pubis, and no curvature is observed. This distinction was first made by Madame Boivin, and has since been generally adopted. It exists in practice. I think, however, with Dr. Simpson, that these conditions are merely degrees of the same displacement, and that to retain them would be both theoretically and practically useless.

There has been a great tendency, of late years, to exaggerate the importance of this displacement. The essays of Dr. Simpson himself, although highly practical and interesting, are not free, in my opinion, from this reproach. Dr. Simpson has, however, written on the subject with such caution, lucidity, and completeness, and the profession are so greatly indebted to him for the light he has thrown on the pathology of this displacement, that I feel no less pain than diffidence in being compelled to dissent from his opinions. The views, however, which I now enunciate being based on observation, must be everywhere equally demonstrable, and by this test I am willing that they should be judged.

I am the more disposed to insist on the opinions which I entertain on this subject, as several recent writers, in their attempts to follow out Dr. Simpson's researches, have published such singularly erroneous statements respecting retroversion of the uterus and its symptoms, that I feel called upon to enter my protest against doctrines calculated greatly to mislead the profession. Thus, it has been repeatedly asserted of late years, not only that retroversion of the uterus is a very common condition, but that it frequently, if not generally, gives rise to all the local, functional, and general symptoms and reactions which I have described as characterizing inflammatory affections of the uterus, to engorgement and ulceration of the uterine neck, to chronic inflammation of the ovaries, sterility, &c. &c. These assertions are stated to be founded on clinical facts; but I firmly believe that they are, to a great extent, deduced from facts misunderstood and misinterpreted.

Retroversion of the uterus is, in reality, a common occurrence; and it is impossible that it should be otherwise, when we reflect how slight is the support afforded to the uterus by its ligaments and the surrounding organs, and that its continuing in its normal

position depends almost entirely on its remaining free from local disease of any description. Whenever the body of the uterus is increased in one particular region, it has a tendency to gravitate in that direction, and more especially if the partial increase in size and weight takes place, as usually occurs, in the fundus, or posterior wall. If the uterus increases in its totality, as in pregnancy, or when a tumour is developed in it centrically, its capability of remaining poised in the natural position seems, generally speaking, to be retained, and thus it is that the uterus gradually enlarges in pregnancy without being displaced, and that retroversion is then rare.

There are, however, many causes which tend morbidly to increase the size and weight of the posterior wall and fundus of the uterus, and which thus occasion retroversion. The uterus, which only weighs ten or twelve drachms in the unimpregnated state, weighs two pounds after parturition, and has to be reduced to its normal state by absorption. The process of absorption may take place imperfectly, and leave the entire uterus, or the posterior wall or fundus of the uterus, enlarged. This not unfrequently occurs when parturition has been followed by uterine inflammation. Local induration and enlargement may also remain in this region as the result of an accidental attack of acute metritis; or inflammatory hypertrophy may extend from the cervix to the posterior wall of the uterus, owing to the anatomical continuity of tissue, which I have elsewhere noticed. In all these cases, in which inflammation is the cause of the uterine enlargement and of the subsequent retroversion, there may be actual inflammation going on when the retroversion is discovered, or the inflammation may have subsided, leaving only hypertrophy behind.

Retroversion may also occur from the temporary existence of inflammatory enlargement, and remain when that enlargement has subsided or been cured, owing to the uterus having contracted adhesions, or to its having taken the bend, as it were, and not being able to resume a normal direction. The size and weight of the posterior region of the uterus may likewise be increased, and retroversion occasioned, by the development of fibrous growths of variable size. Dr. Simpson believes that the

healthy womb may be retroverted, owing to the partial yielding and giving way of those parts of the "pelvic fascia that unite the back part of the uterus to the rectum and pelvic cavity behind."

Retroversion of the uterus is easily detected by one who is accustomed to the examination of the uterine organs. It is only, however, by a digital examination that the displacement of the uterus can be ascertained, the speculum giving no information, and not being, consequently, required. On passing the finger up to the superior extremity of the vagina, the cervix is found either in its usual position or anteverted, but on pushing back the vaginal cul-de-sac between the cervix and the rectum, —which may be done, as we have seen, to a considerable extent, —instead of feeling a smooth plane surface, constituted by the posterior wall of the uterus in its normal position, the finger meets with a rounded globular tumour, formed by the retroverted uterus, lying on the rectum, which limits its range. The continuity between this tumour and the cervix is generally evident to the touch, but when the angle is very great it may be difficult to discern it. In such cases, the valuable sound of Dr. Simpson becomes of great service. By passing it into the cervical cavity and into the uterus, if possible, we at once find that the tumour felt by the finger is really the uterus, the entire tumour being displaced by the sound. An examination per rectum may contribute to throw light on the case, as the finger can generally reach a higher point by the bowel than by the vagina; the globular tumour of the retroverted uterus being thus distinctly felt from the bowel.

The uterine sound affords an easy means of distinguishing retroversion of the uterus from ovarian tumours, which are apt, in their early stage, to fall between the rectum and vagina, and thus to simulate retroversion. Retroversion of the uterus may be confounded with stricture of the rectum, with pelvic abscess, with the retroversion of pregnancy, and with extra-uterine conception.

Retroversion is not unfrequently mistaken for stricture of the rectum. I have met with several instances of the kind, in which the patients were long treated by dilatation. Such an error can,

however, only be made by a surgeon who exclusively directs his attention to the rectum, and omits to examine the state of the uterine organs.

Retroversion is less frequently mistaken for pelvic abscess; one reason being, the slight attention that the latter disease has hitherto attracted. I have now, however, under my care, a young married lady, suffering from retroversion consequent upon inflammatory enlargement of the posterior wall of the uterus, following parturition, who was pronounced by an authority in uterine diseases, to be suffering under pelvic abscess. Indeed, it was debated whether the abscess should not be opened, although I am at a loss to conceive how such a step could have been even contemplated. I saw the young lady a few days afterwards, and could find no trace whatever of the existence, present or past, of pelvic inflammation and abscess. There was the globular tumefaction of retroversion lying on the rectum, and nothing else, the pelvic cavity being everywhere perfectly free. In inflammation and abscess of the lateral ligaments, the indurated tumour always exists at the sides of the uterus. It may pass posteriorly, but it is then only by extension from its original seat on the side of the uterus, where its presence is indicated by the symptoms which I have elsewhere pointed out.

The retroversion of pregnancy is seldom discovered until the latter has advanced beyond the third month, when the volume of the uterus increasing, the cervix begins to press on the neck of the bladder, and to impede the escape of the urine. It may, however, exist much earlier: I have recognised it at the seventh week in a patient whom I had treated for retroversion in a previous pregnancy under circumstances which rendered the nature of the uterine enlargement rather obscure.[1] She was under treatment for ulceration of the cervix, when the first retroversion occurred, and subsequently miscarried. Soon after the disease of the cervix was cured, she again became pregnant, and on my examining her, at her own request, at the end of the seventh week, to see if she remained well, I found the uterus completely retroverted, and lying on the rectum. The patient

[1] This case was published in *The Lancet* of July 25, 1846.

was not herself conscious of any change in the position of the uterus having taken place, and was perfectly free from all uterine symptoms. This I have found to be the case in the first stage of retroversion during pregnancy. The pressure of the uterus on the rectum does not seem to be attended with any great uneasiness, the patient merely experiencing, at the utmost, slight weight and bearing-down. Generally speaking, therefore, she only complains, when the uterus is developed to such an extent, as seriously to interfere with the escape of the fæces, or when the anteverted cervix reaches, and by its pressure closes, the neck of the bladder.

This remark equally applies to retroversion from the presence of a fibrous tumour in the posterior wall of the uterus. This is not an unfrequent occurrence, and the pressure on the rectum which then takes place seems to be generally unattended by any marked symptoms of local discomfort, the uterus often attaining a considerable size, owing to the development of the morbid growth, before the patient makes any complaint. When she does, it is generally because the menses are disordered, and have become more abundant and more frequent. When this symptom is not present, it is frequently only after the uterus has righted itself, and ascended into the abdominal cavity, modifying the outward size of the abdomen, that medical assistance is required.

These facts throw considerable light on the symptoms of retroversion of the uterus; showing, as they do, that under the influence of pregnancy or tumours, *the uterus may be retroverted to such an extent as to exercise considerable pressure on the rectum, without there being any local or general symptoms*, and that when any indications of the displacement do exist, they are confined to the existence of pelvic weight, dragging, and bearing-down, of a more or less decided character.

My experience leads me to precisely the same conclusion with reference to retroversion existing independently of pregnancy or uterine tumours. I find that in the absence of acute or chronic disease of the uterus, retroversion, whatever its cause, is a displacement to which the pelvic organs gradually get accustomed, and which occasions very little uneasiness or discomfort.

I have attended a very considerable number of females in whom retroversion of the uterus existed as one of the elements of the disease when they first consulted me, and who, although they still retain the displacement, are now well, and completely free from all uterine symptoms, the inflammatory disease of the cervix, of its cavity, or of the body of the uterus, alone having been treated.

In some few of the cases which I have seen, the retroversion of the uterus has evidently been, or is still, a source of great distress. But in the females thus suffering, there is the most irrefragable proof of the continued existence of chronic inflammatory action in the posterior wall of the uterus, which is painful, tumefied, and knotty to the touch. In these patients, the retroversion is a painful complication and symptom of the disease which I have described at length, in the first part of this work, as partial chronic metritis. Any mechanical attempt to restore the womb to its natural position is attended with the most agonizing pain, and with nausea, carried even to absolute sickness. The uterus appears, in this class of cases, to contract adhesions which firmly connect it to the rectum. For further details on the treatment of this form of displacement I must refer the reader to the section on the treatment of chronic metritis.

It will be perceived, by the above details, that, in my opinion, retroversion of the uterus, like retroversion of the cervix, is merely a symptom of enlargement of the uterus, and that I almost entirely repudiate the symptomatology of recent writers on the subject. I think that in both forms of uterine deviation the great error has been committed of attributing to displacement the symptoms of the inflammatory diseases which accompany and cause it. At the same time I am perfectly willing to admit that the question is a difficult one to unravel, and that more extended investigation, both on my own part and on that of others, is necessary, before the question at issue can be considered *in every respect* definitely settled. It is certainly of great importance that the real value of these uterine displacements be correctly ascertained, as, should the mechanical doctrines—which appear to be gaining ground, and which regard the womb as a joint capable of being dislocated backwards and forwards, to the right

and to the left—become generally adopted, there seems no limit to the sufferings that will be inflicted on females by the pernicious application of mechanical principles to the treatment of uterine disease.

HYSTERIA AND CHLOROSIS.

Although hysteria and chlorosis are not, properly speaking, uterine diseases, there is sufficient connexion between them and the uterus to warrant a few special remarks on the subject.

Convulsive hysteria is a disease of the spino-cerebral nervous system, which may exist independently of any uterine lesion, or of any evident connexion with the uterus or its functions. I have repeatedly observed it occurring under these circumstances. At the same time it is a matter of universal observation, that it is often occasioned by uterine disease. I have purposely used the term convulsive hysteria, because there is a great difference between hysteria existing as a disease, and characterized by convulsions, and the symptoms commonly called hysterical, but which are merely transient manifestations of nervous susceptibility. These slight nervous symptoms are very common in females debilitated by uterine disease; but they are also frequently met with, in both sexes, when the health is impaired, the strength much reduced, and the nervous system shaken.

That convulsive hysteria is not a mere functional disease of the womb, as formerly supposed, is, I think, evident, from the mere inspection of the three hundred cases of uterine disease contained in the Appendix. Not more than one or two presented this form of disease; whereas, in other dispensary cases which I attended, and which are not reported, hysteria existed alone, independently of any uterine derangement. In the higher classes of life, uterine disease is more frequently complicated by hysteria, owing, no doubt, to the greater susceptibility of the nervous system.

Hysteria thus originating generally presents great intensity, and can only be cured by the removal of the uterine disease which occasions it, through its excito-motor reaction on the spinal cord. I have now under my care, as I have elsewhere stated, two ladies, in whom severe ulcerative disease of the

cervix evidently brought on convulsive hysteria; in both, the convulsions were so violent as to be followed by partial paralysis of the left side. These cases, however, although so severe, are generally more amenable to treatment than those which occur from less tangible causes; the hysterical convulsions nearly always ceasing when the neck of the uterus is restored to a state of integrity. The convulsions are evidently brought on by the exacerbation of the uterine pains which menstruation occasions. They are no doubt the result of reflex action coming on with the exacerbation of local pain, and ceasing when it abates. Such is not the history of the convulsive attacks of an ordinary case of hysteria.

The connexion between chlorosis and the uterus is much less marked than between hysteria and the uterus. Chlorosis has evidently nothing whatever to do with that organ. It is a disease of the blood, and of the functions of nutrition, and is characterized by decided anatomical characters, ascertainable by chemical and microscopic analysis of that fluid. The erroneous idea that it is connected with the uterus has originated solely in the fact that the menstrual secretion gradually diminishes, and finally ceases, in those who are affected by it. These changes in menstruation, however, are only the result of depraved nutrition, and of the anemic condition and low vitality of the patient, and occur in all diseases characterized by anemia and deficient nutrition. Thus, in tubercular consumption, as the anemia and emaciation increase, the menses diminish, generally disappearing entirely for months before death takes place. In chlorotic patients, with the exception of this gradual diminution of the menstrual secretion, there are no uterine symptoms of any description, and there is no evidence of any kind indicating that the uterus is involved; moreover, the health generally rallies, and menstruation returns by the mere administration of iron—that is, by treating the disease of the blood irrespective of the uterus.

Although I am continually seeing and treating chlorotic females, both in public and in private practice, I only once recollect meeting with inflammation and ulceration of the uterine neck in a female thus suffering. The patient, a young female, aged twenty-two, recently married, was in a confirmed

state of chlorosis. As she presented all the symptoms of ulcerative inflammation, I examined her instrumentally, and found a well-marked ulceration of the neck of the uterus. The mucous membrane of the vulva and vagina was as blanched as the skin, and the ulceration was so pale, that I had some trouble in ascertaining its existence. As the skin regained its natural coloration under the administration of iron, the internal mucous membrane became of a natural hue, and the granulations of the ulcerated surface, assuming a florid character, became apparent.

CHAPTER XV.

POLYPI AND FIBROUS TUMOURS OF THE UTERUS, AND THEIR CONNEXION WITH UTERINE INFLAMMATION.

The great tendency of the mucous membrane covering the cervix and lining its cavity to take on inflammatory and ulcerative action, under the influence of any cause of irritation, is strongly illustrated by the circumstance that the various species of polypus, and of fibrous tumour of the uterus, are very frequently complicated by this form of disease. This important fact I pointed out in two papers in the *Lancet* (July 19th, 1845, and June 5th, 1847). Between the appearance of these two papers, Dr. Montgomery, of Dublin, published in the *Dublin Quarterly Journal* a very interesting memoir, which fully corroborates and sustains my views on this subject, so far, at least, as they relate to uterine polypus.

The forms of uterine polypus most commonly met with, as is well known, are the fibrous and the vascular. Fibrous polypi are generally expelled from the cavity of the uterus, and are found lying in the vagina, connected with the body of the uterus by a pedicle, which passes through the cavity of the cervix. Vascular polypi mostly originate at, or within, the os uteri, or from some point of the cervical cavity. The contact of the pedicle and of the narrow extremity of a fibrous polypus lying on the expanded lips of the os uteri, appears often to create irritation, and eventually to produce inflammation and ulceration. In three instances, after extirpating fibrous polypi by ligature, I have found the lips of the open os extensively ulcerated, the ulceration being evidently of a chronic character. It would be illogical to draw any conclusion from so limited a number of cases, but I believe that the existence of ulceration in these instances was not merely the result of coincidence, and

that the disease would frequently be met with were the state of the neck of the uterus always carefully ascertained instrumentally, after the extirpation of polypi, before the patient was pronounced cured. Such a precaution, as far as I know, has never yet been considered necessary, or adopted, either in this country or abroad. My principal reasons for this belief are: the probability that the contact of a morbid growth with so susceptible a mucous membrane would produce inflammation, and the fact that the mere existence of a tumour developed in the substance of the uterus, apart from any local cause of irritation, is frequently attended with the development of inflammation of the cervix. In a large proportion of the cases of fibrous growths developed in the substance of the uterus which I have met with for many years past, in unmarried as well as in married females, I have detected inflammatory ulceration of the cervix. It would seem as if the increased vitality of the uterus, occasioned by its enlargement from the gradual development of the tumour, predisposes powerfully to inflammation of the cervix. Whatever the theoretical explanation, the fact is certain, and is practically important.

When inflammatory ulceration of the cervix complicates fibrous polypi, it must necessarily be one of the principal causes of the local pains, of the discharges, and of the sympathetic constitutional reactions that are so often observed in this disease. Moreover, as the ulceration remains after the extirpation of the polypus, the patient does not completely rally after the operation, as is expected, and the symptoms that it occasions, which were attributed to the polypus, remain, although in a mitigated degree, after the removal of the latter.

When inflammatory ulceration of the uterine neck complicates fibrous tumours existing in the body of the uterus, its presence not only gives rise to the symptoms, local and general, which have been described, but it tends to keep up a congested, irritable condition of the entire uterine system, highly favourable to the increase of the fibrous tumour,—the development of the latter being necessarily promoted by any cause which adds to the vitality of the uterus. It is therefore very important that the cervix should be restored to a healthy state, and I have

always found the very greatest benefit follow the removal of any inflammatory affection of this description existing in the cervical region.

The inflammation which complicates fibrous polypi has been characterized, in the cases in which I have observed it, by an open expanded state of the os, hypertrophy of the cervix, and the presence of an ulceration on one or both lips, but more especially on the lower one. When it accompanies fibrous growths, the os is but slightly open, the lips but slightly hypertrophied, and the ulceration small, penetrating more or less into the cavity of the cervix, and scarcely spreading at all on the cervix itself.

The ulcerations which are found complicating fibrous polypi may, however, not be the result of the contact of the polypus with the adjoining mucous membrane; they may have existed before the expulsion of the polypus from the uterus, when the latter was merely a fibrous tumour of that organ. I have a case now under my care which illustrates this fact. A woman, forty-nine years of age, who still menstruated, but irregularly, had been under me for some months as a dispensary patient, for ulceration of the uterine neck. The disease appeared to have originated in a confinement seven or eight years previous. From the first I noticed that the uterus was more voluminous than was normal, but in the absence of any peculiar symptom, did not attach much importance to the fact. The ulceration was nearly cured, and the uterine symptoms had become very much mitigated, when she was seized with expulsive uterine pains, which lasted several days; and on examining her subsequently, I found that a small fibrous polypus, the size of a pigeon's egg, had been expelled from the uterus, and was lying in the vagina. I tied the polypus, and the patient recovered rapidly. On examining her subsequently, I found the cervix still slightly ulcerated, just as I had seen it a few days previous to the expulsion of the polypus.

There is another form of uterine polypus, the vascular polypus, which is much more common than is generally supposed, and which is usually accompanied by inflammatory ulceration of the uterine neck. Vascular polypi are small, soft growths, varying

in size from that of a pea to that of a filbert. They generally originate by a pedicle from the vicinity of the os, but may arise from any part of the cervical cavity. Their presence may be recognised by the touch, when they grow from the edge of the os, or when they have escaped from its cavity; but in many instances they lie imbedded, as it were, within the lips of the os uteri. When such is the case, the os is always rather open, and this may be the only morbid condition that the finger can detect; unless the contour of the os be ulcerated, or the surface of the vascular growth protrude sufficiently to be felt. Under these circumstances, the finger detects, not only the patulous state of the os, which, as I have repeatedly stated, characterizes inflammation and ulceration of the os and of the cervical cavity, but also the soft velvety sensation which is afforded by the ulcerated surface, and by the protruded portion of the polypus.

The possibility of a small vascular polypus lying thus imbedded within the open os uteri is, therefore, an additional reason for using the speculum whenever this open state of the os uteri is detected. By its means only can a polypus thus situated be recognised and removed. It is, however, of the utmost importance, that an instrument should be used which is capable of completely expanding and separating the lips of the uterus. This the ordinary-sized conical and circular specula fail in effecting. The bivalve or quadrivalve speculum should therefore be used, unless the parts are sufficiently lax to admit of the largest-sized conical one, which may sometimes sufficiently open the parts. This remark is more especially important when the lips are swollen and hypertrophied, as they then entirely conceal the os uteri, unless it be fully opened by the instrument which is used. In a remarkable case, related at page 427, a vascular growth of this description, which had escaped detection until the patient applied to me, although she had consulted many accoucheurs, was again overlooked by an experienced physician, who had been apprised of its existence by the patient herself, owing to his having used an instrument not adapted to the case.

These vascular polypi are almost invariably accompanied by inflammation and ulceration of the surrounding mucous structures, along with more or less congestion and hypertrophy of the

cervix and its lips. This is the case both when the polypi lie external to the os, and when they are imbedded within its lips; in the latter case, the ulcerated surface being sometimes within the cavity of the cervix, it is only after the extirpation of the polypus that the ulceration is discovered.

These small polypi are easily extirpated by a long pair of scissors, or crushed by means of the speculum forceps; but the patient is by no means cured when this has been effected. The presence of the polypus is merely an element in the case: of importance, inasmuch as it is probably, in most instances, the cause of the irritation and ulceration of the mucous surface, but having in itself little evil reaction over the system. The distressing uterine and general symptoms which usually exist, and direct the attention of the medical attendant and of the patient to the uterus, are the result of the local inflammatory disease secondarily produced, and can only be got rid of by its removal.

The importance of the facts above detailed respecting the connexion between local inflammation and ulceration of the neck of the uterus, and uterine tumours and polypi, is daily becoming more and more evident to me. As they have a decided practical bearing on the treatment of these diseases, I hope they will meet with the attention they deserve. In the cases in which the tumour can be removed, the patient is only half cured if extensive inflammatory lesions are allowed to remain; whilst in those in which the tumour is beyond the reach of instrumental means, the only chance we have of arresting its increase, and of restoring the patient to tolerable health, is our being able entirely to subdue all inflammatory action in the uterine system, thus bringing it to a state of quiescence. The following cases are interesting illustrations of inflammatory ulceration of the cervix, under the circumstances which I have described.

Case XIII.

Fibrous Polypus of the Uterus adhering to the Neck of the Uterus; and complicated by extensive Inflammatory Ulceration of that region.

On the 1st of August, 1844, I was consulted by Miss C——, aged thirty-four, for uterine hemorrhage, from which she had suffered many years. She had menstruated regularly until the age of twenty-seven, when she was seized with severe pains in the loins, and flooding, at each menstrual period. The duration of the menstrual flux increased from three or four days to eight or ten. She lost at each epoch large clots of blood, and experienced great pain in the loins and hypogastrium. For some time past, indeed, the hemorrhage at each menstrual period had amounted, she said, to more than a washhand-basin-full of blood, and it often continued in the interval of menstruation. Her health had long been very bad, and although generally under medical treatment during the last few years, no local examination had been made, and no local disease had been suspected. Complexion exceedingly sallow, features bloated, tongue loaded, anorexia, loss of sleep, continued headach, cardialgia, palpitations, great general debility, legs œdematous, pulse quick and small, great pain in the loins and hypogastrium, sensation of weight in the pelvis when walking. On examining digitally, the hymen was found intact, but sufficiently dilatable to admit of examination. In the cavity of the vagina was a tumour about the size of a small egg, perfectly regular and smooth, pedunculated, and traceable to the orifice of the os uteri, from the right side of which it appeared to grow. The examination occasioned a considerable discharge of pure blood, devoid of all odour.

On the 17th, as a preliminary step, I divided the hymen by a crucial incision, slightly cauterizing, the next day, the edges of the incisions with the nitrate of silver to prevent their reunion.

On the 23rd, the incisions having perfectly healed, I proceeded, with the assistance of my friend, Dr. Heming, to apply

a ligature of waxed silk. The noose was carried on to the tumour several times, but each time on being tightened slipped off. This led to a more careful examination, when we ascertained that the polypus did not grow from the cervix, with which it appeared connected, but issuing from the cavity of the cervix, had become adherent to the right side of the os uteri. The adhesion preventing the ligature from reaching the stalk of the polypus, it was evidently impossible to apply it efficiently until the connexion had been destroyed. This I attempted to effect by means of a pair of scissors, guided on the fore and middle fingers of the left hand. Owing, however, to the insufficient length of the scissors I only partially effected the division, and the remaining adhesions had to be broken down with the finger. There being still some little difficulty in applying the ligature, arising partly from the narrowness of the vagina, a speculum was introduced, and the polypus having been exposed, a noose, passed through a single branch of the canula, was carefully placed over it, and pushed on to the stalk by means of the forceps. The ligature was then tightened, and the hemorrhage, which had been considerable during the operation, immediately ceased. The ligature was tightened every morning until the fourth day, when it came away with the polypus. After the operation there was no further loss of blood.

A few days subsequent to the fall of the polypus, I examined the cervix uteri with the speculum, and found an ulceration existing, not only where the polypus had adhered to it, but over a great part of its surface; and injections and rest were prescribed, in the hope that it would heal spontaneously. Finding, on the contrary, ten days afterwards, that the ulceration had increased in extent, I cauterized it with the nitrate of silver. The cauterization was repeated several times, and in about a month the cicatrization was complete.

Case XIV.

Fibrous Polypus of the Uterus, complicated by Inflammatory Ulceration of the Cervix.

On the 1st of May, 1845, Mrs. D——, aged fifty, came to town, from Somersetshire, by the advice of her medical attendant, to place herself under my care. During eight years she had suffered from uterine hemorrhage, the intensity of which had gradually increased. She had had several children, the last at the age of forty-two. The two following years she miscarried at three months. After the last miscarriage she was seized with flooding, which returned to such an extent at each menstrual period as greatly to debilitate her; sometimes even producing syncope. At the age of forty-five she ceased to lose blood at periodical periods, but since that time the hemorrhage has been nearly continual; seldom a day passing without more or less blood being lost. She has presented for some time all the symptoms of extreme anemia; the skin is sallow, the body emaciated; she suffers from palpitations, headach, want of sleep, and extreme debility; and a bellows-murmur is heard over the heart and along the arteries. The digestive functions do not, however, appear much disordered; the appetite is good, and she takes a great quantity of meat, wine, and porter, in order to keep up her strength. Complains of lumbar and hypogastric pains, and of a bearing-down sensation when walking. On examination per vaginam, a pedunculated tumour, as large as a goose's egg, was found situated in the vagina, issuing from the orifice of the os uteri. The examination occasioned a copious flow of blood. Ligature of the tumour was proposed, and gladly accepted, as she had been told that no operation was possible.

On the 3rd, the bowels having been previously well relieved, I passed a whipcord ligature round the neck of the tumour with great ease. The hemorrhage during the process was, however, considerable; the blood evidently exuded from the entire surface

of the tumour, which was of a florid red colour, and was exposed by the mere separation of the labia.

11th.—The tumour escaped from the vagina whilst she was making water; the canula and ligature remaining. On exercising traction, I brought down the uterus, but did not bring away the ligature and canula. I was therefore obliged to untie the whipcord, and pull it through one of the branches of the latter.

17th.—Examined the os uteri with the speculum, and found a large ulcerated surface on the anterior and posterior lips. The anterior was much more voluminous than the inferior, and was the principal seat of the ulceration. There was no trace whatever of the pedicle of the tumour. Cauterized the ulceration with the nitrate of silver; ordered injections with sulphate of zinc; sesquioxide of iron half a drachm a day, and a nourishing diet.

On the 25th, she was absolutely obliged to leave town for family reasons, although the ulceration was not healed. I ordered her to use the sulphate-of-zinc injections carefully for some weeks. The sallowness of complexion was already much modified, and she felt stronger than she had done for some time.

I subsequently learnt that her general health had very much improved. She still felt pain in the back, which might probably be owing to the ulceration not having quite healed. As, however, I have not again heard from her, it is probable that these symptoms gradually subsided, and that the cervix is restored to a state of integrity.

Case XV.

Inflammatory Ulceration of the Neck of the Uterus, complicating a Vascular Uterine Polypus.

In May, 1846, I was requested to see, in consultation, a lady, aged thirty-nine, who had been suffering for many years under obscure uterine disease. From the gentleman in attendance, and from the patient herself, I elicited the following details:—

Menstruated rather early in life, about twelve or thirteen, she enjoyed good health as a girl, although always rather delicate. At eighteen she went abroad, and settled in South America, in a tropical climate, where she married, and had two children within the first few years of her marriage. The labours were favourable, and were not followed by any untoward symptoms. About the age of twenty-five, the menses, which had previously only lasted four or five days, began to be more abundant and prolonged. This state of things became gradually more marked, the flow of blood often lasting from fourteen to twenty days, without, however, being excessively abundant, except during the first three or four. She also experienced severe and continued pain in the lower part of the back, and slight pain in the ovarian regions, especially the left, and had a white vaginal discharge. The uterus was examined per vaginam; the only lesions, however, to be detected, were slight hardness and tenderness of the cervix.

Every known means of arresting uterine hemorrhage were resorted to, but without avail. As the general health was rapidly giving way under the influence of the continued hemorrhage and uterine irritation, and as it was thought that a tropical climate might be the cause of the obstinate resistance of the morbid symptoms to all remedial agents, she was at length ordered home to Europe. She was then thirty-one years of age. The change of climate, however, brought no alleviation to the hemorrhage and local pains. The former continued to occur at each monthly period, the flow of blood sometimes continuing from one period to the other. During the eight years that had elapsed when I saw this lady since her return to this country, she had been almost continually under medical treatment. The uterus was always examined digitally by the various practitioners who attended her, but never with the speculum, and different opinions had been given. All who were consulted, however, agreed in considering the womb inflamed, and in recommending antiphlogistic treatment. In consequence of the opinions thus entertained she was cupped in the loins some score times, and was quite drained by leeches applied to the hypogastrium and vulva. The antiphlogistic measures thus pursued, *à outrance*, appeared, however, only still

further to debilitate the general health, which became more and more affected. At one time, the solid nitrate of silver was, for six weeks, applied daily to the cervix uteri, through a tube, without a speculum being used. This treatment appeared to lessen the duration and amount of the hemorrhage for a few months, as had occasionally been the case with other means, but it then returned as before. A few years ago, the medical gentleman who had attended the lady in America, returned to England, and, on examining digitally, found that the cervix, which was hard and closed when he last saw her, had become open and soft. This change in the state of the cervix had evidently occurred recently, as it had been noticed by the practitioner in attendance, who told the patient he was afraid that it was a forerunner of cancerous degeneration. Her medical friend, by whom I was called in, said that he then thought the change was the result of the excessive loss of blood under which she had suffered, both from the treatment and the disease.

The complexion presented the pale, rather sallow hue, which we find in the ulcerative stage of uterine cancer; but as this cachectic hue is also met with in chronic inflammation of the uterus, and in obstinate flooding, as well as in cancerous disease, its existence cannot be considered as especially indicative of the latter.

On examining digitally, I found the vagina lax, and very sensitive; the cervix low, very retroverted, voluminous, and indurated, but perfectly smooth and even; the os so open as freely to admit two-thirds of the first phalanx of the index finger. The kind of small cavity into which the finger thus penetrated was soft and fungous to the touch; the uterus was rather voluminous and sensitive to pressure, but presented no nodosities or inequalities. The hypertrophied state of the cervix, and the patent velvety condition of the os, showing at once that inflammation of the cervix and ulceration around and in the os existed, I explained the necessity of an instrumental examination. This was at once assented to, and with a large bivalve speculum, and in a good light, I raised the retroverted cervix, and expanding the blades to their fullest extent, brought the cervix and open os fairly into view. I then at once saw the cause of the hitherto

unexplained uterine sufferings of the patient. Between the separated lips of the enlarged cervix was a small vascular polypus, about the size of a hazel nut, occupying the cavity of the os, and merely showing its anterior extremity on the blades of the bivalve speculum being expanded. If they were allowed to approximate even partially, the hypertrophied lips of the cervix closed over the os so as to conceal it and the contained polypus. I ascertained, by means of the uterine probe, that the polypus proceeded from the cavity of the neck above an inch from the exterior. It was connected with the point from which it originated by a long pedicle. The cavity of the uterine neck was much dilated, and all that portion of it that was accessible to the eye was ulcerated. The ulceration occupied the entire contour of the os for a few lines external to the point reached by the head of the polypus. The latter are very red and vascular, and so soft as to pit deeply under the slightest pressure. The circumstance of its being thus embedded, as it were, in the cavity of the os, and its softness, accounted at once for its not being perceptible to the touch. The fingers, on examining the uterine neck, merely felt a small, soft, fungous cavity, representing the apex only of the polypus, and the surrounding ulcerated tissues. The cervix itself was much enlarged, red, and inflamed, and so much retroverted as to be brought into view with some difficulty. It was not without trouble that I succeeded in persuading the patient, even with the corroborative evidence of her medical friend, that she really was suffering from the presence of a small uterine tumour, which had probably been there for many years, and had thus occasioned the hemorrhages and uterine inflammation by which her life had been so long embittered. Having family matters to arrange, it was determined that the extirpation of the polypus should be deferred for a few weeks, and that she should then return to town and place herself under my care.

Some months elapsed before I again saw this lady. It appears that, after leaving town, her belief in the existence of a hitherto undiscovered cause for her sufferings became staggered, and she began to think that it was next to impossible that the many experienced practitioners previously consulted could be wrong. The persistence of all the symptoms, however, again drove her

to town towards autumn, and she determined to seek for confirmation of my opinion. She accordingly consulted an eminent accoucheur, told him that she had been suffering for many years from uterine hemorrhage—that she had been treated for inflammation, without beneficial results—that she fancied there might be more than had been discovered by her previous attendants—some tumour or ulceration; and that she wished him to examine her with the speculum. This was accordingly done. A careful speculum examination was made, and the patient was told that she had neither tumour nor ulceration, and that her disease was merely retroversion of the uterus. Simpson's probe was introduced into the cervix, and the uterus brought, as it was stated, into its right place. She was likewise told, that if this operation was repeated at proper intervals, for a sufficient length of time, the vitiated direction of the organ would be remedied, and that she would recover her health.

A few days afterwards I was sent for, and frankly acquainted with what had occurred, the lady stating that she had no confidence in the opinion last given, because the examination was made in such a manner as to convince her that but little information could have been obtained. She was examined, it appears, on her side, in the usual obstetric position, on a sofa away from the window, a conical or cylindrical speculum being used, and artificial light resorted to. I had examined her, as I generally do, reclining on the back, in a strong natural light, opposite a window. I was so much surprised to hear that a careful examination had been made by a very competent person, and no tumour found, that I concluded the polypus had fallen off, by ulceration of the pedicle—a circumstance which I have known to occur. To my astonishment, however, on separating the blades of the speculum, I found the small vascular tumour lying in the os, surrounded by a ring of ulceration, just as before. It became evident, therefore, that by the use of the conical or cylindrical speculum, the hypertrophied lips of the cervix had been so approximated as to cover the os uteri and conceal the polypus and ulcerated surface.

By means of a pair of speculum forceps, with a small serrated extremity, I broke down, and brought away, by torsion, the

small tumour, and the greater part of its pedicle. A few drops only of blood were lost. I subsequently cauterized the ulcerated surface, which appeared to extend to the entire depth and circumference of the cavity of the uterine neck.

From this time the case resolved itself into one of simple inflammation and hypertrophy of the cervix, along with deep-seated ulceration; and was treated by the means which I usually employ—cauterization at variable intervals, emollient or astringent vaginal injections, hip-baths, leeches to the inflamed cervix, and rest in the recumbent position. Both the inflammation and ulceration, however, proved very rebellious to treatment. It was only by very slow degrees that the inflammatory hypertrophy of the lips of the cervix subsided. As this change occurred, the cervix, which, as we have seen, was very low and retroverted, gradually rose in the pelvis, and partly assumed a more normal direction, the ulceration likewise cicatrizing.

The ulceration external to the cavity of the os healed in the course of a few weeks, but the internal ulceration proved very obstinate, and the more so the deeper it was situated. It was only after an almost uninterrupted treatment of five months that the cavity of the cervix was completely healed. As it cicatrized it closed, until, from being long sufficiently open for an inch in depth, to admit a large-sized drawing-pencil, it became so contracted as merely to admit the uterine sound. For the last six weeks of the treatment, the ulceration appeared limited to a small deep-seated surface, probably that from which the polypus sprung, near the inner orifice of the cavity of the uterine neck. At the time the local treatment was brought to a close, the cervix was at least two inches higher in the pelvis than when I extirpated the polypus. It was also very much smaller, very much less retroverted, and presented no evidence of inflammatory induration, although still rather larger and harder than natural. The vagina was quite healthy. All the uterine organs were, however, still very sensitive to the touch; but in this respect they merely participated in the exaggerated state of nervous sensibility of the entire economy. Ever since the evulsion of the polypus there had been no continued sanguineous discharge after the monthly periods, although the purulent discharge was often

streaked with blood, especially after cauterization. The menses flowed rather abundantly for five or six days, and were then replaced by the purulent or sanguineo-purulent discharge from the ulcer.

The slowness of the process of cicatrization in this case may be accounted for by two circumstances,—first, by the very lengthened existence which I feel warranted in ascribing to the local disease; and secondly, to the very debilitated state of the general health, depraved by fifteen years of flooding and suffering. Not only was the patient so reduced by the continued loss of blood, morbid and artificial, that loud anemic murmurs were heard in the heart, and in the large bloodvessels, but the digestive and nervous system had received a severe shock. The stomach could scarcely bear even the lightest food, and that only in very small quantities; the action of the bowels was irregular, they were often relaxed and irritable; and no stimulant, or dietetic or medicinal tonic, could be borne. She had been salivated more than once, and attributed the extreme susceptibility of the digestive system partly to this cause. Iron, quinine, iodine, &c., were all tried at various periods, but as often suspended from the disturbance they created in the economy. The intercostal, the sciatic, the crural, the dorsal, and other nerves, were all at different times the seat of severe neuralgic pains, which generally proved rebellious to local therapeutic agents. They seemed to change their seat or disappear under the influence of atmospheric variations, or of mental or bodily conditions of a still less tangible nature, and were evidently the result of the general anemic state of the economy.

Case XVI.

Inflammation and Ulceration of the Neck of the Uterus, complicating a fibrous Tumour of the Uterus.

In March, 1847, I was consulted by Mrs. M.——, aged thirty-nine, married, without family, who had for some years been

suffering from severe uterine symptoms. Her disease had been pronounced cancerous. Married rather late in life, she had never been pregnant, enjoying good health until about the age of thirty-five, when she began to experience bearing-down pains, and menstruation became rather more painful and more abundant than usual. At a later period she suffered from whites and pain in the back. These symptoms gradually increased, her health failed totally, and for some time before I was consulted, she had been confined to bed. When I saw her, she was weak, pale, sallow, and emaciated; and complained greatly of severe dorsal and ovarian pains, of cardialgia and cephalalgia. The digestion was much impaired.

On examining the uterus digitally, I found it very much enlarged, and rising considerably above the pubis, but moveable and non-adherent. It was evidently the seat of a large fibrous growth. The os was open, and presented the velvety sensation of ulceration. On using the speculum, the vagina was found red and congested; the cervix more voluminous than natural, and ulcerated, the ulceration passing into the open os. The os internum of the cervical canal was relaxed, and the uterine sound passed nearly four inches into the uterine cavity.

Being convinced that the ulcerative inflammation of the uterine neck had a great deal to do with the state of the health, more, perhaps, than the fibrous tumour itself, I at once placed the patient under the treatment which I follow in such cases. The ulceration was periodically cauterized, astringent vaginal injections used, the bowels, which were very constipated, regulated, and great attention paid to diet. Under the influence of this treatment, seconded by such medicinal means as her state seemed to require, the inflammatory ulceration gradually diminished, and finally healed, all the surrounding inflammation likewise disappearing. At the same time the local pains became less, and ultimately all but disappeared, the digestion and general health gradually improving. In the course of a few months from the time I first saw her she was quite convalescent, and has since been restored to a very tolerable state of health. The more severe uterine symptoms have disappeared, the menstrual flux is mode-

rate, the tumour is indolent, and does not appear to increase, and her state, although that of an invalid, is very bearable.

In this instance there was no decided hemorrhage at the menstrual periods. Hemorrhage, however, is so often present in fibrous tumours of the uterus, especially when these inflammatory lesions of the cervix exist and the uterine cavity is increased in size. I nearly always find this hemorrhage greatly diminished, if not entirely subdued, by the entire removal of the local inflammatory disease.

CHAPTER XVI.

SYPHILITIC ULCERATIONS OF THE NECK OF THE UTERUS.

But little has been written respecting syphilitic ulceration of the neck of the uterus, and that little is of a very contradictory nature; some writers thinking syphilitic ulcerations common, whereas others assert that they are extremely rare. When, however, we recollect that, even in Paris, the speculum has only been brought into use, as a means of diagnosis, within the last ten or fifteen years, and when we also bear in mind the great difficulty of determining precisely, in many cases, what is and what is not a syphilitic sore, this discrepancy cannot be a cause of surprise.

By most writers on uterine diseases, syphilitic ulcerations of the cervix are not even alluded to. Thus, in Lisfranc's lectures on diseases of the uterus, edited by M. Pauley, not a word is said on the subject; neither are they mentioned, except by Dr. Balbirnie, in the most recent British works on the diseases peculiar to women. M. Duparcque considers these ulcerations rare, but evidently confounds them with other diseases (corroding ulcers, &c.), under the title of chancrous ulcers, so as to render it difficult to understand what are his real views on the subject.

On the other hand, M. Gibert, the learned physician of St. Louis, in a pamphlet on uterine disease, published in 1837, states, that out of five hundred women whom he examined with the speculum at the venereal hospital of Lourcine, one hundred and forty presented *granular* ulcerations, the greater part of which he considered to be syphilitic. None of these ulcerations, however, presented the physical characters of a real chancre. I have myself seen numerous ulcerations of the cervix uteri under similar

circumstances, but they had not the appearance of true chancres. I was consequently surprised to read, a short time since, in Dr. Balbirnie's treatise on "Organic Diseases of the Womb," that "during a twelvemonth he had seen *many* beautiful examples of real Hunterian chancre existing on the os tincæ, at the Hôpital des Veneriens, in the service of M. Ricord." I was the more surprised to meet with this statement, as M. Ricord has repeatedly told me that he, also, has very rarely met with the Hunterian chancre on the cervix uteri. I have lately ascertained from Mr. Acton, the author of a very able work on venereal disease, who was several years M. Ricord's pupil and friend, that my recollections of that distinguished practitioner's opinion and practice are perfectly correct, and that uterine chancres are scarcely ever met with in his ward or practice. Dr. Balbirnie must, indeed, have totally misrepresented the pathological meaning of the cases which he saw.

All the treatises on syphilis with which I am acquainted, are nearly or quite barren on the subject of syphilitic ulceration of the cervix uteri. In giving the result of my own experience, I shall also avail myself of that of others, and shall endeavour to present a faithful picture of the present state of science, with reference to syphilitic ulceration in this region.

The first step to be taken in the study of syphilitic ulcerations of the cervix uteri is their separation into two classes; the first comprising the true classical, Hunterian chancre, the primitive venereal ulceration; and the second, including ulcerations which do not present the characters of the true chancre, but appearing under doubtful circumstances, are believed to be venereal by some writers.

REAL CHANCRES OF THE CERVIX UTERI.

There can be no doubt that the real Hunterian chancre is very rarely met with on the cervix uteri. I only saw two instances of it during my lengthened connexion with the Paris hospitals, and since then have not seen a case. The late M. Cullerier, who was many years physician to the Paris Venereal Hospital, and habitually used the speculum, only met with three

cases during his entire career. M. Gibert, who was several years physician to the Lourcine (a female venereal hospital), when he wrote the pamphlet already alluded to, had only seen three instances of true chancre. At the Hôpital St. Lazare, where many hundred cases of syphilis, in all its forms, are annually treated, only a *very* small number of real chancres are met with in the course of each year. M. Duparcque admits their extreme rarity; and although he has long enjoyed a very extensive practice in the treatment of uterine disease, he is obliged to borrow from other authors the two or three cases which he gives in his work to illustrate syphilitic chancrous ulceration. The experience of M. Emery, of the Hôpital St. Louis, who is also physician to the "Dispensaire,"[1] and is intrusted with the weekly visitation of the females who are there examined, furnishes the same result. The extreme rarity of *primary chancres*, with their usual physical characters, on the cervix uteri, must therefore, I think, be admitted as a fact.

This question, however, at once presents itself: is the apparent rarity of primary chancre to be attributed to the syphilitic virus being seldom deposited on the organ, or to the chancrous ulceration, when it does occur, soon losing its characteristic appearance, and assuming the aspect of an ordinary ulceration? M. Gibert seems to adopt the latter opinion, and says that a chancre probably passes into "granular erosion,"—which he thinks venereal,—when its duration is prolonged. I am myself disinclined to accept this interpretation. I do not see why a specific chancrous ulceration should lose its characters any sooner when situated on the cervix uteri than on the other mucous surfaces lining the cavities of the body. A syphilitic ulceration retains its peculiarities in the mouth, in the vulva, and on the parietes

[1] In Paris, all women of the town are registered by the police, and examined, weekly, by medical gentlemen appointed for that purpose. The locality where this examination takes place is called the Dispensaire. Those who are found diseased are sent to St. Lazare, a kind of female hospital prison. Formerly the examination was merely external, but now the speculum is invariably used. This system has much contributed to diminish the frequency of venereal disease in Paris.

of the vagina, and I see no reason why, when left alone, it should rapidly lose its characteristic appearance on the cervix uteri; so rapidly, indeed, as to render it difficult to meet with a chancre on that organ, however great the opportunities afforded for the investigation of syphilitic disease.

I think, indeed, that it is much more probable that primary infection seldom takes place on the cervix, the virus of a sore being brushed off before this part is reached, and being thus almost invariably deposited on the mucous surfaces covering the external and inferior regions of the female sexual organs. This view is corroborated, also, by the rarity of chancres in the superior part of the vagina, which must proceed from the same cause. Their frequency, indeed, decreases as we recede from the vulva, their ordinary seat. If the views which I now advocate are correct, if a real chancre situated on the cervix retains its peculiar appearance, in the same way as when situated in other regions, we must then admit that the very great majority of the ulcerations that are so frequently found on the uterine neck of females labouring under the various forms of syphilis, are not primary syphilitic ulcerations modified by time, but either secondary syphilitic or non-syphilitic ulcerations.

The researches of M. Ricord with reference to the inoculation of the secretion from ulcerations of the cervix, corroborate the above views. In his treatise on inoculation, he merely gives one instance of chancre of the cervix. (*Case* xiii.) The pus from this chancre was inoculated on the thigh, and gave rise to the characteristic ulceration. On the other hand, inoculation was unsuccessful in four cases in which ulceration of the cervix accompanied blennorrhagia. In two of these cases the ulceration was the ordinary bleeding granular ulceration; in one, the ulcerated surface was covered with a white pseudo-membranous film, which only disappeared with the eschar of the cauterization. In the last there were chancres on the vulva, and the ulceration of the cervix was absolutely like a chancre. The inoculation was only performed a week after the ulcerated surface had been cauterized; at that time the eschar had fallen, and the ulceration was rosy, and covered with healthy granulations. Was this

a chancre, or not? I am unable to decide, but am inclined to think, with M. Ricord, that it was not. The patient had been labouring under severe blennorrhagia for many months.

When a chancre really does exist, it presents the usual characters. The ulceration is deeply excavated, and its surface is covered by a yellow or greyish film; the edges are elevated, irregular, and indurated. This chancre is, no doubt, generally accompanied, except at the onset, by slight partial induration of the cervix, the extent of the induration depending on the uterus having, or not having, undergone the changes which follow conception; and in the former case, on the length of time that has elapsed since the last labour or abortion. The size of the chancre or chancres, for there may be several, varies. Those which I have seen were small; one was not so large as a fourpenny piece, the other was still smaller. M. Duparcque mentions a case in which the chancre was much larger than in either of my patients. If the chancre is allowed to remain untreated, it may heal spontaneously, or it may, according to M. Duparcque, assume a chronic form, and remain unchanged for months. When this occurs, the state of sub-inflammation of the cervix, which the chancre keeps up, is followed by general induration of that organ. This induration may be carried to such an extent as to simulate the stony hardness of ulcerated scirrhus. (*See Case* xix.)

The presence of a well-formed chancre might, possibly, be appreciated by the touch. The excavation, with its indurated margin, would lead, at all events, to the conclusion that an ulceration existed, the nature of which the speculum would partly reveal. The local and general symptoms produced by a chancre in the first period of its formation are very obscure. Indeed, they may at first be said scarcely to exist; they are then, at the most, confined to very slight hypogastric pain, and to a scarcely perceptible mucoso-purulent secretion. Should, however, the chancre increase in size, and give rise to irritation, inflammation, and induration of the cervix, then all the symptoms which have been enumerated as the result of these lesions manifest themselves—viz., severe hypogastric and lumbar pains, sensation of weight and bearing-down in the pelvis, leu-

corrhea, &c. The following cases will illustrate these varieties of chancre of the cervix.

CASES ILLUSTRATIVE OF REAL CHANCRE OF THE CERVIX UTERI.

Case XVII.

Blennorrhagia; a Chancre appears at the Os Uteri a fortnight after the commencement of treatment.

A. M——, housekeeper, aged thirty, entered the Hôpital St. Louis, the 1st of May, 1843. Of robust constitution, she habitually enjoys good health, and menstruates regularly. Some few years ago, she had a natural labour; since then she has not presented any uterine symptom, nor suffered from leucorrhea. For the last two years she has lived maritally with an elderly person, to whom, a few weeks before her admission, she communicated a chancre, which was followed by a bubo. She confesses having exposed herself to suspicious communication. She was carefully examined in town with the speculum, but no trace of chancre was found. The entire surface of the vagina, I was told, was then the seat of an abundant mucoso-puriform discharge, but there was no other lesion; the cervix and os uteri were perfectly healthy.

After her admission, I examined, very carefully, the external and internal genital organs, the case, as presented to my notice, bearing directly on the identity of blennorrhagia and syphilis, and tending to prove that blennorrhagia is susceptible of communicating chancre. I did not, however, find the slightest erosion of any portion of the mucous surface. The cervix was perfectly natural and healthy, merely presenting slight redness of its mucous membrane, in common with that of the vagina. Between the lips of the neck of the uterus, however, there was a stream of opaque muco-pus apparently issuing from the cervical cavity. The uterus was slightly sensible on pressure, and rather more voluminous than in the natural state, but as she had menstruated only two days previously, I did not attach much im-

portance to these symptoms. On opening the lips of the os uteri as much as possible with the speculum, and wiping away the muco-pus, I could discover no lesion.

Founding my opinion on the data furnished by the above examination, I concluded that the disease was merely blennorrhagia, occupying the entire vagina, and extending into the uterine cavity. The patient was therefore treated accordingly (balsam copaibæ, emollient injections, general baths, and light diet.) The inflammatory symptoms and the discharge diminished rapidly.

In the ten days which followed, she was twice examined with the speculum; for I was most anxious thoroughly to investigate the case, and each time the cervix presented the same appearance; except that the redness gradually diminished, as did likewise that of the vagina; the increased sensibility and the congestion of the uterus had entirely disappeared.

On the 16th of May, I again applied the speculum, and saw distinctly a small ulceration issuing from the cavity of the os uteri, and turning over on to the anterior lip. The ulceration presented a greyish surface, and an irregular indurated margin; it was deemed to be a true chancre by M. Emery, as well as by myself and many other persons who saw it. Under this impression, it was cauterized with the acid nitrate of mercury, and the patient was submitted to mercurial treatment—viz., bichloride of mercury, one-seventh of a grain, and sarsaparilla.

In spite of these measures, the ulceration extended itself over a surface as large as a fourpenny piece. It lost, however, its characteristic appearance after the second cauterization. The increase of the ulceration was attended with gradual induration of the anterior lip of the cervix, which became as large as a small walnut. The cauterization was repeated every week. After the third, the ulceration began to diminish in size, but it was not cicatrized until the end of July. The flow of muco-pus from between the lips of the os ceased a short time after the escape of the chancre from that cavity. The blennorrhagia disappeared during the course of treatment. The administration of mercury was continued during a month, without producing salivation. No other syphilitic symptoms manifested themselves.

The patient was discharged cured on the 1st of August. There was still, however, a little hypertrophy of the anterior lip of the cervix.

Remarks.—In this woman it is more than probable that the chancre remained concéaled within the cavity of the os uteri during several weeks, a very singular and important feature in the case. Had I not persisted in examining her with the speculum, during the treatment of the blennorrhagia, the chancre would never have been discovered, and the case would have been considered an all but unimpeachable proof that blennorrhagia in one person can produce chancres in another; and had the uterine chancre healed spontaneously, and secondary symptoms supervened at a later period, they would likewise have been attributed to the blennorrhagia. One carefully observed and well authenticated instance, such as the above, goes a great way to annihilate the value of the exceptionable cases by which some authors endeavour to establish the identity between syphilis and blennorrhagia.

In the above female, the muco-pus issuing from the cavity of the os uteri was most likely the product of the concealed chancre. It will be remarked that the characteristic appearance of the chancre ceased to be observed on the falling of the eschar produced by the second cauterization.

Case XVIII.

Chancre of the Cervix; Inoculation; Blennorrhagia.

(*Abridged from M. Ricord on Inoculation, p.* 212.)

Catherine H—— entered the hospital on the 4th of April, 1834. Had contracted several chancres seven months previously; had been subjected to no treatment. She presented, on her admission, a chancre on the left labium externum, and another on the corresponding nympha. On examination with the speculum, there were found a puriform vaginal secretion, and an excavated greyish ulceration on the anterior lip of the cervix, with irregular elevated margin. Until the 10th, emollient in-

jections only were resorted to, the chancre being dressed with opiated cerate.

On the 18th, the acute period of the disease had disappeared; the discharge was white, and less abundant; the ulceration of the cervix had not changed its aspect; pus was taken from its surface, and inoculated on the right thigh; pus was also taken from the peri-uterine cul-de-sac, and inoculated on the left thigh. The uterine ulcerations were then cauterized with the nitrate of silver.

On the 19th, the inoculated points were red and elevated; on the 20th, the vesicles were quite formed on both thighs; on the 22nd, they were full of pus; and on the 1st of May, well-characterized chancres existed on both thighs. These chancres were then cauterized, and dressed with calomel-and-opium ointment. The chancre of the nympha had disappeared under the influence of the cauterization; that of the outer lip was cicatrizing, as was also the chancre of the cervix, which had been repeatedly cauterized.—Injections and plugging of the vagina with lint steeped in a lotion containing acetate of lead.

On the 20th, the original chancres were cicatrized, but their bases were indurated. The blennorrhagia had disappeared. Pills of proto-iodide of mercury and sudorific syrup (a preparation containing mercury) were given, in order to remove the indurations.

On the 30th, the inoculated chancres were also healed, and the induration had nearly disappeared.

On the 7th of June, the cure was perfect.

Case XIX.

Chronic Chancre; extreme Induration of the Cervix. Cure by mercury.

This case occurred to M. Cullerier, and is quoted by M. Lagneau and M. Duparcque. It is said to be the only one that Cullerier ever met with in private practice.—Madame —— had lived several years with a gentleman, whose bad health was occasioned by frequent returns of an old venereal disease. From

the commencement of her cohabitation with this person, she experienced a degree of sensibility in the neck of the uterus, which was not usual to her, but did not attribute it to the real cause. This sensibility gradually increased, until it became an acute, lancinating pain, accompanied by a sanious, abundant discharge. After three years' suffering, she consulted Cullerier, who recognised a considerable scirrhous (?) engorgement of the cervix, which was also the seat of several ulcers with hard indurated margins. It was from these ulcers that the sanious discharge above mentioned came. Being convinced that the disease was venereal, Cullerier treated it with a preparation of mercury, (the bichloride.) In two months the ulcerations were cicatrized, the cervix had returned to its normal size, and all the symptoms under which she laboured had disappeared.

This case illustrates the extreme (stony) induration of the cervix which sometimes follows chronic ulceration of that organ, whether the ulceration be syphilitic or not. The term scirrhous used by Cullerier, is evidently synonymous with hard, and does not convey the meaning of cancer. The ulceration was certainly syphilitic, but it is impossible to say whether it was a primary sore or not. From the imperfect description given of it, it appears to resemble more those deep, sanious, chancrous-looking sores which are found on the falling of pustular syphilides, than primary chancre.

I shall now examine the *non chancrous-looking* ulcerations of the cervix, which so frequently complicate blennorrhagia and the various secondary forms of syphilis, and endeavour to ascertain what is their real nature.

THE NON-CHANCROUS-LOOKING ULCERATIONS, WHICH COMPLICATE THE VARIOUS FORMS OF SYPHILIS.

As I have already attempted to prove, both by my own experience, and that of other competent judges, the real classical, inoculatable, Hunterian chancre, is *very* seldom met with on the cervix; and the facts which I have brought forward to establish

this proposition are, I think, so satisfactory, that we may consider this point as definitely settled.

Ulcerations, however, *not* presenting the above-mentioned characters, are exceedingly common in females labouring either under blennorrhagic discharges, or primary, secondary, or tertiary syphilis; much more so, indeed, than could possibly be supposed by practitioners who do not habitually use the speculum, however accustomed they may be to the treatment of syphilitic diseases.

The frequency of ulceration of the cervix uteri in women suffering under acute or chronic blennorrhagia, has been pointed out for some years past by the Paris surgeons, but I am not aware that its great frequency as a concomitant of secondary syphilitic symptoms has been insisted upon.

In the spring and summer of 1843, whilst in charge of a female skin-ward of seventy-five beds, at the Hôpital St. Louis, in which there were always a great number of syphilitic skin diseases, I carefully examined with the speculum all who were so affected, in order to ascertain the state of the internal genital organs. I was led to adopt this course by finding, *on inquiry*, that several of those patients who presented no syphilitic disease of the external genital organs, except trifling leucorrhea, were labouring under the symptoms which I have enumerated as indicating slight inflammation and ulceration of the cervix uteri. On examining these latter patients, I found the cervix ulcerated and slightly indurated, and it then occurred to me that the others might be similarly diseased, although they had not directed my attention to any symptoms of uterine disease. To my great surprise, I found that three out of four—perhaps more—also presented ulcerations of the cervix. Most of these patients were young women who had either never borne children, or had been confined several years previously, and were under treatment for syphilitic psoriasis, lichen, rupia, &c. When questioned narrowly, they *all* admitted that they experienced slight hypogastric pain; that congress had been rather painful for some time; and some, that they had likewise a slight leucorrheal discharge. They had not, however, paid any attention to these symptoms.

What was the nature of these ulcerations? Were they syphilitic, modified chancres, or secondary ulcerations, or were they

merely inflammatory sores? In their appearance, I could discover little or no difference from the ulcerations observed in non-syphilitic patients, and was therefore inclined to deny their general syphilitic nature. Some were large, some small; some had a well-defined margin, others not; some were covered with large unhealthy granulations; others with small, florid, healthy granulations; whilst some, again, presented a kind of pseudo-membranous film. On referring to M. Gibert's treatise, I found that his experience at the Lourcine Venereal Hospital coincided with what I saw with reference to the frequency of ulceration of the cervix in persons labouring under syphilis. It did not appear, however, from his statistics, that he had met with it so often as I had—a fact which may easily be explained. The Lourcine is the hospital to which females affected with syphilis, who apply to the central board for admission, are drafted;[1] and the slightest suspicion of a woman labouring under

[1] The Paris hospitals are all under one common jurisdiction. Every day a board of surgeons, and another of physicians, sit in a central situation, to admit patients into the different hospitals. The director or governor (a non-medical resident functionary) of each hospital is obliged to send every morning, before ten o'clock, to the central board, (bureau central,) a list of the vacant male and female beds. The patients applying for admittance, if found, on a superficial examination, to present any symptoms of disease, are at once sent to the different hospitals until all the beds are filled, that hospital being selected which is the best suited for the disease, or which is the nearest to their home. There are nearly always more beds than applicants. Should this, however, not be the case, for some days together, as occurs in times of epidemic disease, supplementary beds are at once put up in the various hospitals to meet the emergency. This truly Samaritan system of relieving the sick poor deserves to be better known and appreciated in this country than it is at present. In Paris there is no difficulty whatever placed in the way of the admission of the poor into the hospitals. In addition to the "bureau central," every morning a physician and surgeon likewise admit applicants at each hospital, and the "interne" on guard, during the absence of the physician or surgeon, has also power to admit whomsoever he may think proper, day or night. No questions are asked as to means, &c., the very fact of a person applying for admission into a hospital being considered a sufficient guarantee of his or her poverty. The Paris hospitals are therefore the ordinary asylum of the poor, when sick. Indeed, one third of the population of that city die under their roof.

blennorhagia or syphilis is sufficient to ensure her being sent to it, in preference to any other. The consequence is, that women are often admitted who are not affected with blennorrhagia or syphilis, but present some other disease of the genital organs. They are, however, examined with the speculum.

Out of the five hundred patients examined indiscriminately by M. Gibert, the details of whose cases he took down, one hundred and forty-four presented ulceration of the cervix, (*erosion granulée.*) Of the latter, fifteen offered no other morbid symptom; eighteen all presented chancres; twenty-four, condylomata, or mucous tubercles; eleven, buboes; ten, consecutive ulcerations of the amygdalæ, mouth, or pharynx; ten, rhagades; six, vegetations; eleven, syphilides; and eight, blennorrhagia. In some cases there was no appreciable leucorrhea; in the majority of the remainder, but little. When describing these "granular erosions" (p. 13), M. Gibert says, "This ulceration, "always rather superficial, generally has a rounded form, and is "more or less plainly limited; it occupies sometimes the superior "lip, sometimes the inferior, and sometimes the two, and some- "times it even appears to penetrate into the cavity of the cervix "uteri; its surface is red and granular, and contrasts notably "with the smooth and polished surface of the normal neck; and "it bleeds easily. Generally speaking, a veil of viscous semi- "transparent mucus, which flows from the orifice of the neck "of the uterus, covers the granular erosion."

Founding his opinion on the above description, M. Gibert endeavours to establish this form of ulceration as a distinct species of syphilitic ulceration, which he appears to think succeeds in many instances to chancres.

In this view of the lesion, as I have already said, I cannot agree with M. Gibert. I do not, I must confess, see in his description of the "granular erosion" the elements of a distinct species of ulceration. The characters which he gives to it are the characters which I have uniformly met with in merely inflammatory ulcerations. The circular form of the ulceration, on which he subsequently lays great stress, is the form which I have hitherto seen all kinds of ulceration of the cervix assume, in forty-nine cases out of fifty. Sometimes an ulceration may be

irregular, serpiginous; indeed, some French practitioners have (very unnecessarily, I think) admitted a serpiginous variety; but this is the exception, not the rule. As to the "granular" appearance of the ulceration, *all* ulcerated surfaces are covered with granulations of some species or other, and I never could understand why the term "granular" should be applied to any kind of ulceration as a distinctive name. *All ulcerations being granular*, the addition is altogether unnecessary, and, indeed, implies nothing. For the above reasons, although I accept M. Gibert's experience as substantiating the extreme frequency of ulceration of the cervix in persons labouring under syphilis, primary or secondary, I do not accept his views with regard to the syphilitic nature of these ulcerations.

The experiments which M. Ricord has performed, with reference to the inoculation of syphilis, have thrown very great light on this question, as on every other connected with the pathology of syphilis. M. Ricord, as I stated above, has repeatedly inoculated the pus from these ulcerations,—that is, from ulcerations of the cervix, not offering the physical characters of true chancre, but existing in women who labour under some of the various forms of syphilis,—without giving rise to the formation of chancres.

I have also learnt, from Mr. Acton, that he repeated M. Ricord's experiments, some years ago, in Paris, along with M. Vidal de Cassis, then surgeon to the Lourcine, with a like result. Inoculation with the pus from the non-chancrous-looking ulcerations of the cervix in syphilitic patients never gave rise to chancres.

I must add, as an element in the diagnosis, that these ulcerations generally gave way easily to the usual treatment—viz., slight cauterization, injections, &c. It is, however, scarcely necessary to say, that in those instances in which considerable induration of the cervix exists, it is as troublesome as usual. In all the cases which have come under my notice, the venereal symptoms were treated at the same time as the uterine.

From the facts which I have brought forward, and the considerations into which I have entered, I think I am warranted in concluding that the non-chancrous-looking ulcerations observed

on syphilitic patients are not, in the immense majority of cases, primary syphilitic sores, or modified chancres; I do not say in all, because it is generally admitted that real primary sores do not always assume the appearance of the classical chancre.

Admitting that these ulcerations are not primary syphilitic sores, is it equally true that they are merely inflammatory? may they not be secondary? That some *may* be so, I think is probable; but I do not believe it probable that more than a very small number can possibly have such an origin. On the one hand, affections of the mucous membranes are not so very common (as secondary symptoms of syphilis), and on the other, a secondary ulceration of the mucous surface presents peculiar characters, which are not those usually observed. I have, however, seen ulcerations of the cervix, in syphilitic patients, present the grey pseudo-membranous covering which is seen in secondary syphilitic ulceration of mucous membrane, and am quite willing to admit that they may really have been instances of this form of disease.

If the ulcerations which we are examining are not syphilitic, what is their nature? To this question I answer that, in my opinion, they are nearly all inflammatory. In vaginitis, be it simple or virulent, as I have elsewhere stated, the inflammation soon extends to the cervix and its cavity, where, owing to the great vitality of the organ, and to the number of its mucous follicles, inflammation easily passes on to ulceration.

It has been stated by Ricord and other writers on syphilis, that blennorrhagic inflammation frequently passes into the cavity of the uterus, and attacks its lining membrane. My own observation would lead me to conclude, that in blennorrhagic inflammation and ulceration of the cervix, as in simple inflammation, this is rarely the case. I believe that this opinion is to be attributed in one form of the disease as in the other, to inflammation of the cavity *of the cervix* being mistaken for inflammation of the *cavity of the womb*.

The prevalence of ulceration in women labouring under the various forms of syphilis without vaginitis is certainly singular; but I am inclined to attribute it, in a great measure, to the abandoned life which they nearly all lead, or have led.

I shall conclude this account of syphilitic ulceration by the following propositions :—

First.—The real classical chancre, presenting its ordinary physical characters, is *excessively rare* on the cervix uteri.

Secondly.—Ulcerations presenting the characters of the inflammatory ulceration are, on the contrary, excessively common in patients labouring under blennorrhagia, or primary, secondary, and tertiary syphilis.

Thirdly.—Some few of these ulcerations may be primary or secondary, but the very great majority are merely inflammatory.

CHAPTER XVII.

ON THE DIAGNOSIS OF CANCER OF THE UTERUS.

It is difficult, indeed, perhaps impossible, in the present state of science, to give a correct and comprehensive definition of cancer. Cancer may, however, be said, generally, to be a disease characterized by the formation of growths or structures which "have the power of re-development—that is, which once existing, may spread to other tissues or organs, causing in them a disease or growth similar to themselves, by a species of propagation similar to that possessed by animalcules or vegetable fungi." This is the definition given to the term malignant by my namesake, Professor Bennett, of Edinburgh, in the very able work on cancer,[1] which he has recently published, and may with equal propriety be applied to the various forms of disease to which the appellation of cancerous has hitherto been given.

The researches of modern anatomists and histologists having demonstrated that cancer is not an inflammatory affection, its history does not necessarily form part of a treatise on inflammation of the uterus. As, however, inflammation and cancer of the uterus have been, and are still, confounded by the most classical writers of the present day, a short account of the manner in which cancer manifests itself, and of the appearances which it presents in the uterus, is necessary, in order to establish correctly the diagnosis between malignant and inflammatory disease.

[1] On Cancerous and Cancroid Growths, by John Hughes Bennett, M.D. Edinburgh, 1849. I cannot too strongly recommend Professor Bennett's work to the attention of the profession. It is certainly the most luminous essay on the subject that has yet appeared, and if it does not solve all the difficulties of the inquiry, it clearly points out in what direction our investigations should be carried, in order to elucidate the hitherto obscure problem of the real pathological nature of cancer.

Previous to modern investigation in the field of pathological anatomy, the most vague notions prevailed respecting the nature of cancerous formation. The first results, however, afforded by pathological anatomy, tended rather to encourage fresh errors than to dispel former ones, as they led to a belief in the identity of cancer and inflammation. Subsequent researches were more successful, and since the microscope has been applied to the study of the intimate organization of healthy and morbid structures, a very considerable amount of information has been acquired respecting the pathology of these affections. The researches of Professor Bennett, contained in the monograph to which I have above referred, throw great additional light on the nature of malignant disease.

The Edinburgh Professor has embodied in it the results of many years' careful microscopical investigation, for which his intimate acquaintance with the labours of continental histologists had peculiarly prepared him, and he has thus been able to produce a more accurate and more philosophical essay than any author who has preceded him. Impressed as I am with the great value and importance of his histological labours, I shall adopt, in the few remarks I have to make on uterine cancer, his classification of malignant disease, and shall also borrow from him his definitions of the various forms under which it is observed.

Professor Bennett recognises two divisions of malignant growths, the CANCEROUS and the CANCROID. Cancerous growths are those which present undoubted anatomical and microscopic characteristics, whilst cancroid growths are structures which, to the naked eye, the feel, and often in their progress, so closely resemble cancerous ones that they are commonly mistaken for them, although they present, on examination, structural differences of a very marked character.

Cancerous growths include three forms of cancer properly so called, which comprise the principal forms spoken of by morbid anatomists—scirrhous or hard, encephaloma or soft, and colloid or gelatinous cancer. These three forms of cancer are merely modifications of an anatomical state characterized by the presence of nucleated cancer cells infiltrated amongst the meshes of a fibrous structure, and swimming in a viscous fluid. It is

the presence of these three elements thus associated that constitutes the cancerous growth, and it is the relative amount of each that determines its form. Thus it is that a cancerous growth is at the same time a homologous and a heterologous tissue. The individual elements of which it is composed do not essentially differ from those which are found in the healthy tissues; in this sense, therefore, cancer may be said to be homologous to the healthy structures of the economy. But the mode in which these individual elements are aggregated and combined has no parallel in normal structures; in this sense, therefore, it is heterologous. As we have seen, the fibres, the cells, and the viscous fluid which constitute the three essential elements of a cancerous growth, vary in the relative amount which they present one to the other. If the fibrous element be in excess, it constitutes scirrhous or hard cancer; if the cells be numerous, encephaloma, or soft cancer; and if the fluid abound, and be collected into loculi, or little cysts, it becomes colloid cancer. All these forms of cancer may frequently be observed in the same tumour; in one place it is hard or scirrhous; in another, soft or encephaloid; and in a third, jelly-like, or colloid. Yet although they may pass into or succeed one another, they are not unfrequently distinct from their origin to their termination.

The researches of histologists have been less successful in determining the intimate structure of cancroid growths. They have, however, thrown considerable light on a subject previously involved in darkness, by proving that various growths, which in their appearance, feel, and progress closely resemble cancerous ones, and are commonly mistaken for such, on microscopical examination present structural differences of a very marked character. As these structural differences profoundly modify the pathological course of such growths, and the results obtainable by treatment, the distinction is most valuable and practical, and deserves to be universally adopted.

Under the head of cancroid growths, Professor Bennett describes a variety of formations, some of which are generally considered as mere forms of cancer, whilst the others are universally separated from cancerous diseases, from which, however, they are frequently difficult to distinguish. They are—

1stly. Fibro-nucleated cancroid growths, which include growths closely resembling scirrhus and cephaloma, but differing from them by the absence of cancer-cells, which are replaced by naked nuclei. This difference of structure is only ascertainable by means of the microscope. In several cases quoted by Professor Bennett, growths of this description were removed without a return.

2ndly. Epithelial cancroid growths, which consist essentially of an hypertrophy of the mucous or epidermic layer, and are composed of numerous epithelial cells, more or less compacted together. These growths may occur on all large free surfaces, such as the skin, and the mucous membranes of the internal cavities, as also within follicles, and the minute ramifications of secreting glands, such as the mammæ or kidneys. When present in the form of tumours, epithelial growths frequently soften and ulcerate, but they may commence by a mere indurated or warty spot, which thickens, assumes a circular cup-shape, and ulcerates. It is to this form of cancroid growth that belong cauliflower excrescence of the cervix uteri, soft warts, and condylomata, cancer of the lip, chimney-sweeper's cancer, noli me tangere, corroding ulcer of the cervix uteri, &c.

3rdly. Fibrous cancroid growths. Fibrous tumours are constituted wholly of fibrous or filamentous tissue, and so closely resemble cancer that they are often mistaken for it, and especially for the scirrhous form. Nor is this surprising, when we consider that the only anatomical difference between the two growths is the presence of cancer-cells and nuclei in cancer, and their absence in fibrous tumour. This section comprehends, 1st, thickening or hypertrophy of the subareolar tissue of mucous membranes; 2nd, tumours of different varieties, which may be divided into sarcomatous, dermoid, chondroid, and neuromatous.

The other cancroid growths recognised by Professor Bennett are—4thly, the cartilaginous; 5thly, the fatty; and 6thly, the tubercular.

Having thus obtained some little insight into the real nature of cancer, we will endeavour to apply our knowledge to the consideration of malignant disease of the uterus, with a view to the elucidation of its diagnosis in that organ.

Both cancerous and cancroid growths are observed in the

uterus, but the former are more frequently met with, and principally under the form of scirrhus, or hard cancer.

CANCEROUS GROWTHS OF THE UTERUS.

Cancerous growths rarely commence in the body of the uterus, or, at least, are seldom there first recognised, the neck of the organ being the region in which they are usually first observed. In the course of time, however, even when the disease commences in the cervix, it gradually extends from the neck to the body of the uterus, so that after death from uterine cancer, the entire womb, or the greater part of it, is generally found involved. The apparent rarity of cancer in its incipient stage in the body of the uterus has long been recognised. Thus Sennertus says: "Etsi cancer etiam ipsi uteri substantiæ accidere potest tamen hocrarius accidit, et vix tam satis cognoscitur, multo minus curatur; frequenter vero in cervice uteri generatur quapropter hoc loco de eo agemus: isque nunc est sine ulcere, nunc exulceratus." (Lib. iv. de Morbis Mulierum, cap. 11, quoted by Sir Charles Clarke, in his Observations on the Diseases of Females.)

I have used the word "apparent," because I am by no means certain that cancer is as often entirely confined to the neck of the uterus in its first stage as is generally supposed. When females *really* labouring under uterine cancer draw the attention of their medical attendant to the local symptoms which they present, and a digital examination is made, the disease is, almost invariably, very far advanced, the cervix deeply involved, and the uterus fixed in the pelvis by adhesions; so that it becomes very difficult, if not impossible, to recognise whether or not it extends to the body of the organ. The opinion which prevails that cancerous disease is nearly always confined at first to the cervix is probably owing in part to the fact that chronic inflammatory enlargement of the uterine neck has long been, and is still, very generally mistaken for incipient cancer. In these cases, the disease is, in fact, confined to the cervix, the body of the uterus being generally free from enlargement, inequalities, or adhesions.

In the very rare instances in which cancerous growths commence in the body of the uterus, the neck remaining free from disease, and in which the patient is seen in this stage, the uterus is increased in size, indurated, and presents irregular nodosities or divisions. The cervix gradually opens, and allows a sanious fluid to escape, having the peculiar offensive odour of cancerous discharges. The uterus is also generally the seat of severe lancinating pains. As the disease progresses, fungous excrescences make their way through the os, the cervix becomes involved, the uterus is fixed in the pelvis, and the case assumes all the characteristics of confirmed uterine cancer.

The only forms of disease with which a cancerous growth of this nature is likely to be confounded, are fibrous tumours and polypi, and chronic partial metritis. The size of the uterus is increased by a fibrous growth, which may be irregularly divided into lobes, so as to give a very uneven surface to the uterus. But there is to guide us the absence, in most instances, of the lancinating pains of cancer, the gradual indolent growth of the tumour, and the absence of the offensive watery or sanious discharge.

I have seen a polypus contained in the cavity of the uterus mistaken for cancer, which that organ had been endeavouring to expel for several weeks by violent contractions. On examining digitally, I found the neck of the uterus soft, dilated to the size of a half-crown, and behind it a regular globular surface, like that of an orange. The hemorrhage was abundant, but the blood was perfectly inodorous and pure. These conditions were sufficiently characteristic to leave no doubt as to the nature of the case.

In chronic metritis the uterus is partially enlarged, and the enlarged region may present indurated nodosities; but these nodosities are perfectly smooth and regular on their surface; they are also exquisitely sensitive to the touch—unless inflammation has subsided, and has terminated by induration, in which case there is an entire absence of uterine symptoms;—whilst cancerous tumours are indolent or but slightly sensitive to pressure. Moreover, inflammatory indurations of the uterus present the exacerbations at the menstrual periods elsewhere

described, which are not observed in cancer, and remain stationary for months and years, whereas all cancerous growths, especially in the uterus, have a tendency to pass through the various stages of their development, and to decay within a limited period.

In nearly all the instances of uterine cancer, however, that are met with in practice, the disease is certainly first recognised in the neck of the organ. When thus discovered, it may be either in an incipient or in an advanced and ulcerated condition.

Cancer of the Cervix in the Incipient or Non-ulcerated Stage.

According to my experience, cancer in the neck of the uterus is almost invariably found in the advanced or ulcerated stage of its development before a female applies for relief. It would seem as if cancerous growths in this region gave such slight indications of their presence during the first period of their formation, and progressed so insidiously, that the attention of the patient, and of her medical attendant, is scarcely ever directed to the uterus.

My opinions on this subject, however, are widely different from those entertained by uterine pathologists, even the most recent; the incipient stage of cancer in the cervix uteri being universally described by them as of common occurrence in practice. This discrepancy, however, in the results of observation, is easily explained. From the descriptions given of the morbid changes, it is evident that the incipient stage of cancer is still confounded with the hypertrophied indurations of the uterine neck, of inflammatory origin, which I have fully described in a former part of this work. Writers on uterine pathology evidently have not yet shaken off the errors to which the Broussaian doctrines gave rise, especially on the continent, in the early part of the present century, and not only still see a connexion between inflammation and cancer—as cause and effect—which does not in reality exist, but even absolutely mistake for cancer the lesions and changes produced by inflammation.

The details respecting the intimate anatomical structure of cancerous growths which I gave at the beginning of this chapter,

most incontrovertibly establish the decided and absolute difference in the anatomical characteristics of inflammatory and of carcinomatous formations—that they are, in fact, the result of two totally different morbid processes. Inflammation may, possibly, lead to the subsequent development of cancerous growths, —although even this is a question yet undecided,—but the fact is undeniable, that the two morbid conditions are essentially different. I am, indeed, impressed with the belief, founded on clinical observation, that the more our diagnosis improves, the less frequent will be found what is called the "cancerous degenerescence" of chronic inflammatory disease.

Clinical experience has thus led me to modify the opinion I formerly entertained, in common with the rest of the profession, respecting the frequency of cancerous degenerescence of chronic inflammatory tumours. During the last ten or twelve years I have followed the progress of many hundred cases of uterine inflammation, and have not seen a single instance of inflammatory disease thus degenerate. In some instances, I have been told in consultation, that the disease respecting which my opinion was required, although then evidently cancerous, had at first been merely inflammatory. In these cases, however, the diagnosis of my informants could not be relied upon, and the antecedents of the patient were also completely at variance with their view of the evolution of the morbid phenomena. On the other hand, all the cases of cancerous disease that I have myself witnessed during the before-mentioned period, have been *evidently such* from the time they first came under my observation.

It is these three facts :—1stly, the totally different structural origin of the two diseases; 2ndly, the absence of any tendency in inflammatory disease to degenerate into cancer, as exemplified by my never having seen a single instance of such degenerescence occurring during treatment; and 3rdly, the circumstance of my always finding cancer in an advanced and decided stage of its development—that makes me doubt the frequency of the connexion of cancer and inflammation in the uterus.

That the anatomical characters ascribed to incipient cancer by uterine pathologists do not possess the meaning which is given to them is susceptible of easy demonstration. Thus, Sir Charles

Clarke,[1] speaking of cancinoma uteri, (p. 215,) as distinguished from ulcerated cancer, says, "Two varieties of this disease are "observed in the early stage, (in the uterine neck.) 1. There "is a firm tumour, of a rounded form, springing from the sur- "face of the cervix uteri, or imbedded in it, whilst the other "parts of the uterus are perfectly healthy, except that its parietes "are thickened as the disease advances, and that its cavity becomes "larger than that of a healthy unimpregnated uterus. 2. In- "stead of any distinct tumour, the whole of the cervix of the "uterus becomes larger and harder; and if this thickened part "is examined after death by cutting into it, it puts on the same "appearance which a true carcinomatous tumour possesses.

"The two cases proceed differently. In addition to the usual "symptoms of carcinoma, there will frequently be found in the "first variety of the disease some mechanical symptoms depend- "ing on the pressure made by the tumour upon the neighbour- "ing parts; which symptoms will be more or less severe, according "to the size and situation of the tumour. In the second variety "of the disease, these symptoms seldom exist; because the car- "cinomatous thickening of the cervix uteri rarely acquires a "sufficient size to produce them. . . . . .

"In women who live temperately the disease may continue "for a long time, without producing any symptoms, if any judg- "ment can be formed from the cases of patients who apply for "medical aid on account of symptoms under which they have "not long laboured. On examination, there is often found in "such women a considerable alteration in the structure of the "parts, which most probably would not have happened in a short

[1] Observations on the Diseases of Females attended by Discharges, 3rd edition, vol. i. chapter xiv., on carcinoma uteri. At page 212, the appearances which *carcinoma* uteri presents in the neck of the uterus, on inspection after death, are described as follows:—"When carcinomatous tumours are cut through with a knife, they offer a good deal of resistance, and appear sometimes as hard as cartilage. The cut surface presents an appearance of white lines, which run pretty regularly with regard to each other; but the directions of which vary according to the shape of the tumour." This description applies equally well to fibrous growths or even to simple inflammatory hypertrophy of the uterine tissue.

"time. The examination made from time to time of patients "labouring under this disease, who will consent to follow a "proper regimen, *perpetually demonstrate the very trifling change "which will take place in the complaint, even in the course of "many years.* . . . . .

"The os uteri (p. 226) will be found also to have undergone "a change. It becomes larger than natural, still, however, re- "taining its original shape. This open or gaping state of the os "uteri sometimes is sufficient to admit the extremity of a finger, "which, when introduced into it, feels as if surrounded by a firm "ring. The parts will sometimes have undergone all the changes "of structure above related, when no local symptoms have been "apparent, and when the disease has only been ascertained by an "examination, suggested by the failure of remedies in relieving "the supposed disease of the stomach or kidney. It is unusual "for patients to be cut off during the carcinomatous state of the "disease; when, however, this does happen, it is from the exces- "sive discharges of blood bringing on a dangerous degree of "debility. . . . . .

"CHAPTER XV.—These symptoms are seldom dangerous, but "they are very distressing to the patient. . . . This local disease "may remain *stationary*, or it may have its symptoms alleviated, "so that the patient's life may be prolonged, and her comforts "increased, (p. 228.) . . . . If the system is plethoric, *some "blood should be taken from the arm.* . . . . Blood may also be "taken away from the hypogastric region or from the loins, *by "cupping or by leeches;* and from time to time, upon any in- "crease of uneasiness, this operation should be resorted to. . . . . "*The relief produced by topical blood-letting is great,* and often "immediately felt, (pp. 229, 230.) . . . . . No attempt should be "made to restrain the mucous discharge; but if it should be "secreted in large quantity, it should be frequently washed "away. (p. 235.) . . . . .

"In treating this disease, as no cure is known for it, the prac- "titioner must be satisfied with palliatives, and not be anxious "to restore the vigour of the body, which might aggravate the "disease again. Still let it be recollected, that by a strict "attention to management, and an unwearied perseverance in

"the means suggested, *all the cases of the complaint may be* "*relieved;* in many the further enlargement of the tumour, or "progress of the thickening, may be prevented; and if the "author was not afraid of deceiving himself, or of deceiving "others, he would venture to express a belief that in a few in- "stances the disease has altogether subsided. This surmise he "offers with great diffidence. Perhaps the enlargement in the "cases which have given rise to it was not of the true carcino- "matous kind; perhaps the tumefaction arose from common "inflammation of the part, attended by serous effusion into the "cellular structure surrounding it. . . . . Certain, however, "it is, that some cases have come to the knowledge of the "author, and others have occurred in his own practice, *in which* "*an enlargement of the cervix of the uterus, ascertained by ex-* "*amination,* has disappeared, and together with it the symptoms "connected with it.

"If such cases were in truth carcinomatous, (*and that they* "*were so was the opinion of the practitioner,*) the knowledge of "them must afford a great consolation to persons suffering under "this dreadful malady, and must act as an incentive to the em- "ployment of a mode of treatment suggested by reason, and "confirmed by experience: a mode of treatment, which, to say "the least of it, has a manifest tendency to retard the progress "of the disorder, and to prevent its conversion into ulceration." —pp. 242—244.

Passing over intermediate authors, who all adopt, to a greater or less extent, the views of Sir Charles Clarke, we at once arrive at those, among the more recent writers on the incipient stage of cancer, whose opinions carry with them the greatest weight—Dr. Montgomery and Dr. Ashwell. Dr. Ashwell's views will be found in the third edition of his Treatise on the Diseases of Women, and may be fairly supposed to represent the present state of science on this important subject. In order to deal fairly by Dr. Ashwell, I shall quote his own words as follows, (p. 370.)

"Before entering more fully into the history and symptoms "(of cancer), I shall briefly pursue this interesting inquiry, com- "mencing my observations by reiterating an opinion formerly

" expressed by myself, *Guy's Hospital Reports*, (January, 1836,
" p. 153;) that hard tumours of the cervix, and indurated
" puckering of the edges of the os, (conditions which frequently
" terminate in ulceration,) may be melted down and cured by the
" topical application of iodine, aided by the recumbent posture,
" abstinence from sexual intercourse, cupping of the loins, a
" mild, unstimulating, and often a milk diet, gentle aperients,
" narcotic injections into the vagina, and the almost daily use of
" the warm hip-bath."

" It has been doubted whether I have sufficiently defined the
" nature of these hard tumours; whether, in fact, they are to be
" regarded as cancerous, or merely as congestions and ulcera-
" tions, which, not being malignant, are capable of cure. I
" believed at the time I made these observations, *and I still adhere*
" *to the opinion,* that they were malignant tumours; but that
" their full development was prevented, at this early period, by
" the treatment pursued; for I have long been convinced that
" cancer of the womb may be arrested in its early stages by the
" removal of the pathological state of which it is the consequence.
" At page 145 of the first volume of the *Reports*, the following
" observations occur—'To suppose or to call these hard tumours
" 'scirrhous, cancerous, or malignant, would in some minds
" 'instantly excite prejudice. If I am censured, then, for using
" 'the term 'hard,' I justify myself by saying, that it is the
" 'best and least controvertible expression with which I am
" 'acquainted. It is scarcely possible to avoid attaching a precise
" 'and perhaps an erroneous idea, to such terms as scirrhous,
" 'cancerous, or tubercular induration.' The denomination,
" 'hard tumour,' has this advantage; it assumes only a degree
" of hardness, or firmness, beyond that which is healthy and
" natural, leaving the precise cause or nature of such hardness
" to be decided by the result of the treatment, or to the further
" progress of the disease. Such a condition may be the effect
" of chronic inflammation only, or, if of malignant character, it
" may yet be very distant from that degree of malignancy which
" will resist all treatment.

" Nevertheless, I am persuaded, if many of these structural
" changes (in the os and cervix) were examined without reference

" to their treatment at all, and especially by iodine, they would " be pronounced to be schirrous or malignant alterations. I am " not, however, pertinacious on this point: it is not a matter of " practical moment; although my conviction decidedly is, that " these changes, whatever may have been their precise character " at the commencement of the iodine treatment, *would, without " that treatment, have proceeded on to ulceration, and thus have " left the patient with but slight chance of recovery.*" . . . .

Dr. Ashwell states (p. 377) " that the os and cervix may " present, in the incipient stage of cancer, three kinds of in- " duration,—1. The rima or circumference of the uterine aperture " may be wholly or only partially hardened and puckered. " 2. The cervix may be hard throughout its whole structure; or, " 3. Hard tumours may be deposited in any portion of it.

" The practitioner, however, is to remember, that, indepen- " dently of disease (cancerous), there may be—1. A large and " firm cervix; 2. A capacious, patulous, and firm os; 3. An os " fissured and unequally hard.

" The distinction (pp. 382-83) between malignant affections " of the uterus and those of simple character, is not always easily " determined. There are cases of engorgement, hypertrophy, " and induration, in which the finger introduced into the vagina, " discovers an increase of volume, either in the entire uterus, the " cervix, or in the body only. Now, as there are changes " induced by cancer, and as there may be slight or severe pain " in all the affections, it is important to point out the diagnostic " characters.

" Simple engorgement, hypertrophy, and induration, are less " hard, of more uniform surface, often unnaturally warm and " tender on pressure, whatever part may be affected; while even " in the early stages of cancer, the surface is irregular and rough, " free from tenderness, and there is often a weight, coldness, and " stony induration.

" In cancer, and the simple affections already mentioned, there " is a marked difference in the mucous membrane covering the " cervix. In the former, it is of a dull white or slightly grey " colour; in the latter, it is much redder, and more vascular, and " often morbidly sensitive.

"Hypertrophy, or common induration, may affect either the "body or cervix separately, or at the same time; but never in "so isolated a form as to give rise to distinct and separated "nodules of tuberculous induration, like carcinoma. Scirrhus "developes itself slowly, the former affections rapidly; frequently "reaching a size in six or eight weeks which scirrhus would "require as many months to attain. . . . .

"Simple enlargements are generally easily cured by the means "already pointed out, while scirrhus, in its earliest formation, "requires a much longer period. Common induration is nearly "stationary. Malignant disease, although slowly, is gradually "progressive, and by affecting neighbouring tissues, transforms "them, and sooner or later, by their consolidation, destroys the "natural mobility of the uterus. . . .

"The exact prognosis depends very much on the stage of the "disease, and on the belief of its curability. . . . . *It is a disease "capable of being arrested, if not cured, in its earliest periods.* ". . . . The assiduous and early employment of prophylactic "measures may, if it does not entirely arrest the malady, protract "it through several years."

The means of treatment recommended by Dr. Ashwell, and considered by him as occasionally curative, are,—"rest in the "recumbent posture, a simple unstimulating diet, sexual absti- "nence, mercurials, iodine, and iron, local blood-letting by cup- "ping, leeches, and scarification; hip-baths, blisters, setons, the "topical use of iodine, and the nitrate of silver."

The above extracts convey a comprehensive summary of Dr. Ashwell's views respecting cancer of the neck of the uterus in its incipient stage. It is impossible to read his first paragraphs without being struck with the doubt and hesitation by which they are characterized. Dr. Ashwell at last, however, arrives at the conclusion that "hard tumour"—the same condition which Sir Charles Clarke has described—is really malignant, *although susceptible of being arrested, or even cured, by iodine, &c.* He subsequently attributes, without hesitation, to cancerous disease the more decidedly morbid changes which he describes, and also considers them *curable* by antiphlogistic and alterative treatment.

The same views are entertained by Dr. Montgomery, the eminent Regius Professor of Midwifery at Dublin, whose opinion on any subject connected with the diseases of females must always be received with the greatest deference. In an essay on the incipient stage of cancerous affections of the womb, which appeared in the *Dublin Medical Journal* (January, 1842), this distinguished physician asserts the possibility of recognising and curing cancer of the cervix in its incipient stage. The following extracts will show on what data he founds this opinion:—

"I am perfectly convinced, from many years' observation, that "something may be done to stem, at its source, the torrent of "agonies that will otherwise overwhelm the patient; nay, I firmly "believe it may, in many instances, be altogether turned aside, "and the victim be rescued from the sad fate impending over "her. . . . . I am satisfied that there is a stage of cancer "uteri which precedes the two usually described by authors: a "stage in which the nature of the disease may be detected, its "further progress arrested, and its germs arrested; and the "reason why this stage is not more generally recognised is, that "the accompanying symptoms are frequently so slight as to attract "very little the attention of the patient, and thus are suffered to "remain without treatment, until a profuse hemorrhage, or some "violent fit of pain, sounds the alarm, and then, on examination, "the disease is found to have passed into its second stage: the "surrounding tissues are indurated and consolidated with the "organ concerned, and no human means hitherto discovered can "do more than blunt the thorns thickly strewn across the path, "which the sufferer must tread to 'the house appointed for all "living.' (pp. 433, 434.)

"The margin of the os uteri is found hard, and often slightly "fissured, and projects more than usual, or is natural, into the "vagina, and is irregular in its form. In the situation of the "muciparous glands, there are felt several small, hard, and "distinctly defined projections, almost like grains of shot or "gravel, under the mucous membrane. Pressure on these with "the point of the finger gives pain, and the patient often com- "plains that it makes her stomach feel sick. The cervix is, in "most instances, slightly enlarged, and harder than it ought to

"be. The circumference of the os uteri, especially between the "projecting glandulæ, feels turgid, and to the eye presents a "deep crimson colour, while the projecting points have some- "times a bluish hue. In two cases of women who died, one of "fever, and the other of pneumonia, in a more advanced stage "of this condition of the os uteri, the substance of the uterus "was found considerably increased in size and thickness, and "was intensely vascular. There is no thickening, or other "alteration of structure, in any part of the vagina, at its con- "junction with which the cervix uteri moves freely; nor is "there any consolidation of the uterus with the neighbouring "contents of the pelvis; in fact, the morbid change appears to "be, at first, entirely confined to the os uteri, and lower portion "of the cervix.

"This stage of the affection is, in many instances, *very slow*, "lasting sometimes *for years*,[1] before the second and hopeless "stage is established; during this time the patient experiences "only comparatively slight and transient attacks of pain, or "perhaps only sensations of uneasiness, referred often to the "situation of one or other of the ovaries, or about the os uteri, "with anomalous tingling along the front and inside of the "thighs; these last for a few hours, or a day or two, and then "disappear, perhaps for weeks, but again and again return in "the same situation, and for a long time are not increased in "severity. (pp. 436, 437.)

"Sufficient observation has fully satisfied me that, in the "great majority of instances, the first discoverable morbid change "which is the forerunner of cancerous affections of the uterus, "takes place in and around the muciparous glandulæ or vesicles, "sometimes called ova Nabothi, which exist in such numbers in "the cervix and margin of the os uteri; these become indurated "by the deposition of scirrhous matter around them, and by the "thickening of their coats; in consequence of which they feel "*at first* almost like grains of shot or gravel under the mucous "membrane; afterwards, when they have acquired greater "volume by further increase of the morbid action, they give to "the part the unequal, bumpy, or knobbed condition, like the

[1] The *italics* in both pages are Dr. Montgomery's.

"end of one's fingers drawn close together. When this second "stage (usually described by writers as the first) is established, "all means hitherto devised have failed in producing any per- "manent beneficial effect." (p. 439.)

Speaking of treatment (p. 441), Dr. Montgomery says:— "In almost every instance the treatment should be begun by "*the local abstraction of blood,* either by cupping, or by leeches "applied directly to the os uteri, or as near as possible to the "organ; and their application will in most cases require to be "frequently repeated, and should be accompanied by the free "use of anodyne fomentations." To local depletion Dr. Montgomery adds, "mercurials, iodide of iron, arsenic, counter-irrita- "tion, the warm bath and the hip-bath, emollient vaginal "injections, light diet, and regular living."

The copious extracts which I have given from the works of Sir Charles Clarke, Dr. Ashwell, and Dr. Montgomery, three of the most esteemed uterine pathologists of the present day, show that cancer of the neck of the uterus, in its incipient stage, is generally considered to be recognisable by its physical characters, and capable of arrest, or even cure, in the majority of instances. Cases are brought forward, by these and other authors, to substantiate this position.

Although I feel the greatest respect for the scientific attainments of the physicians whose opinions I have quoted, as likewise for those of other eminent pathologists who support the same views, I am compelled to state my conviction that their opinions are not founded on a true and correct interpretation of the facts which they have observed. I firmly believe that the forms of disease which they have described as the first stage of uterine cancer are merely and solely modifications of inflammatory action in the neck and mouth of the uterus, totally distinct from cancerous growths, and having little, if any, tendency to malignant degeneration. I also believe that the cases brought forward to illustrate the physical diagnosis and the curability of cancer are simple instances of inflammation.

My opinions on this subject have not been hastily formed.

They are the result of mature deliberation—of a conscientious analysis of all the cases of uterine disease, malignant or non-malignant, which I have seen for many years; and their truth must be acknowledged by all who have attentively perused the description I have given of inflammation and its sequelæ—hypertrophy and induration of the neck of the uterus.

Setting aside all interpretation of anatomical changes occurring in the cervix uteri, every one conversant with the pathology of cancer must confess, that if the disease described in the extracts which I have given from the before-mentioned distinguished pathologists is really cancer of the neck of the uterus, cancer in that organ must be a totally different malady to what it is in all other parts of the body. Cancer in other regions is not, most certainly, a disease which can be *nearly always arrested* and *often cured by antiphlogistic and alterative treatment*, even when recognised in its early stages.

We will, however, briefly analyze the physical data on which these views are founded; not forgetting that cancer is a morbid condition which it is next to impossible to recognise by its external characteristics alone, as we have seen in the first part of this chapter, and, consequently, that unless morbid conditions in the cervix uteri resemble in their progress, treatment, and results, at least in the majority of cases, cancer in other parts of the economy, we cannot rationally attach to them the malignant character.

The principal anatomical changes stated to characterize cancer in its incipient, non-ulcerated stage, by the three authors I have quoted, are as follow:—A firm tumour of a rounded form, springing from the surface of the cervix, or embedded in it, or general enlargement and hardness of the cervix; an open gaping os, which admits the extremity of the finger; perfect freedom of the vagina from thickening or disease.—(Sir Charles Clarke.) ——Hard tumour of the entire cervix; puckering and hardening of the edges of the os, and hard tumours deposited in any portion of the cervix; a dull white or slightly grey colour of the mucous membrane covering the cervix.—(Dr. Ashwell.)—— Margin of the os hard, slightly fissured, projecting into the vagina, and irregular; in the situation of the muciparous glands

are felt several small, hard, and distinctly defined projections, like grains of shot, painful on pressure; cervix slightly enlarged, and harder than natural; circumference of the os turgid, of a deep crimson colour, the projecting points being bluish; no thickening or disease of vagina, or consolidation of the uterus to the pelvic contents.—(Dr. MONTGOMERY.)

All these are anatomical conditions which may be produced in the neck of the uterus, and are daily produced, by inflammation and puerperal laceration of its orifice.

The enlargement of the cervix described by Sir Charles Clarke is evidently that produced by inflammatory hypertrophy, and the two chapters which he devotes to "carcinoma of the uterus, and its treatment" in the non-ulcerated stage, are clearly descriptive, in almost their entire extent, of inflammatory hypertrophy alone. The "form" in which a firm tumour springs from the surface of the cervix is probably hypertrophy limited to one lip, whilst the form in which there is enlargement and general hardness of the cervix is general hypertrophy. If any evidence, beyond the mere description of the state of the neck of the uterus, were wanted to indicate the inflammatory nature of these changes, it would be found in the open, gaping state of the os, admitting the end of the finger. This is the characteristic condition of the os uteri in inflammatory hypertrophy.

Dr. Ashwell, falling into the same error, admits the malignant nature of simple "hard tumour of the cervix," as he designates the condition described by Sir Charles Clarke. He considers, also, puckering and hardening of the edges of the os, with the presence of hard tumours in any region of the cervix, to be characteristic of cancerous disease. Dr. Montgomery's description of incipient cancer seems limited to the latter changes.

Puckering of the edges of the os has always appeared to me to be merely the result of laceration of the os and cervix during labour, and of subsequent inflammation of the lobules into which the margin of the os and cervix is thus accidentally divided, as I have elsewhere explained, (p. 225.)

The cervix is, in reality, frequently lacerated; and if Dr. Ashwell has not observed this to be the case, (see p. 433 of his work,) it must be, that, on the one hand, he has not analyzed

with sufficient care the results furnished by digital and instrumental examination, and that, on the other, he has mistaken for incipient cancer the cases in which the lacerations, not having healed, have led to a puckered, indurated state of the edges of the os. When laceration occurs in abortion or labour, if the parts involved do not return to a healthy state, but remain ulcerated and inflamed, lobes are formed around the os, being separated from one another by fissures more or less deep. These lobes, although merely inflamed, may become of a stony hardness; and when this occurs, the hardness is very erroneously supposed to characterize scirrhus, and is cited as an evidence of the malignant nature of the disease. If the lobes thus formed and indurated around the os are considerably hypertrophied, they present exactly the sensation to the touch which Dr. Montgomery compares to the ends of the fingers brought closely together, and which he considers to characterize the second stage of cancer.

I have now under my care, a lady, forty-five years of age, whose cervix presented exactly this "feel" when I first examined her, nearly a year ago. It seemed as if the finger reached a cluster of hard nodosities, just like the ends of the five fingers approximated, and these nodosities were of stony hardness. This lady had been pronounced to be labouring under scirrhus of the cervix uteri, by two eminent authorities, eighteen months previously. I found, however, the vagina perfectly healthy, and no uterine adhesions; the lobules were all regularly clustered round an axis, which was the open ulcerated os; they were separated one from the other by ulcerated sulci or fissures, which radiated regularly from the centre of the os uteri, like the spokes of a wheel. The discharge, although muco-sanguinolent, was not offensive to the smell. On inquiry, I could trace the origin of the uterine symptoms and depraved health to a bad labour, which had occurred six years previously. The shoulder presented, and she was delivered by turning. All her previous confinements, nine in number, had been favourable. I at once concluded that the disease was purely inflammatory, and was able to dispel the gloomy anticipations of the patient and her friends. This local hypertrophy is now nearly subdued by cau-

terization with the potassa cum calce, although the patient has been treated under great disadvantages. Owing to her residing at a distance from town, she has never, until lately, been able to remain under treatment for more than two or three weeks at a time.

I may observe, with reference to this case, that the regular radiation of the fissures and hypertrophied lobes which constitute the puckering, may be considered positive evidence of their originating in laceration of the cervix. Indeed, I have never observed it, except in women who have had children, or have miscarried. Were the puckering the result of cancerous growths, it would evidently be quite irregular, as would also the lobes and nodosities similarly formed; at least, such is the case with cancerous growths in other parts of the body, and in the cervix itself, in the advanced and ulcerated stages of cancerous disease.

The isolated nodosities described by Dr. Montgomery may certainly be cancerous nodules, but they may also be merely muciparous glands inflamed and indurated. In fact, their being of a crimson hue would seem to show that such is really the case, inasmuch as cancerous growths in mucous membranes are rather characterized by a bleaching or whitening of the tissues which they attack.

Thus a critical analysis of the anatomical changes ascribed to incipient cancer shows that, on the one hand, these changes present nothing special, nothing that can be said to characterize as malignant the case in which they are found, whilst on the other it shows that they are constantly met with as the result of inflammation. Let us now see if the malignant nature of the disease can be recognised by its history when admitted on the faith of the above-mentioned data.

According to the authors whom I have quoted, the form of cancer which they thus describe may exist for years, without giving rise to any other symptoms than those which are produced by the pressure of the tumour on surrounding organs. If symptoms do exist, they are: mucous or hemorrhagic discharges, and sympathetic reactions on the stomach, brain, general nutrition, &c. The progress of the disease, even when recognised, is

extremely slow; it may continue in this stage of its development for many years, or even be cured completely under judicious treatment. The means of treatment found successful in arresting and curing the disease are principally: *local bloodletting by leeches or cupping*, seconded by alterative and tonic medicines, rest, light diet, abstinence from stimulants, and from sexual excitement.

Can any unprejudiced practitioner recognise the first stage of cancer in a disease, the progress and treatment of which is, generally, indeed nearly always, such as I have just recapitulated? Does not the entire history of these morbid uterine changes, as given above, tally, on the contrary, with that of chronic inflammation generally, in whatever part of the economy located? Chronic inflammation may, as every one knows, remain for years in an indolent state, giving but slight local evidence of its existence, or merely reacting on the general health. Moreover, the influence of local blood-letting, of iodine, mercurials, counter-irritants, on chronic inflammation, wherever situate, in the uterus, breast, or in any other organ or region—has become an axiom in therapeutics. Again, who has ever witnessed incipient cancer in any other part of the body *being arrested and cured*, not exceptionally, but as the rule, by antiphlogistic and medicinal agents? And yet there are parts of the body, such as the breast, in which cancerous growths are *all but invariably recognised and treated from the first*. In this region, however, they almost constantly prove rebellious to medical treatment; generally returning, even after total extirpation.

Must we, then, conclude that cancer is a different disease in the neck of the uterus to what it is in other parts of the human economy? The same in its secondary or ulcerated stage, why should it be different in the incipient or non-ulcerated period?

The probability is, that cancer is just as intractable in the uterus as in other organs, and much more rapid in passing through the various stages of its development. Cancerous growths, as we have seen, are tissues, *sui generis*, the results of a special form of exudation, having a peculiar vitality of their own, and a tendency to extend and to pass through the various phases of their pathological existence, within a limited period. Indeed,

according to Professor Bennett, in no organ does this tendency to extend, to enlarge, to soften, and to ulcerate, appear more decided than in the womb.

Although the intimate structure of cancerous growths has been but recently revealed, yet the tendency of malignant formations to extend, and to destroy life in a limited period, has been known for ages. This tendency has been strikingly illustrated by some researches of, I believe, M. Malgaigne, made a few years ago in order to ascertain the influence of operations on the duration of life. M. Malgaigne collected the details of above five thousand recorded instances of cancerous disease, about half of which had been operated upon. The other half was composed of cases of internal cancer, or cancer not operated on, or situated in regions in which no operation could be performed. From the analysis of these cases, he found that the average duration of life in the patients who had been operated on from the time of the discovery of the disease was twenty-three months; whereas, in the cases in which no operation has been performed, the average time that had elapsed between the discovery of the disease, and death, was twenty-one months. The results, however, arrived at by Malgaigne, merely embodied in figures the generally received doctrines of the profession on this subject.

Notwithstanding my lengthened analysis of the opinions of Sir Charles Clarke, Dr. Ashwell, and Dr. Montgomery, on this very important subject, it would be incomplete were I not to reproduce the cases which they bring forward in order to substantiate their assertions.

The two following are the principal cases narrated by Sir Charles Clarke :—

Case 1.—A married lady, about forty years of age, fell under the care of Mr. Pennington and the author. On examination, a tumour was found at the back part of the cervix of the uterus, of the size of a pullet's egg; it was painful to the touch, and the usual symptoms of carcinoma, in its first stage, were present. The horizontal posture was strictly enjoined, and followed; blood was taken from the sacrum repeatedly by cupping; the bowels were kept open by mild purgatives, and decoction of sarsaparilla was ordered to be taken with small doses of extractum conii. Under a long continued course of such treatment the symptoms all ceased, the

patient was enabled to join her family, which she was incapable of doing at first. The author has seen the patient very lately, nearly three years having elapsed since he was first consulted; she reports herself well, and has no reason to believe that any disease exists.

Case 2.—A widow lady, about forty-eight years of age, who had been a patient of Mr. Bond, at Brighton, was attacked with such symptoms as usually attend disease of the uterus, in the cervix of which a tumour was found, on examination, as large as a French walnut. It was exceedingly tender to the touch, whether the finger was introduced into the vagina, or into the rectum. The means employed in this case were, repeated cupping, abstinence from animal food, the recumbent position, (the upright position or exercise being always attended by considerable pain,) the exhibition of extractum conii, and soda, with the use of the hip-bath, and the occasional employment of mild aperients. After this treatment had been pursued during several months, the uterus was again examined, both by Mr. Bond and myself; this tumour had subsided, and the patient expressed very little pain when the former seat of it was pressed upon (p. 249.)

The *non*-cancerous nature of these cases is so clear—they are so evidently mere illustrations of inflammatory induration and hypertrophy of the cervix, subdued by antiphlogistic treatment, that it is quite unnecessary to analyze them.

The inflammatory nature of the cases of Dr. Ashwell and Dr. Montgomery is equally obvious. I will, however, enable my readers to judge for themselves, by reproducing them in a slightly abridged form.

Dr. Ashwell's Cases of Incipient Cancer in the Uterine Neck. (*Page* 394, *et seq.*)

Case 62.—Elizabeth ——, aged forty-nine, married; six children and two miscarriages. In early life menstruation irregular. Her age indicates that the catamenia are about to cease; and the history of her symptoms during the last year confirms this opinion. The menses have been very irregular, both in quantity, quality, and time of recurrence. A profuse leucorrhea alternates with the catamenial flow. On admission, she complained of lumbar pain, central pains in the lower abdomen, of a pricking and shooting character, which have existed during the last three or four months. An offensive muco-sanguineous discharge (being the catamenia mixed with leucorrhea) flows from the vagina; the constitutional symptoms are slight. On examination:—The mucous lining of the upper part of the vagina is relaxed and hot; and above this, *a hard body is felt, occupying the superior part of the cervix, and the lower portion of the posterior paries of the uterus. The os is hardened and fissured.* After a

short preliminary constitutional treatment, and the maintenance of the recumbent position, she was ordered iodine internally and locally. This course was adopted on the 2nd of June, and at the commencement of August all appearance of the tumour and the unhealthy condition of the os had disappeared, and she left the hospital cured.

Case 63.—Jane ——, aged twenty-five, admitted Sept. 5th, 1835. Is the mother of three children, the last of whom was born three months since. Her labours have been undeviatingly easy, and her general health uniformly good. Since her last confinement the abdomen has been considerably distended, and occasions great suffering when pressed. This enlargement is the result of an accumulation of flatus. In addition to this tympanitic condition, which is associated with impaired appetite, occasional nausea, and constipated bowels, she complains of a sense of weight and bearing-down in the lower abdomen, which is aggravated by the erect posture, or by walking. After an examination, Dr. Ashwell reported:—"*I find a tumour of scirrhous hardness situated low down, on the posterior part of the cervix of the uterus, but not implicating the lip. This growth presses on the rectum, and thus accounts for the constipation.*" Treatment—assafœtida injections, tonics, iodine. On examination, October the 24th, Dr. Ashwell reported that "no vestige of the tumour was present, and that the os and cervix were perfectly healthy." During the treatment, her symptoms were those arising from mechanical pressure on the tumour, which gradually subsided with its resolution.

Case 64.—Sarah ——, aged thirty-two, admitted 24th January, 1835. Married five years ago, and has two children. Health in early life good. For some time before marriage, and ever since, has had a leucorrheal discharge. From the same epoch the catamenia have been profuse, frequent in their recurrence, and of long duration. Latterly has suffered constantly from languor, and lumbar pains. Her last confinement, thirteen months previous, was followed by passive hemorrhage, which reduced her constitutional power, and engendered debility with loss of flesh. Latterly the menses were suppressed for three months, and she supposed she was pregnant. They reappeared, however, a fortnight ago. Dr. Ashwell, after examination, reported:—*The uterus is enlarged generally; its lips and cervix are swollen and soft; and there is a considerable quantity of leucorrheal secretion bathing the parts posteriorly. Just above, and encroaching on, the cervix, at the posterior part of the uterus, is a tumour about the size of a hen's egg, scarcely hard enough for scirrhus.* This patient was treated during six weeks by the internal administration of iodine, and its local application to the neck of the uterus. On an examination being then instituted, the tumour on the posterior paries of the uterus had disappeared. The use of the iodine was unattended with any deleterious effects She had assumed a more healthy and robust, rather than an emaciated appearance; and during its exhibition she did not complain of headach, or undue cerebral excitement.

Case 65.—Elizabeth ——, aged forty-six; admitted under Dr. Ashwell, early in 1830. She has borne several children, and till lately has enjoyed good health. For the last few months, however, there has been vaginal discharge of a muco-purulent, and occasionally of a sanguineous character. She suffers much from central pains, especially from pain deep down behind the pubes; her appearance is cachectic and unhealthy; the catamenia are irregular. On examination, the cervix was found *excessively hard and enlarged, without any distinct deposit of hard material: the edges of the os puckered and uneven, and their surface slightly broken; ulceration appears to be just commencing.* Iodine treatment. This case continued under treatment for nearly twelve months; but as it was only one out of *many similar examples*, there was no accurate note preserved of its progress towards cure; nor would it have been reported at all, if the patient had not accidentally presented herself in November, 1835, in the out-patient's room, and thus afforded Mr. Tweedie, who originally had charge of the case, and myself, the opportunity of carefully examining the os and cervix. All vestiges of induration, puckering, irregularity, and abrasion of surface, have disappeared: and, with the exception of a leucorrheal discharge, the *parts* may be pronounced entirely healthy. I have seen this patient very lately, and I can still report the parts to be as sound as they were when the treatment was first discontinued.

How a practitioner who has seen so much of uterine disease as Dr. Ashwell could possibly publish as illustrations of incipient cancer such cases as the above, is to me matter of astonishment. The most cursory perusal must at once establish them as simple instances of inflammatory induration. The first three, more especially, present scarcely any of the symptoms which Dr. Ashwell himself describes as characterizing cancerous disease.

Case 62 is an instance of laceration of the os from parturition, followed by inflammatory induration and hypertrophy of the anterior lip, in a woman, mother of a large family. The antecedents and symptoms are purely those of inflammatory disease. In *two months* she was *quite well* under the influence of rest and iodine.

Case 63 is an illustration of chronic inflammatory induration of the posterior region of the cervix and uterine paries, following a natural confinement in a healthy young woman of twenty-five. The symptoms were merely those of local inflammatory hypertrophy, and the general sympathetic reactions which are observed

in such cases. She got *quite well in six weeks* under the influence of rest, general treatment, and iodine.

Case 64 is one of inflammatory swelling of the uterine neck, with inflammatory induration of the root of the cervix posteriorly, in a married woman, aged thirty-two, who had for some years presented symptoms indicating the existence of inflammatory disease of the cervix. These symptoms had gradually increased since the last confinement, thirteen months previous. Had she been examined instrumentally, and the lips of the os opened, inflammatory ulceration would probably have been found within. This patient got apparently well in *six weeks* under the same treatment as the other.

Case 65.—This patient presented a condition which at first sight might appear suspicious, but the data which I have laid down for the elucidation of these more obscure cases, at once prove the inflammatory nature of the disease. The cervix was hard and enlarged, the edges of the os puckered and uneven, and ulceration existed. This, however, as I have stated, is the condition in which we find the os and cervix, when the lacerations which often occur after labour do not heal, and the intervening lobes or lobules, as also the cervix itself, become indurated and hypertrophied. The antecedents and symptoms were purely inflammatory. There is therefore no reason for surprise that she should gradually improve under treatment, and eventually become perfectly free from local disease.

The fact of Dr. Ashwell not being able to find any more characteristic cases than these to illustrate the incipient stage of cancer, would alone suffice to invalidate his description of this phase of the disease. It may be remarked that several of these cases present laceration of the cervix, a lesion that I consider of frequent occurrence as the result of labour, an opinion strenuously repudiated by Dr. Ashwell. (p. 433.)

Let us now see if Dr. Montgomery's cases are more conclusive.

Dr. Montgomery's Cases of Incipient Cancer in the Uterine Neck. (*Page* 444, *et seq.*)

Case 1.—Mrs. S——; seen 24th August, 1833. She was in her forty-seventh year, had had six children, and had encountered much domestic anxiety. She was suffering severe pain for the last nine months in the region of the uterus, in the small of the back, and down the thighs, with occasional profuse hemorrhages, alternating with sero-mucous discharges. Vaginal examination detected well-marked morbid alterations in the uterus, the orifice of which was *irregularly notched, tumid, and with several nodules of scirrhous hardness projecting all round its margin;* and the posterior wall of the cervix was so much thickened, that when felt from the rectum, there was a distinct prominence of the part, with very painful sensibility. She had lost her appetite, was losing her flesh, got little or no sleep, and was in great distress of mind about the state of her health. The treatment was commenced by leeching, and the use, both internally and externally, of hydriodate of potash and iodine, and of anodynes. Subsequently, the symptoms not yielding, her system was brought moderately under the influence of mercury, and so kept for some time. Lastly, she took carbonate of iron, with hyoscyamus and conium. Counter-irritants were used; the leeching was frequently repeated; the hip-bath was tried, but it so decidedly made her worse, that it was given up. After several months of continued treatment, she was perfectly cured of the uterine affection, and has now been well for more than seven years.

Case 2.—Mrs. B——, aged thirty-five years, was a member of a family amongst whom there had been a very extraordinary predisposition to cancerous affection. She had had three children, and one of her labours was severe. When I first saw her, which was in May, 1837, she complained of lancinating pains in the loins, back, and thighs; dysuria, bearing-down, with irregular sanguineous and other discharges; and on examination, the os uteri *was tumid, uneven, gaping a little, with its margin irregularly nodulated; and in one spot there was a deep cleft, as if the part had been torn.* There was no discoverable increase in the volume of the uterus, nor any consolidation of it with the surrounding parts. Treatment: Mercury, iodines, baths subsequently, the symptoms returning after temporary improvement, repeated application of leeches to the os uteri, and externally, iodine, iron, counter-irritants. . . . The result was, in time, the complete removal of the complaint. I am now informed, by her medical attendant from the country, that she continues perfectly well.

Case 3.—Mrs. G——, thirty-five years of age, without children; seen November, 1838. Complaining of sharp lancinating pains shooting through the centre of the pelvis into the small of the back, and along the loins in front, especially at the left side, which was very tender on pressure, where

the pain appeared to pass over along with the anterior round ligament of the uterus, and down the thigh and leg, accompanied with numbness and even decided lameness, and loss of power of the limb. There were irregular sanguineous and other discharges, with irritation of the bladder. Her appetite was very much impaired, and she was losing flesh. Her sleep was broken, partly by the pain she suffered, and partly also by her intense anxiety of mind about the state of her health. On examination, I found a fulness in the left iliac hollow, with considerable tenderness on pressure, but I could not detect any defined tumour. The os uteri was irregular in its form. Its margins hard, and rendered very uneven by the projection of several well-defined small nodules, having all the firmness of true scirrhus, and *very sensitive to pressure*, which she said drove the pain out through her back into her left side and thigh, and up to her stomach, giving her *a sensation as if she were about to vomit or retch*. The lower part of the cervix uteri was a little increased in volume, and when seen through the speculum *was almost purple from vascular congestion*, and the temperature of the part was decidedly above the natural standard. Treatment: *Leeches applied to the os uteri and externally*, blisters, and other counter-irritants; mercury, iron, iodine, baths, and tonics. There was such a decided amendment by January, that she went home, and the treatment was directed by letter until April, 1839, when she came to town, and I found the os uteri almost restored to its healthy state, and six months afterwards it was completely so, and still continues, of which I satisfied myself whilst writing these observations, November 1841.

Case 4.—One other case, in which the symptoms were well marked, I shall only refer to, for the purpose of mentioning, that since the removal of the affection the lady has borne three children.

Case 5.—Early in 1839, I saw a lady, aged above forty, who had been more than two years labouring under this disease, during which time she had been pregnant, and prematurely delivered, and was again so a second time, when she came to town to consult me. Each time pregnancy was followed by a great increase of her sufferings; and when that period arrived at which distention of the lower half of the cervix began, the irritation became so great that labour was prematurely excited. I understand that she has been pregnant a third time, with the same result.

Case 6.—In October of the same year, I saw another lady, in whom this condition had evidently existed for some months, and who, after submitting to treatment for a short time in town, became pregnant soon after her return to the country, and went her full time. (Dr. White, under whose care this lady was subsequently, sent to Dr. Montgomery the following account:—) When Mrs. —— left Dublin, about two years since, she continued for about three months as you then saw her, after which she became pregnant. During the early part of her pregnancy, she appeared to get in better health, except that the lancinating pains continued; and for the last two months her legs became numbed, and she was unable to

walk. At the time of her delivery I could feel the right ovary enlarged and uneven; the os uteri was thickened, hard, and uneven, and there was considerable hemorrhage, which continued for some hours, in consequence of the imperfect contraction of the uterus. Since then, now a year ago, she has been gradually growing worse; the menses have appeared regularly, but more profuse than natural, and there has been constant fluor albus. For the last month, the discharge has become sometimes very abundant, sanious, and offensive; at other times it is ichorous, with a yellowish tinge. *The os uteri is patulous, uneven, and hard,* and there is considerable tenderness in the hypogastrium, particularly at the right side; the legs are quite paralyzed; she is almost entirely confined to bed, and the pain is very violent. For the last two months she has had a constant spitting of mucus, which is very distressing. The right ovary can be felt through the integuments, but has not increased in size for the last year, but I think the uterus has. As to the treatment, it has been latterly chiefly with a view to relieve suffering. No plan of treatment that has been as yet tried with her appears to have any useful effect.

* Case 7.—A woman, aged forty-five, died of carcinoma recti, under Dr. Greene's care, in the Whitworth hospital, and, on examination, while the fundus and body of the uterus were found quite free from the disease, the lower part of the cervix and the os uteri presented precisely the characters I have described, especially that of the feel, as if there were grains of shot, or sharp gravel embedded in its substance.

These cases are rather of more doubtful import than those of Dr. Ashwell, but on a careful scrutiny, and on testing them by the diagnostic rules which I have laid down, their inflammatory nature becomes evident.

Case 1.—The patient, the mother of six children, had suffered from the symptoms which characterize inflammatory ulceration of the cervix for *nine* months. The os uteri was tumid, and presented nodules of scirrhous hardness *all around* its margin. These symptoms gradually gave way to *frequent leeching,* to counter-irritation, and to alterative medicines.—This is the history, and these are the symptoms and treatment, of laceration of the cervix, and of subsequent inflammatory induration of the lobes formed by the lacerations.

Case 2.—Here also the antecedent general and local symptoms are those of inflammation of the cervix, and the physical changes are merely those usually produced by laceration, inflammation, and induration of the margin of the os. I may remark that the lancinating pains mentioned in this case are in no

respect confined to cancerous affections of the uterus; for they are equally common in inflammatory disease. The os uteri, which was "tumid, uneven, gaping a little, with its margin irregularly nodulated, presenting in one spot a deep cleft, as if torn," had evidently been severely lacerated in a previous confinement. The patient got well under the influence of *persevering local depletion, internal and external,* and under the use of tonics and alteratives.

Case 3.—This patient is stated to have had no children, but it is not said that she had had no abortions—a very important point. If not, the irregular form of the os uteri, and the hard, well-defined nodules of its margin, were certainly very suspicious, as they could not have been the result of laceration. Their inflammatory nature, however, is rendered evident by their purple hue, and great vascular congestion, and by their *extreme sensitiveness on pressure,* which produced absolute retching. The *non-ulcerated* tubercles of cancerous deposits, as seen on the cervix uteri of women who present the disease in its advanced ulcerated stage, are generally of a *whitish hue,* and all but quite *indolent on pressure.* Here also the cure was effected by *leeches applied to the os uteri,* by counter-irritation, and by resolutives and alteratives.

Case 4.—The local state is here merely mentioned, but it is stated that the lady became pregnant several times, and, after great suffering during her pregnancies, miscarried prematurely, at the period at which distension of the lower half of the cervix begins. This is merely what I have repeatedly seen in cases of puerperal laceration with subsequent inflammatory induration of the cervix and its os. This morbid condition does not always prevent impregnation, but it renders the pregnancy very laborious, and generally occasions abortion or miscarriage.

Case 6 is an extreme instance of this description. The local inflammatory lesions were evidently very severe, and were much aggravated by the pregnancy. There is nothing, however, in Dr. White's account, to lead to the conclusion that the disease was cancerous. On the contrary, every symptom mentioned tends to characterize the case as one of inflammatory induration of the cervix and its os, and of ulceration of the cervical cavity.

As, however, palliative treatment only was adopted, under the impression that the disease was cancerous, the patient was, naturally enough, getting worse at the date of Dr. White's communication.

Case 7.—This is the most important of all Dr. Montgomery's cases, as it may in reality have been one of incipient cancer. The uterus of the patient was *not examined during life*, but after she had died from carcinoma recti, the lower part of the cervix and the os uteri were found to present, as it were, grains of shot or sharp gravel in their substance. Although microscopic examination alone could have decided the true nature of these shot-like indurations—which may have been inflammatory, and present by coincidence—it is very possible that they really afforded an illustration of cancer in its first stage. Dr. Montgomery does not say whether they were irregularly strewn over the cervix, or whether they were grouped *around* the os uteri—an important distinction. We must not, however, forget that this local condition of the cervix was only recognised *after death*, and that it does not appear to have given rise to *any* symptoms during life calculated to lead to such an examination.

If the disease described by uterine pathologists as the first or incipient stage of cancer is not cancer, as I have endeavoured to demonstrate, but merely inflammatory induration of the cervix, what are the symptoms, local and general, which characterize cancerous growths in their first stage?

This is a question which I am unable to answer, except by reference to those parts of the cervix in ulcerated cancer in which the disease is present in a less advanced state—inasmuch as I am not certain that I have ever seen a single case of this description.

In the early part of my medical career, cases came under my notice that were said to be incipient cancer of the neck of the uterus, and amongst them were several treated by Lisfranc. Since, however, I have learned to judge for myself on this subject, I have also learned to doubt the diagnosis of those to whose authority I then surrendered my opinions.

I have now earnestly sought, during many years, as I have already stated, for the first stage of cancer of the neck of the uterus; and although I have met with many cases of cancer in the ulcerated or advanced stage, I have never seen a single instance of the disease in its incipient period. I have seen numerous cases resembling those which I have just reproduced,—and, in fact, I am never without a number of them under my care,—but the idea of their being cancerous now never even occurs to me. In my opinion, they are merely instances of severe chronic inflammatory hypertrophy, with or without lacerations, fissures, indurated lobules, and puckering of the margin of the os. I find them also *always curable* by local depletion and general medication, and more especially by strong caustics, such as the potassa fusa, or the potassa cum calce, which, when judiciously used, safely melt down the indurated tissues.

I have never witnessed a case of this kind either degenerate, or terminate otherwise under treatment than by resolution. I may here remark, that had the authors whom I have quoted detailed a single case presenting the symptoms described by them as characteristic of cancer, and which, instead of *getting well under leeching and antiphlogistic treatment*, had continued to progress *unfavourably*, and terminated fatally in the usual way, that single instance would have done more to establish the correctness of their diagnosis than a hundred cases of "cure." Cancer is a disease so *generally* fatal, whether attacked or not by treatment,—indeed, even when completely extirpated in its first stage,—that the accumulation of numerous cases in which treatment is reported as always, or generally, successful, implies almost of necessity an error in diagnosis. It must also be remembered that the authors I have quoted give the cases in question, not as exceptional, but as illustrations of the ordinary results of their treatment in numerous instances of a similar nature met with in practice.

I must again repeat, that my own experience, as well as the analysis of that of others, leads me to the conclusion, that cancerous growths of the uterus in the incipient or non-ulcerated stage of their development, are always, or nearly always, indolent, and give rise to no symptoms sufficiently decided to

induce patients to complain, or to seek for advice; and thus we can explain how the disease in its incipient stage does not come under the notice of the practitioner.

At the same time, although I cannot assert that I have ever met with incipient cancer, and can find no trace in the writings of others of their having really met with it during life, *this fact is no reason why I or others should not meet with it sooner or later*, especially now that uterine examinations are becoming so much more general. I am, however, inclined to think, that if cancer be seen in the incipient stage, *it will probably be owing to some accidental circumstance*, and not to the symptoms which it occasioned having courted inquiry.

Were I thus ever to meet with a cancerous growth in its first stage in the cervix, I should expect to find shot-like, pale, indolent indurations, all but insensible to pressure, strewn irregularly over the cervix; or an irregular hard tumour, similarly characterized, developed on its surface. This description of what I should expect to find is drawn from the state of *non*-ulcerated parts of carcinoma uteri when examined in its more advanced or ulcerated stage.

It is more than probable that cancer of the cervix uteri, instead of being very slow in its development, and remaining for years in the first or non-ulcerated stage, as stated above, is, on the contrary, very rapid in its growth and progress, especially in women who still menstruate. No other organ in the economy is exposed to the periodical sanguineous fluxes which take place in the uterus physiologically; and these fluxes cannot but be considered as conducive to the rapid development of a fungoid growth like cancer. Sexual excitement also, no doubt, has a similar tendency, at all periods of life.

I have thus at length developed my views respecting the diagnosis of cancer of the uterus in its early stage, as I consider it of the utmost importance to the cause of suffering humanity, that the real nature of the numerous cases of inflammatory induration which occur in practice should be recognised. In the present state of science, they are, as I have shown, confounded with cancer, and I shall consider myself amply rewarded for the trouble I have taken to prove their non-cancerous nature, if I

am the means of saving patients thus afflicted, and their friends, from the agonies of suspense and fear, which all feel when the dreaded name of cancer is pronounced in connexion with local disease.

In the course of the preceding pages, I have not alluded to the opinions entertained by continental writers on this subject, as they are still more untenable than those of English pathologists. Nor is this surprising, when we consider that they are only just emerging from the trammels of the Broussain school of medicine, which considered cancer to be merely a form of inflammation, and one of its ordinary modes of termination.

Lisfranc evidently never learned to distinguish cancer from inflammatory induration; and it is more than probable that a large proportion of the cases in which he "successfully" amputated the neck of the uterus, were merely cases of inflammatory hypertrophy. Duparcque looks upon inflammation as the ordinary precursor of cancer, and writes in such a manner as to induce the reader to believe that the two diseases are continually seen to merge into each other. He brings forward cases in which women whom he had previously treated for inflammation, or who, although suffering from inflammatory disease, had neglected treatment for several years, subsequently consulted him with advanced ulcerated cancer of the uterus. The occurrence, however, of a few instances of this description, in an extensive consulting practice, proves nothing. Amongst the large number of females suffering from uterine inflammation who pass before the eyes of a consulting practitioner, some few must inevitably become affected with uterine cancer, even were they not more liable to cancerous disease than other members of the female community.

Ulcerated Cancer of the Cervix Uteri.

There can be no difference of opinion about the diagnosis of the ulcerated or advanced stage of carcinoma of the cervix. Its characteristics are but too plainly and easily distinguished by practitioners accustomed to the treatment of uterine diseases. Those, however, who are not familiarized with uterine affections,

frequently mistake the nature of the case, and erroneously suppose that their patients are only suffering from hemorrhage, leucorrhea, or inflammatory ulceration. I have frequently met with illustrations of this fact.

In cancerous ulceration of the uterine neck there is generally loss of substance. The ulcerated surface is also hard, and presents numerous lobules, tubercles, and ridges, disseminated with the utmost irregularity, and presenting, as a rule, that stony hardness which is only occasionally met with in inflammatory induration. A person accustomed to uterine investigations will not mistake for a moment the nature of the lesion, so peculiar is the sensation produced to the finger by the irregular, ulcerated, and indurated surface. The disease is generally found to extend to the vagina; and when this is the case, the hardened ridges and lobules formed by the cancerous growth are continued on to the vaginal cul-de-sac, and descend more or less along its parietes. This is never the case in inflammatory induration or ulceration, the vagina never becoming indurated, however much, or however long, the cervix and uterus may be diseased. In cancerous ulceration, the cervix and uterus are nearly always immovable in the pelvis, having become adherent, glued, as it were, to the surrounding organs and tissues; whereas this very seldom occurs in inflammatory ulceration. In advanced cases, the disease and the subsequent induration extend to the bladder or rectum, or to both, involving these organs in a greater or less degree, and giving rise to a host of most distressing symptoms.

The ulcerated surface secretes a sanious ichor, often in great abundance; and this secretion is peculiarly offensive to the smell. On withdrawing the finger, the odour which attaches itself to it is alone sufficient, in forty-nine cases out of fifty, to establish a diagnosis. It is so nauseating, as to leave a lengthened impression on the olfactory nerves. The discharge from inflammatory ulceration may be very offensive, owing to want of cleanliness, or to the nature of the secretion, but it seldom, if ever, presents the horribly offensive odour of a cancerous uterine discharge.

If examined with the speculum, the ulceration will be found to present the usual appearance of cancerous ulceration — an

irregular jagged sore, covered with fungous granulations, and sometimes with a greyish pultaceous film. I seldom, however, employ the speculum in these cases, as its use is attended with considerable danger from hemorrhage. I have known several instances in which severe hemorrhage has followed instrumental examination, the explanation of which is obvious. The parts in which the cancerous degeneration takes place losing their elasticity and pliability, and becoming perfectly inextensible, the introduction of the speculum is liable to rupture or fissure the diseased organs, and thus to give rise to irrestrainable hemorrhage.

The general symptoms of uterine cancer are too well known for any details on the subject to be necessary. I will merely remind the reader, that all the general and local symptoms which accompany ulcerated cancer may also be observed in chronic inflammatory ulceration. Thus we may have severe hypogastric, lumbar, and femoral pains, sanguinolent fœtid discharge, occasional hemorrhage, extreme emaciation, yellow tinge of the skin, hectic fever, vesical and rectal irritation, and yet the disease may be merely inflammatory. Although, therefore, the presence of the above symptoms is, generally speaking, but too significant of advanced malignant disease, yet implicit reliance cannot be placed on them alone. The doubt as to their meaning can only be solved by examination.

Cancroid Growths.

The malignant cancroid growths observed in the uterus, are corroding ulcer and cauliflower excrescence. They belong to the section to which Professor Bennett gives the name of epithelial cancerous growths.

Corroding ulcer is not a common disease. It is a malignant form of ulceration, commencing on the cervix, or in the cavity of the cervix, which gradually extends itself in surface and in depth. It may be considered identical with cancer of the lips, or with the cancerous ulceration of the skin, described by surgical writers under the name of "noli me tangere." Corroding ulcer of the cervix uteri is not difficult to recognise. Instead of there being hypertrophy of the cervix, as in chronic inflammatory ulceration,

there is, on the contrary, *loss of substance,* an ulcerated excavation, with an indurated margin, more or less deep, according as the disease is more or less advanced. It is also distinguished from ordinary cancerous ulceration—which, in its advanced stages, gives rise to loss of substance—by the absence of the hardened ridges and inequalities of surface produced by the cancerous growths. In advanced ulcerated cancer of the cervix, the uterus, as we have seen, is glued to the adjacent tissues, and consequently immovable, or nearly so; this is not the case in corroding ulcer, even when the cervix has been destroyed, and the body of the uterus deeply excavated by the progress of ulceration.

Cauliflower excrescence, although of more common occurrence than corroding ulcer, is not a disease frequently met with. It consists in a fungoid tumour, of variable size, growing from the os uteri, the surface of which is sometimes smooth, and sometimes lobulated, and formed of rounded groups of papillæ, resembling, externally, a cauliflower. "These tumours," says Professor Bennett, "speaking generally, are almost wholly composed of epithelial scales, which assume a square or elongated form, their nuclei being for the most part very distinct. In the larger growths the surface is similarly compressed, but, internally, consists of a fibrous structure, into which loops of vessels from the capillary network of the dermis is prolonged."

Tumours of this description cannot possibly be confounded with inflammatory affections either of the uterus or of its neck.

APPENDIX.

ON THE PHYSICAL EXAMINATION OF THE UTERUS, AND OF THE UTERINE ORGANS.

The novel facts contained in the preceding pages have principally been brought to light by the application of improved methods of investigation to the diagnosis of uterine disease. As it is indispensable for other practitioners to use means as efficient as those which I myself employ, if they are to arrive at the same results, I shall enter into a few brief details on the physical examination of the uterus and its appendages.

The state of the uterine organs may be physically ascertained by the touch, by the speculum, and by the uterine sound.

The touch has been employed from time immemorial as a means of ascertaining the condition of the uterus and its annexed organs; its use, however, has hitherto given but very limited information, especially with reference to the state of the neck of the uterus, the region which it more especially reaches, and which is most frequently the seat of disease. The explanation of this fact is to be found in the touch not having hitherto been educated by the eye, which, it would appear, alone can teach it to recognise the morbid changes produced by disease. Although the touch has been habitually resorted to for ages as a means of diagnosis, the common existence of ulceration and inflammatory hypertrophy of the cervix was never even suspected until the speculum recently revealed their presence. When once, however, the eye has demonstrated the existence of these morbid states, the touch, with its assistance, gradually acquires the power of distinguishing the most minute changes; and it then appears

quite a marvel to the practitioner that the grossest morbid conditions should have previously escaped his recognition.

I am continually witnessing illustrations of this fact, continually seeing patients who have been examined digitally by experienced accoucheurs a few days only before they apply to me, and pronounced free from any morbid state, although they present the most conclusive evidence of extensive disease—evidence which my "*educated*" finger detects as soon as it reaches the cervix. I could mention many singular instances of this inability to recognise lesions of the neck of the uterus by the touch, in practitioners who have seen a vast amount of uterine disease, but whose touch has not been educated by the eye. I shall, however, confine myself to the following:—I was requested, some time since, to meet, in consultation, a surgeon of eminence, who has long enjoyed very extensive opportunities of witnessing cases of uterine disease. The case was that of a lady of rank, thirty-nine years of age, who had been in a most deplorable state of health, notwithstanding constant medical treatment, ever since a miscarriage, which occurred seventeen years ago. On examining digitally I found the cervix very much hypertrophied and retroverted; the cavity of the cervix was so open as to admit the first phalanges of two fingers. This open surface, as also that which surrounded it, presented the characteristic sensation of luxuriant ulceration; and the finger, on being withdrawn, was covered with pus and blood. I mentioned to the practitioner in question, my conviction that very extensive inflammatory ulceration was present, and that the fact of the lady not having recovered her health under the care of her previous medical attendants, all persons of great experience, was owing to an instrumental examination not having been resorted to, and the real nature of the disease, consequently, not having been recognised. To my surprise I was told, in reply, that he did not perceive any evidence of ulceration; that he never used the speculum, as he could thoroughly depend on his touch for every necessary information; and that he would not sanction, even by his presence in the house, any instrumental examination in the case on which we were called upon to consult. Under these circumstances I refused to give an opinion, and the

consultation was abruptly brought to a close. The age and professional eminence of the practitioner in question, however, coupled with the assurance on his part, made in my presence, that he could cure the disease without any *painful* operation being necessary, prevailed, and the patient remained in his hands.

A few months afterwards I was called to see a lady, in consultation with the family attendant, who had been under the care of the same practitioner for some months, and had been treated by him, with the assistance of the speculum, for inflammatory ulceration. Recollecting what had occurred on the previous occasion, I was rather surprised to hear that instrumental examination had been resorted to, but learnt that it was in consequence of the all but imperative demand of the family attendant. The disease had been pronounced from the beginning purely inflammatory, and perfectly curable. My opinion was required by the husband, because his wife had not progressed as favourably as he had been led to expect. Being thus unprepared to meet with anything serious, I was astonished to find, on the finger reaching the cervix, that it was the seat of extensive cancerous ulceration.

Thus we find a man who has grown grey in the consulting practice of uterine disease, and who places such implicit reliance on the delicacy of his touch, and on the correctness of the information which it affords to him, as to spurn with contempt the assistance of the eye, totally misled by the touch in two most simple cases. In one he fails to recognise very extensive inflammatory ulceration, although told of its existence, and in the other he mistakes advanced ulcerated cancer for inflammatory disease. If the experience of a long life, specially devoted to the study of uterine disease, still leaves the touch, untaught by the eye, so thoroughly uneducated as to allow of such gross errors as the above, how little information can we expect to be obtained from it by the ordinary practitioner, whose opportunities of observation must be infinitely more limited.

It is not, however, in the examination of uterine disease only that the education of the senses, by improved means of diagnosis, leads to results which the keenest judgment so unaided fails to attain. The history of medical science for the last thirty years

has exemplified the fact in many different ways; and it is admitted and dwelt upon as incontrovertible by the most eminent writers of the present day. Thus Dr. Watson, in his admirable lectures, (vol. i. p. 10, third edit.) says: "You will find what, previously to "positive trial, you might not suspect, that the senses,—the eye, "the ear, the touch,—however sharp or delicate they may naturally "be, require a special course of training and education before "their evidence can be trusted in the investigation of disease." Again: Dr. Latham, in his recent valuable work on "Diseases of the Heart," (vol. i. pp. 80, 81,) eloquently remarks, in terms equally applicable to uterine disease: "But the ear must be a "well-educated and well-practised ear, or it is not a trustworthy "witness. Remember this; for the knowledge of the senses is "the best knowledge; but the delusions of the senses are the "worst delusions." Further on (pp. 295, 296), he adds: "What "an amazing difference there appears in the objects of nature "around us, according to the point of view from which we regard "them. When we stand on the right spot for taking in the "whole prospect, we then see what before we could not see at all, "and we then see clearly what before we only caught a glimpse "of from some more commanding position. . . . . Thus the point "of view from which diseases of the heart are now regarded, dis- "closes so many new things, and puts so many old things in a "much clearer light, that I distrust the results of my former "experience, and feel the need of submitting all my practice, and "the use of all my remedies, to the test of my own more recent "observation." . . . . "As diseases are better understood, and we "possess surer signs for discerning their seat, and progress, and "events, the records of past experience become obsolete, and so "a necessity arises for a new course of clinical observations." (p. 295.)

A digital examination of the uterus and the annexed organs may be made in any position. The one usually adopted is the obstetric, in which the patient is lying on her left side. This position answers the purpose as well as any for the exploration of the neck of the uterus. Its size, volume, and direction, the state of the os, and of the surrounding part, may be ascertained with perfect accuracy. This is no longer the case, however, if

it is found desirable also to examine the condition of the body of the uterus, of the ovaries, and of the lateral ligaments; owing to the difficulty, and often impossibility, of exercising sufficient pressure on the external abdominal walls with the other hand.

The range of the finger introduced internally being limited, of course, by the vaginal cul-de-sac, the state of the more internal organs can only be thoroughly ascertained by so pressing upon them through the parietes of the abdomen, as to lower them in the pelvic cavity, and thus to bring them within the reach of the finger. This is best accomplished by the patient lying on the back, the pelvis elevated by a hard pillow, the knees flexed, and the abdominal muscles relaxed. The finger should then be passed into the cavity of the pelvis, the pulp directed towards the pubis, and the elbow depressed. It thus easily reaches the cervix, and if at the same time the abdominal parietes in the lower hypogastric and ovarian regions are depressed, the uterus and its annexed organs are brought, by the hand placed externally, within the grasp, as it were, of the finger or fingers, carried internally, behind or at the side of the cervix. The slightest morbid change in the size or position of the uterus, of the ovaries, or of the lateral ligaments, may thus be detected, except when the abdominal walls are much loaded with fat, or when the patient pertinaciously contracts the abdominal muscles.

It is sometimes advisable to examine a patient in the erect position, in order to ascertain whether the uterus changes its direction, or prolapses, when she is standing or walking; or to ascertain exactly to what extent it has risen in the pelvis, when previously prolapsed, under the influence of treatment.

Many varieties of specula have been invented and proposed, but they may be all reduced to two kinds—the full and the valvular.

Full specula may be cylindrical or conical, and made of metal or glass. The conical shape, throwing a greater body of light on the part brought into view, is decidedly preferable to the cylindrical. They are of various sizes. This form of speculum is much easier to employ than the valvular, inasmuch as, once passed through the vulva, it has only to be gently pressed in the direction of the cervix to reach that organ. It is the instrument

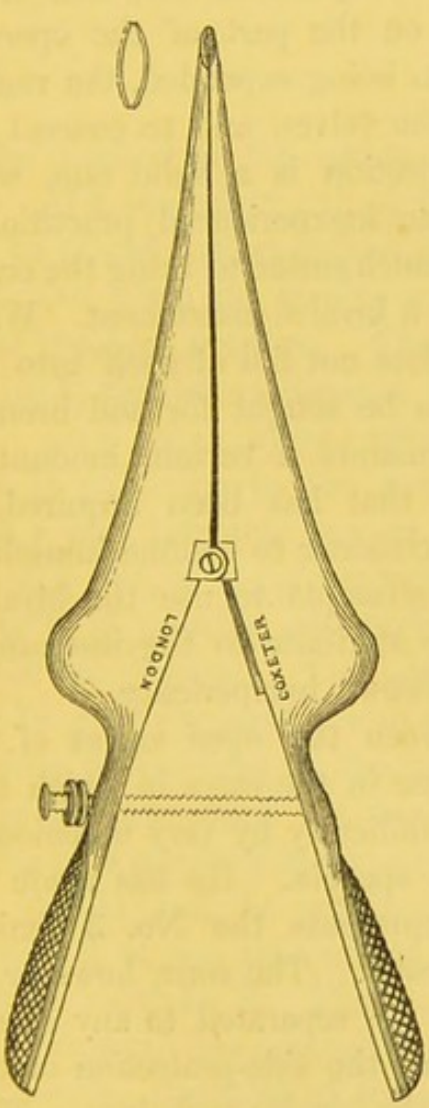
in general use on the continent, and, until within the last few years, I generally resorted to it. All full specula, however, are liable to a very great objection, which has induced me of late years to discard them from habitual use. Unless a large size be used—which, generally speaking, cannot be done without causing great pain—they do not reveal disease existing within the cavity of the cervix. On the contrary, in most cases the pressure of the side of the speculum, as the cervix is received within its internal extremity, closes the os uteri if opened by disease, and prevents the morbid condition being recognised. I frequently see patients in whom extensive disease of the cavity of the cervix has not been recognised, although they have been instrumentally examined, owing to this very simple cause, or who have erroneously been supposed to be cured, when a considerable amount of disease was still lurking in the cervical cavity. If, however, there is no disease of the cavity of the cervix, and a sufficiently large speculum can be used to embrace the entire cervix, without giving pain on its introduction, a full speculum will answer as well as any other.

Glass specula have long been used; but several accidents having occurred, to my knowledge, by their breaking within the vagina, I had ceased to employ them, until this objection was obviated by Mr. Ferguson. He has had the outer surface of the speculum coated with a thin layer of Indian-rubber, after previously surrounding the glass itself with a brilliant metallic coating. The Indian-rubber envelope effectually does away with danger, as, in case of the speculum breaking (which, however, is much less likely to occur), the vagina is still perfectly protected from the broken fragments. The metallic surface, on the other hand, being a most powerful reflector, throws quite a flood of light on the tissues brought into view. Indeed, no specula can be compared to these for lighting up the parts which they expose, and were it not for their great fragility, I should scarcely ever use any other when employing a full instrument. This latter objection, however, renders the metal conical specula, which endure for ever, preferable for general use; the more so, as they throw quite sufficient light on the internal organs, if the patient is properly placed, and opposite a window. I have had

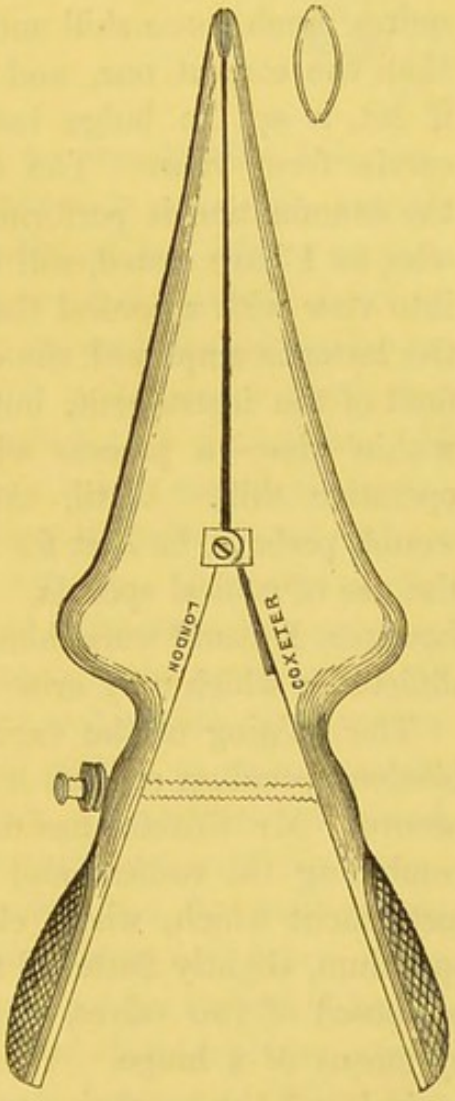
four sizes of these metal conical specula made. The smallest (No. 1) can be used even with many virgin females without any previous dilatation or division. The largest (No. 4) is only applicable to pregnant females, or to those with whom the vulva and vagina are extremely open and relaxed.

Valvular specula may be bivalve, trivalve, or quadrivalve. The two latter kind, however, I reject for general use, not because they are inefficient, but on account of their size, and of the great mass of metal which has to be introduced.

The bivalve speculum is the one which I now employ, almost to the exclusion of all others. The chief advantage which it presents is, that it enables the operator to bring the cervix more completely into view, and also, by the expansion of its blades,



No. 1.



No. 2.

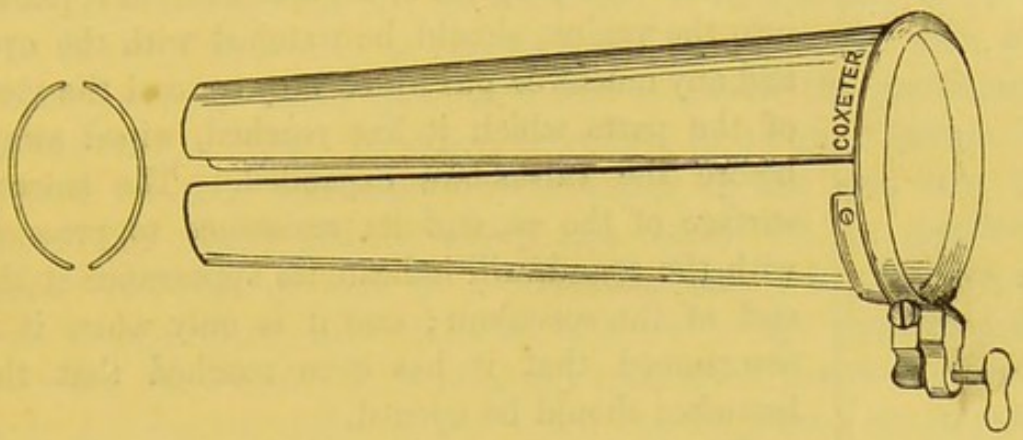
thoroughly to open and to expand the lips of the os uteri, and thus to ascertain the state of its cavity. Moreover, modified as I have modified it, this instrument can, generally speaking, be introduced without any pain whatever to the patient—no small advantage. The modification consists principally in the flattening of the valves, so that previous to their expansion they constitute little more than two metallic blades, almost in juxtaposition, which occupy but little room, and may consequently be passed through even a narrow vaginal outlet, almost without pain. I have had two sizes made, one very small, and the other much larger, so as to be able to adapt the instrument to the case.

The engravings on the preceding page present a correct view of these specula, as manufactured by Coxeter.

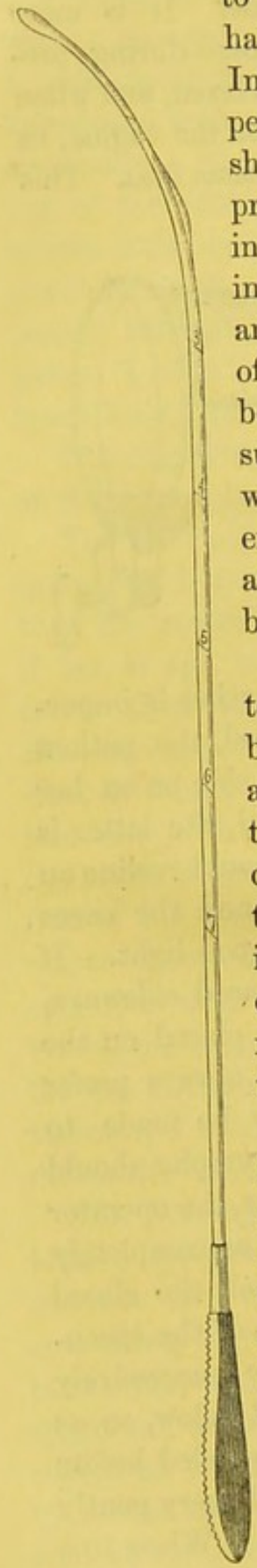
The chief objections to the bivalve speculum are, that it requires much more skill and habit on the part of the operator than the conical one, and that, on being expanded, the vagina, if lax, is apt to bulge between the valves, and to conceal the cervix from view. The first objection is a valid one, when the examination is performed by an inexperienced practitioner, who, as I have stated, will find it much easier to bring the cervix into view with a conical than with a bivalve instrument. When the latter is employed, the cervix does not fall of itself into the field of the instrument, but has to be sought for and brought within view—a process which demands a certain amount of operative skill. Until, therefore, that has been acquired, it would, perhaps, be best for the practitioner to confine himself to the use of conical specula. If he attempts to use the bivalve, however, I would warn him not to attribute to the instrument difficulties which only arise from his own inexperience.

The bulging of the vagina between the open valves of the bivalve speculum renders it of no use in the cases in which this occurs. Mr. Coxeter has met the difficulty by very ingeniously combining the conical and bivalve specula. He has made an instrument which, when closed, represents the No. 3 conical speculum, slightly flattened transversely. The cone, however, is composed of two valves, which can be separated to any extent by means of a hinge. We thus get the side-protection of the conical, and the expansive power of the bivalve speculum. This is, indeed, a most valuable instrument, and has enabled me to

discard, nearly entirely, the largest conical size. It is more especially applicable, in the same class of cases:—during pregnancy, when the vagina is more than usually relaxed, and when it is desirable effectually to protect the sides of the vagina, as in the application of the potassa cum calce or potassa fusa. This speculum is here delineated.



The position of the patient during an examination is important. If a conical or cylindrical speculum is used, the patient may be placed and examined indifferently on her side or on her back; but when the bivalve speculum is employed, the latter is by far the best position. The patient, dressed, should recline on the back, the pelvis elevated by a hard cushion, and the knees flexed, on a couch drawn opposite a window, in a good light. If there is no couch in the room, three chairs, placed sideways, make a very tolerable one, or the patient may be placed on the side of a bed, if it corresponds to a window. I always prefer daylight, if possible, although artificial light may be made to answer the purpose. The labia externa and the nymphæ should then be gently separated with the index and medius, the operator standing or kneeling by the side of the patient, so as completely to disclose and open the vaginal orifice, into which the closed speculum is carefully introduced. The introduction of the speculum should not be attained by forcing, but by successively pressing it to one side and to the other, above and below, so as to make room for it. The valves should not be expanded before the instrument has reached the cervix, and then only very gently —otherwise, the folds of the vagina pass between. When this has once occurred, it is often next to impossible for the operator



to retrieve himself—in which case the speculum had better be withdrawn, and again introduced. In order to be certain that the speculum is properly directed, the exact position of the cervix should always be first ascertained with the finger previous to its introduction, and carefully borne in mind. The progress of the speculum, as it passes into the vagina, should be watched with the eye, and any mucus or pus which may conceal the view of the parts which it has reached, wiped away, before the valves are expanded. The smooth surface of the os, and its resistance to pressure with the sound, will indicate its appearance at the end of the speculum; and it is only when it is ascertained that it has been reached that the branches should be opened.

Whatever speculum be used for an examination, to render it satisfactory, the entire cervix should be brought within the field of the instrument, and in a sufficiently good light to render evident the most trifling morbid change in the local state of the organ. Although generally an easy operation, the satisfactory introduction of the speculum is not always so. In some instances, indeed, owing to narrowness of the vaginal outlet, or to malposition of the cervix, it becomes most difficult to effect, and requires great habit and skill.

The uterine sound, which is here delineated, is a very useful instrument in the diagnosis of diseases of the uterus. The profession are indebted to Professor Simpson for its application to uterine pathology; the idea, although very simple, not having occurred to any previous practitioner. The uterine sound is merely a graduated metallic bougie, with a handle. The inches and half inches are figured; and two inches and a half from the end there is a small protuberance, which marks the depth of the uterine and cervical cavities in

the healthy state. In examining a patient with the sound, in order to ascertain whether it passes freely through the cervical cavity, and enters the uterus, it is very necessary to be certain that it really does penetrate as far as this protuberance. The fact of the operator being able to replace the womb, or to turn it upwards, by no means proves that such is the case, the purchase obtained on the uterus when it only enters as far as the os internum,—that is, one inch and a half, or one inch and three quarters,—being quite sufficient to enable the practitioner to accomplish this. In order, therefore, to be quite certain, he should carefully ascertain, by the touch or the eye, that the sound has really entered above two inches. I am convinced that, for want of care in ascertaining this point, errors are continually made, even by those who are in the constant habit of using the sound. It is generally considered that it has passed into the uterine cavity if the womb can be raised on it, when in reality, as we have seen, it may have only reached the os internum. I have witnessed this mistake repeatedly.

The sound should not be introduced into the cavity of the uterus, in my opinion, except as a necessary means of diagnosis. Its contact with the lining membrane of the uterine cavity is frequently attended with pain, and often by nausea, faintness, and a slight loss of blood. This leads me to conclude that the internal stem of Dr. Simpson's permanent pessary does not, generally speaking, reach the uterine cavity, but merely remains in contact with the mucous membrane of the cervical cavity, which is infinitely less sensitive.

The uterine sound is also useful in bringing the cervix fully into view, when only partially within the field of the speculum; and to depress the lips of the open os uteri, so as to allow the eye to penetrate and to ascertain how far the morbid dilatation, the result of inflammation, reaches. In the absence of the uterine sound, a common bougie will answer the same purpose.

SYNOPSIS

OF THREE HUNDRED CASES PRESENTING UTERINE SYMPTOMS, TREATED AT THE WESTERN GENERAL DISPENSARY, BETWEEN JULY, 1846, AND MARCH, 1849.

(*See page* 36, *et seq.*)

In the following Table, I have adopted, for the sake of brevity, terms which I wish to be taken in a general sense, and to be understood to convey more than they imply absolutely. Thus the word "painfully," applied to menstruation, means, that, physiologically, menstruation is, and always has been, attended with considerable pain, and anomalously scanty or abundant, frequent or rare. Whereas, "easily" means, that it is and has been free from any of these physiological peculiarities; and "irregularly," that its manifestation is irregular, although unaccompanied by marked pain. By "uterine pains," I wish to imply, generally, the presence of all the pains—lumbar, ovarian, hypogastric, &c.—to which uterine disease gives rise; if any one pain is named, that it exists alone. By "debility," I mean the general sympathetic reactions on the functions of organic life, and more especially on those of digestion and nutrition which occasion it. The term "anemia" merely indicates these reactions to exist in an extreme degree. "Leucorrhea" implies a non-sanguinolent vaginal discharge of mucus or pus.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1846. July. 1	35	... ...	Married; ten labours; several abortions.	Inflammation; ulceration, and hypertrophy of cervix.	Flooding, leucorrhea, partial prolapsus, debility.
2	22	... ...	Married at 18; one labour; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, lumbar and ovarian pains.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1846. July. 3	30	Menstruated at 13, easily	Married at 26; sterile.	Inflammation and hypertrophy of cervix.	Leucorrhea, lumbar and ovarian pains.
4	30	... ...	Married: four labours.	Inflammation and ulceration of cervix.	Leucorrhea and lumbar pains since a labour, 3 months ago.
5	38	... ...	Married; seven labours.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhea since last confinement, 3 years ago.
6	31	Menstruated at 18, easily.	Married; two labours.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, leucorrhea since last labour, 8 years ago.
7	32	Menstruated at 12, irregularly.	Married at 24; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, leucorrhea, dysmenorrhea.
8	38	Menstruated at 13, easily.	Married at 19; one labour at 20.	Fibrous tumour; os uteri ulcerated.	Flooding, leucorrhea.
Aug. 9	18	Menstruated at 11, easily,	Married at 16; one abortion; one labour.	Inflammation and ulceration of cervix; vaginitis.	Uterine and ovarian pains; confined five weeks; ill since miscarriage.
10	31	Menstruated at 10, painfully.	Married at 18; three labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhea, dysmenorrhea; ill since first labour.
11	32	Menstruated at 16, painfully.	Married at 19; one labour; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, dysmenorrhea; ill since abortion, at 22.
12	53	Menstruated at 20.	Single	Menorrhagia ...	Flooding at cessation of menses; leucorrhea.
13	42	... ...	Married; five labours.	Inflammation and ulceration of cervix; pregnant four months.	Leucorrhea; severe abdominal and lumbar pains.
14	26	Menstruated at 14, painfully.	Married at 17; sterile.	Inflammation, excoriation, hypertroph of cervix, pseudo-membranes.	Uterine pain, hysteria, nervous dysphagia.
15	28	Menstruated at 14, painfully.	Married at 20; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Extreme debility; pessary; very ill since abortion, at 20.
16	30	Menstruated at 17, easily.	Married at 18; three labours.	Inflammation and excoriation; pregnant two months.	Leucorrhea, uterine pains; ill since first labour.
17	30	Menstruated at 10, painfully.	Married at 19; Three labours, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, dysmenorrhea, menorrhagia; very ill since abortion, at 24.
18	30	Menstruated at 17, easily.	Married at 25; three labours; two abortions.	Inflammation and ulceration of cervix; procidentia.	Leucorrhea, uterine pains, procidentia.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1846. Aug. 19	47	Menstruated at 12, easily.	Married at 23; six labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, dysmenorrhea; ill since last labour, 4 years ago.
20	22	Menstruated at 10.	Married at 20; one labour.	Inflammation and ulceration of cervix; vaginitis, syphilitic roseola.	Purulent discharge, uterine pains.
Sept. 21	27	Menstruated at 14, painfully.	Married at 24; three labours.	Inflammation and ulceration of cervix.	Flooding, leucorrhea, uterine pains, debility; ill since first labour.
22	42	Menstruated at 16.	Married at 20; four labours, several abortions.	Inflammation and ulceration of cervix; procidentia.	Menorrhagia; menses irregular; extreme debility.
23	46	Menstruated at 15, easily.	Married at 19; five labours.	Inflammation, ulceration, and hypertrophy of cervix; cause, gonorrhea.	Leucorrhea, uterine pains; menses irregular; debility.
24	30	Menstruated at 14, easily.	Married at 19; one labour.	Inflammation, ulceration, and hypertrophy of cervix; pseudo-membranes.	Uterine pains; ill since labour, at 21.
25	47	Menstruated at 13.	Married; three labours.	Inflammation and enlargement of cervix; cause, gonorrhea.	Leucorrhea, uterine pains; ill 12 months.
Oct. 26	24	Menstruated at 14, painfully.	Married at 18; two labours.	Inflammation and ulceration of cervix; pregnant five months.	Leucorrhea, uterine pains; ill since previous labour, eighteen months ago.
27	33	Menstruated at 17, easily.	Married at 23; four labours; thirteen abortions.	Inflammation, ulceration, extreme hypertrophy of cervix; pregnant two months.	Flooding, leucorrhea, uterine pains, anemia.
28	33	... ...	Married at 26; abortion at 28.	Chronic metritis, cured by casual abscess of lateral ligaments.	Dysmenorrhea, uterine pains; ill since abortion.
29	26	Menstruated at 12, painfully.	Married at 23; sterile.	Inflammation, ulceration, and extreme hypertrophy of cervix.	Leucorrhea, dysmenorrhea, uterine pains; bearing-down.
30	35	Menstruated at 16, painfully.	Married at 19; two labours.	Inflammation and ulceration of cervix.	Amenorrhea; dorsal pain.
Nov. 31	48	Menstruated at 15.	Married at 17; seven labours, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, uterine pains; ill since last labour, 7 years ago.
32	35	Menstruated at 11, easily.	Married at 27; two labours; three abortions.	Inflammation, ulceration, hypertrophy of cervix.	Dysmenorrhea, uterine pains, leucorrhea; ill since last labour, 4 years ago.

	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1846. Nov. 33	49	Menstruated at 17, painfully.	Married at 20; eight labours.	Inflammation, ulceration, and hypertrophy, lacerations, simulating cancer of cervix.	Flooding, severe uterine pains, leucorrhea, anemia.
34	43	Menstruated at 17.	Married at 40; sterile.	Idiopathic hemorrhage.	Menorrhagia, hemorrhage in interval of menses; uterus healthy.
Dec. 35	23	Menstruated at 15, painfully.	Virgin	Abscess of lateral ligaments.	Dysentery, dysmenorrhea, uterine pains.
36	51	Menses regular, until within last year.	Married; ten labours; last 12 years ago.	Inflammation and ulceration of cervix.	Dorsal pain, bearing-down, leucorrhea; ill a year.
37	28	Menstruated at 13, irregular and profuse.	Married at 17; six labours; three abortions.	Inflammation and ulceration of cervix.	Uterine pains, bearing-down, leucorrhea, dysmenorrhea.
38	33	Menstruation easy.	Married at 25; sterile.	Inflammation and ulceration of cervix, hypertrophy of liver.	Uterine pains; dysmenorrhea, leucorrhea; ill 3 years.
39	...	... ...	Married; has had several labours.	Procidentia uteri, extensive ulceration and hypertrophy of cervix.	
40	36	... ...	Married; several labours.	Inflammation, ulceration, and hypertrophy of cervix; pregnant two months.	Ill since a bad labour, 6 months ago.
1847. Jan. 41	34	Menstruated at 15, painfully.	Married at 26; four labours.	Abortion of mole, inflammation, and ulceration of cervix.	Flooding, uterine pains, anemia; ill 2 years since last labour.
42	38	Menstruated at 13, easily.	Married at 20; eight labours, one abortion.	Inflammation and ulceration of cervix.	Hemorrhage, nearly incessant for 7 months, probably after abortion; anemia.
43	25	Menstruated at 15, painfully.	Married at 24; one labour.	Inflammation and ulceration of cervix.	Extreme flooding since labour, 5 weeks ago; dorsal pain; prolapsus.
44	23	Menstruated at 16, painfully.	Married at 22; sterile.	Inflammation and excoriation of cervix.	Menorrhagia, leucorrhea, uterine pains; ill ever since marriage.
45	35	Menstruated at 19, easily.	Married at 30; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, prolapsus, uterine pains, anemia; ill since abortion, 4 months ago, and before.
46	38	Menstruated at 12, painfully.	Married at 26; sterile.	Inflammation, excoriation, and hypertrophy of cervix.	Uterine pains; bearing-down.
47	46	... ...	Married at 42; one labour.	Procidentia uteri, excoriation of cervix.	Dragging uterine pains.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Jan. 48	30	... ...	Married at 17; three labours.	Inflammation, ulceration, and extreme hypertrophy of cervix.	Uterine pains, bearing-down, anemia; ill since last labour, at 24.
49	35	Menstruated at 13, painfully.	Married at 19; seven labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix; pregnant.	Uterine pains, prolapsus, leucorrhea, great debility.
Feb. 50	42	Menstruated at 18.	Married at 30; seven labours.	Flooding, probable abortion, inflammation, ulceration, and hypertrophy of cervix.	Flooding, uterine pains, great debility.
51	40	... ...	Married	Inflammation, ulceration, and hypertrophy of cervix; pregnant 4 months.	
52	...	... ...	... ...	Inflammation, ulceration, and hypertrophy of cervix.	
53	...	... ...	... ...	Inflammation and ulceration of cervix.	
54	23	Menstruated at 18, painfully.	Married at 20; sterile.	Inflammation of cervix and its cavity, internal metritis.	Menorrhagia, occasional leucorrhea, uterine pains.
55	27	Menstruated at 11, easily.	Married at 19; sterile.	Inflammation and ulceration of cervix; cause, gonorrhea.	Prolapsus, leucorrhea, uterine pains, anemia; ill 4 years.
56	32	Menstruated at 14, painfully.	Married at 21; two labours; three abortions.	Inflammation and ulceration of cervix; pregnant four months.	Uterine pains, leucorrhea, debility; ill since first labour.
57	35	Menstruated at 13, painfully.	Married at 19; three labours; several abortions.	Inflammation and ulceration of cervix; cause, turning.	Uterine pains, leucorrhea, debility; ill some years.
58	28	Menstruated at 15, painfully.	Married at 20; three labours.	Procidentia uteri, extensive ulceration of cervix.	Dragging and uterine pains, leucorrhea.
59	45	Menstruated at 13, easily.	Married at 20; nine labours.	Inflammation and ulceration of cervix.	Excessive flooding for many months, leucorrhea, extreme anemia, and retroversion of cervix.
60	50	... ...	Married early; nine labours.	Ulcerated carcinomia uteri.	Flooding, extensive disease, anemia; menses ceased 5 years ago.
March 61	25	Menstruated at 15, easily.	Married at 22; two labours.	Chronic posterior metritis.	Uterine pains, hemorrhage, and retroversion of uterus, anemia; ill since last labour.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. March 62	48	Menstruated at 13, easily.	Married at 32; eight labours; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, menses stopped after flooding; ill since a labour 2 years ago.
63	30	Menstruated at 13, easily.	Married at 25; one labour.	Inflammation, ulceration, and hypertrophy of cervix; partial amaurosis.	Uterine pains and leucorrhea ever since marriage, worse since labour, laceration of cervix.
64	28	... ...	Married early; several labours and abortions.	Inflammation and extensive ulceration of cervix; laceration.	Severe flooding, confined a month, never well since abortion, 18 months ago.
65	45	Menstruated at 14, easily.	Married at 16; two labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea for several years; no pregnancy since abortion, at 24.
66	35	Menstruated at 12, painfully.	Married at 18; seven labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, partial prolapsus, anemia; ill some years, since fourth labour.
67	42	Menstruated at 17, painfully.	Married at 18; five labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; ill some years since; severe flooding, anemia.
68	30	Menstruated at 14, painfully.	Married at 22; three labours; two abortions.	Inflammation and ulceration of cervix.	Flooding of 4 weeks' duration, uterine pains.
69	43	Menstruated at 14, easily.	Married at 21; nine labours; several abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, partial prolapsus, anemia; ill since last labour, 6 years ago.
70	30	Menstruated at 15, easily.	Married at 17; ten labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, anemia; ill since tedious labour, 6 months ago.
71	23	Menstruated at 18, easily.	Married at 19; two abortions; one labour.	Inflammation and ulceration of cervix.	Leucorrhea, partial prolapsus, debility.
72	40	Menstruated at 13, painfully.	Married at 21; ten labours; four abortions.	Inflammation and ulceration of cervix; pregnant 4 months.	Leucorrhea, uterine pains, flooding previous to pregnancy, anemia; ill some years.
73	24	Menstruated at 16, easily.	Married at 20; sterile.	Inflammation and ulceration of cervix; cause, gonorrhea.	Leucorrhea, partial prolapsus, debility.
74	60	... ...	Married early; seventeen labours.	Procidentia uteri, extensive ulceration of cervix.	Leucorrhea, hemorrhage; uterus down since last labour, at 44.
75	56	Menstruated at 12, easily.	Married at 27; three labours; four abortions.	Procidentia uteri, and very extensive ulceration.	Leucorrhea, hemorrhage; uterus down since third labour.
April. 76	41	Menstruated at 11.	Married at 29; five labours.	Procidentia uteri, slight ulceration.	Menorrhagia, uterine pains; uterus down since first labour.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. April. 77	28	Menstruated at 18, irregularly.	Married at 23; sterile.	Inflammation and ulceration of cervix.	Amenorrhea, leucorrhea, uterine pains.
78	35	... ...	Married; several labours.	Small vascular polypus from cavity of os uteri.	
79	39	Menstruated at 11, painfully.	Married at 21; eleven labours; two abortions.	Inflammation and ulceration of cervix, laceration.	Flooding since labour nine weeks ago.
80	36	Menstruated at 19, easily.	Married at 23; seven labours.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, uterine pains; partial prolapsus since last labour, 10 months ago.
81	43	Menstruated at 11, easily.	Married at 24; seven labours.	Ulcerated carcinoma of cervix.	Disease advanced, uterus immovable, vagina compromised; emaciated.
82	40	Menstruated early, irregularly.	Married at 20; sterile.	Small vascular polypus issuing from os, ulceration of its cavity.	Uterine pains, leucorrhea, debility.
83	35	Menstruated at 12, easily.	Married at 18; fourteen labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, dysmenorrhea, partial prolapsus, anemia; ill several years.
84	29	Menstruated at 12, painfully.	Married at 24; four labours.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, uterine pains, partial prolapsus; ill since first labour.
85	29	Menstruated at 11, painfully.	Married at 16; one labour; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Headach, impaired memory, uterine pains, partial prolapsus, extreme anemia; ill since labour, at 17.
86	33	Menstruated at 19, painfully.	Married at 27; four labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, partial prolapsus, cervix retroverted; ill since ceased nursing last child.
May. 87	37	Menstruated at 11, painfully.	Married at 24; seven labours.	Inflammation and ulceration of cervix; pregnant 4 months.	Leucorrhea, uterine pains, debility; ill since last labour, 16 months ago.
88	37	Menstruated at 12, painfully.	Married at 21; one labour; cross birth.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, cervix very retroverted; ill since labour at 22.
89	27	Menstruated at 17, easily.	Virgin	Inflammation and ulceration of cervix.	Dysmenorrhea, leucorrhea, partial prolapsus, dyspepsia, debility; ill 4 years.
90	41	Menstruated at 19, painfully.	Married at 33; three labours.	Procidentia uteri, extensive ulceration, and hypertrophy.	Uterine pains, leucorrhea, and procidentia since last labour, a year ago.
91	39	Menstruated at 15, easily.	Married at 18; one certified abortion after 20 years' marriage.	Inflammation, ulceration, and hypertrophy of cervix.	Sterile 20 years, no uterine symptoms; pregnant; abortion from over-fatigue; since then uterine pains.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. May. 92	39	Menstruated at 12, painfully.	Married at 18; six labours.	Inflammation and ulceration of cervix.	Partial prolapsus, leucorrhea, uterine pains, debility; ill since fifth labour, 4 years ago.
93	35	Menstruated at 20, painfully.	Married at 26; sterile.	Inflammation, ulceration of cervix and its cavity.	Leucorrhea, uterine pains, anemia.
June. 94	35	Menstruated at 15, easily.	Married at 22; three labours.	Procidentia uteri, extensive ulceration.	Menorrhagia, leucorrhea, debility; procidentia 6 months after last labour, some years ago.
95	37	Menstruated at 16, painfully.	Married at 29; sterile.	Fibrous tumour in posterior uterine wall.	Leucorrhea, dysmenorrhea, sound penetrates 3 inches, uterus retroverted; debility.
96	30	Menstruated at 14, painfully.	Married at 21; eight labours; four abortions.	Inflammation and ulceration of cervix, pulmonary tubercles, also tubercle on cervix.	Uterine pains and leucorrhea from first; worse since last labour, 2½ years ago; advanced phthisis.
97	27	Menstruated at 16, easily.	Virgin	Amenorrhea, menses disappeared gradually, 3 years ago.	No uterine symptoms; uterus and cervix healthy to touch; delicate; partial amaurosis.
98	25	Menstruated at 13, easily.	Married at 21; two labours.	Inflammation and ulceration of cervix; pregnant 2 months.	Uterine pains, leucorrhea since ceased nursing, 5 months ago.
99	54	Menstruated at 18, easily.	Married at 30; four labours.	Inflammation and ulceration of cervix; cause, gonorrhea.	Lumbar pain, leucorrhea; menses ceased at 50; uterine symptoms since then; worse latterly.
100	21	Menstruated at 17, irregularly.	Virgin	Inflammation of cervix and vagina.	Leucorrhea, uterine pains, debility.
101	47	Menstruated at 13, easily.	Married at 25; fifteen labours; three abortions.	Ulcerated carcinoma of cervix.	Uterine pains, offensive discharge, cachectic; ill 9 months; still menstruated.
102	36	Menstruated at 13, painfully.	Married at 20; five labours; one abortion.	Inflammation and ulceration of cervix.	Flooding, uterine pains, leucorrhea, partial prolapsus.
July. 103	26	Menstruated at 18, painfully.	Married at 22; sterile.	Inflammation and ulceration of cervix; cause; probably gonorrhea.	Leucorrhea, uterine pains, partial prolapsus, anemia.
104	35	Menstruated at 17, irregularly.	Virgin	Amenorrhea for last 12 months.	Debility, no uterine symptoms.
105	30	Menstruated at 19, painfully.	Married at 21; five labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, partial prolapsus; ill since last labour, 11 months ago.
106	45	Menstruated at 18, painfully.	Virgin	Ovarian dropsy, advanced.	Menstruation ceased 6 years ago; no uterine lesion, anemia, ovarian tumour perceived 10 years ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. July.					
107	20	Menstruated at 17, irregularly.	Virgin	Menorrhagia, idiopathic.	Menses every fortnight, last a week, since 19; no other uterine symptoms, no examination.
108	49	Menstruated at 12, painfully.	Married at 16; five labours.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, uterine pains, debility.
109	34	Menstruated at 14, painfully.	Married at 15; one labour at 17.	Vascular polypus issuing from os uteri, inflammation, and ulceration.	Uterine pains, leucorrhea, anemia since labour.
110	30	Menstruated at 16, easily.	Married at 17; six labours; eight abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, debility, flooding; ill several years.
111	21	... ...	Married at 19; one labour.	Abscess of lateral ligaments, opening externally.	Confined 6 weeks ago at Marylebone Infirmary; acute inflammation from over exertion on return home.
Aug.					
112	29	Menstruated at 13, painfully.	Married at 17; two labours.	Inflammation and ulceration of cervix.	Uterine pain; leucorrhea, debility; ill since first labour, at 19.
113	44	Menstruated at 19, easily.	Married at 19; eleven labours, five abortions.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Uterine pains, leucorrhea, debility; ill five years, since first abortion.
114	20	Menstruated at 15, painfully.	Married at 20; three labours, three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, uterine pains, leucorrhea, anemia; ill since first abortion 5 months after marriage.
115	32	Menstruated at 15, painfully.	Married at 16; five labours; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, debility; ill since labour, at 23, since which the abortion.
116	24	Menstruated at 13, painfully.	Married at 20; one labour; one miscarriage.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Flooding, uterine pains, leucorrhea; ill since labour, at 20, worse since abortion, four months ago.
117	27	Menstruated at 13, easily.	Married at 19; two labours; five abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, partial prolapsus, debility; ill since second labour, at 21, since which, abortions.
118	28	Menstruated at 13, easily.	Married at 17; eight labours; four abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, menorrhagia, flooding, leucorrhea, partial prolapsus, debility, continued vomiting, ill some years.
119	26	Menstruated at 16, painfully.	Married at 26; one labour.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhea, leucorrhea, uterine pains, partial prolapsus, debility; ill since first labour, at 24.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Aug. 120	30	Menstruated at 14, irregularly.	Married at 21; four labours; one miscarriage.	Inflammation and ulceration of cervix.	Flooding, uterine pains, extreme anemia; ill since abortion three months ago, from fall.
121	42	Menstruated at 12, easily.	Married at 20; six labours; four abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, partial prolapsus, debility; ill since last labour, four years ago, since which, three abortions.
122	57	Menstruated at 14, irregularly.	Married at 26; four labours.	Ulcerated cancer of cervix.	Hemorrhage, offensive discharge, slight uterine pains; ill for last eight months only; appears in health; disease advanced.
123	47	Menstruated at 19, painfully.	Married at 24; eight labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, uterine pains, partial prolapsus, debility; ill since last labour, 6 years ago, since which, abortions.
Sept. 124	40	Menstruated at 13, easily.	Married at 27; six labours.	Small vascular polypus of os uteri, ulceration around and inside os.	Leucorrhea, uterine pains, menorrhagia; ill for 3 years, since contracted gonorrhea from husband.
125	37	Menstruated at 15, painfully.	Married at 29; four labours.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhea; ill since last labour, 3 months ago.
126	46	Menstruated at 18.	Married at 23; two labours.	Ovarian dropsy, advanced.	No uterine symptoms; menses left a year ago, when first perceived, tumour, great debility.
127	46	Menstruated at 17, painfully.	Married at 29; seven labours.	Inflammation, ulceration, and hypertrophy of cervix, lacerations.	Uterine pains, leucorrhea, debility; ill since last labour, four years ago.
128	44	Menstruated at 16, easily.	Married at 25; one labour.	Inflammation, and ulceration of cervix.	Flooding and leucorrhea the only symptoms; came on 10 weeks ago, after menses; no uterine symptoms since labour, at 26.
129	44	Menstruated at 17, easily.	Married at 32; one labour; widow since 34.	Procidentia uteri; ulceration of cervix.	Uterus prolapsed six months ago, on lifting weight; no previous uterine symptoms.
Oct. 130	50	Menstruated at 11, with flooding, easily.	Married at 18; four labours; three abortions.	Chronic metritis.	Menorrhagia, flooding, especially since last abortion, 6 months ago; uterus voluminous, painful, retroverted.
131	60	Menstruated at 15, painfully.	Married at 20; eleven labours; one abortion.	Small vascular polypus; ulceration of os uteri.	Uterine pains; the lumbar very severe; menses ceased at 54; ill since 47.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Oct. 132	36	Menstruated at 14, painfully.	Married at 19; three labours; one abortion.	Inflammation and ulceration of cervix; leucorrhea.	Uterine pains; ill since beginning of last pregnancy, of which aborted, some years ago.
133	28	Menstruated at 16, painfully.	Married at 25; two labours.	Inflammation and ulceration of cervix.	Partial prolapsus, uterine pains, debility, pulmonary phthisis.
134	40	Menstruated at 13, easily.	Married at 20; several labours; three abortions.	Procidentia uteri; extensive ulceration of cervix.	Leucorrhea, uterine pains, uterus prolapsed gradually after last labour, 7 years ago; ill since then.
135	30	Menstruated at 18, painfully.	Married at 20; one miscarriage four months afterwards.	Chronic metritis...	Uterus retroverted, leucorrhea, pelvic weight, debility; ill since abortion; much worse during menstruation.
136	37	Menstruated at 16, easily.	Married at 28; two labours; two abortions.	Inflammatory hypertrophy of uterus and cervix; ulceration of the latter.	Uterine pains, bearing-down, debility, uterus retroverted.
137	45	Menstruated at 15, painfully.	Virgin	Fibrous tumour of uterus.	Uterine pains, menses natural; great uterine enlargement, perceived 2 years ago; sound penetrates 3 inches; debility.
138	39	Menstruated at 15, easily.	Married at 15; four labours; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhea; ill since abortion, 10 months ago, which she attributes to gonorrhea, secondary syphilis.
139	26	Menstruated at 14, easily.	Married at 19; three labours; several abortions.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Flooding, leucorrhea, uterine pains, anemia, fever; ill since last labour, 3 years ago, since which, abortions.
140	40	Menstruated at 14, easily.	Married at 21; five abortions; one labour.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, bearing-down, debility, deafness; ill 3 years only; a widow 9 years.
141	23	Menstruated at 14, painfully.	Married at 17; six labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, lumbar weakness, only since last labour, a year ago.
Nov. 142	26	Menstruated at 20, easily and regularly.	Virgin	Amenorrhea ...	Menses stopped 18 months ago suddenly, from sea voyage; no uterine symptoms except slight dorsal weakness, debility; no examination.
143	31	Menstruated at 15, painfully.	Virgin	Inflammation of cervix and vagina.	Leucorrhea; great debility; dysmenorrhea increased; ill 4 years.
144	44	... ...	Married early; several labours.	Procidentia uteri, ulceration of cervix.	

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Nov. 145	25	Menstruated at 13, painfully.	Virgin	Dysmenorrhea from contraction of cervical cavity.	Within last 3 years dysmenorrhea excessive; otherwise no uterine symptoms or lesions; entirely removed by dilatation.
146	46	... ...	... ...	Large fibrous tumour of uterus.	Flooding.
147	18	Menstruated at 15, easily.	Married at 18 ...	Inflammation and ulceration of cervix.	Flooding; uterine pains since abortion, 5 weeks ago, from fall.
148	29	Menstruated at 12, painfully.	Married at 19; five labours, one abortion.	Inflammation and ulceration of cervix; pregnant 4 months.	Flooding, uterine pains, extreme debility; ill since last labour, 2 years ago, since which the abortion.
149	47	Menstruated at 15, painfully.	Married at 23; ten labours, three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, hemorrhage, debility; ill 10 years; worse since last abortion a year ago.
150	23	Menstruated at 14, once, and at 18 months.	Virgin	Amenorrhea (idiopathic.)	No uterine symptoms; no examination; not chlorotic, weak, but health tolerable.
151	22	Menstruated at 16, easily.	Married 2 months ago.	Inflammation and ulceration of cervix.	Leucorrhea, dysmenorrhea, and uterine pains existing 12 months before marriage.
152	30	... ...	Married early; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhea, leucorrhea, uterine pains, retroversion of cervix, debility.
153	28	Menstruated at 20, irregularly.	Married at 24; two labours.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Uterine pains, dysmenorrhea, leucorrhea, retroversion of cervix, anemia; ill since last labour, 2½ years ago.
154	27	Menstruated at 13, painfully.	Married at 25; one abortion.	Inflammation and ulceration of cervix; pregnant 8 months.	Leucorrhea, hemorrhage, uterine pains; ill since abortion, 15 months ago.
155	28	Menstruated at 15, painfully.	Married at 20; one labour; widow since 22.	Ovarian dropsy; slight ulceration of cervix.	Perceived small tumour in right ovarian region 5 years ago; since almost stationary; menses irregular; uterine pains.
156	34	Menstruated at 16, painfully.	Married at 24; two labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, debility; ill 6 years since last labour, when placenta retained.
157	46	Menstruated at 18, regularly.	Married at 20; four labours; several abortions.	Procidentia uteri, extensive ulceration.	Uterus partly prolapsed since first labour, completely since last abortion, 4 months ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Nov. 158	30	Menstruated at 18, painfully.	Married at 28; one abortion.	Inflammation and ulceration of cervix; pregnant four months.	Uterine pains, leucorrhea, debility; ill since abortion, 10 months ago.
159	32	Menstruated at 14, painfully.	Married at 17; ten labours; two abortions.	Procidentia uteri, slight ulceration.	Leucorrhea, debility, uterus prolapsed since last labour, a cross-birth, 3 years ago.
160	26	... ...	Married early; one labour.	Inflammation, ulceration, and hypertrophy of cervix, pseudo-membranous patches.	Leucorrhea, uterine pains, cervix retroverted.
Dec. 161	28	Menstruated at 17, easily.	Married at 26.	Inflamed cervix and vagina.	Leucorrhea, uterine pains, bearing-down; ill since marriage.
162	20	Menstruated at 15, regularly.	Married seven months.	Inflammation and ulceration of cervix; chlorosis.	Leucorrhea and uterine pains for some time before marriage; all the symptoms of confirmed chlorosis.
163	33	Menstruated at 15, regularly.	Married at 21; seven labours.	Inflammation and ulceration of cervix.	Leucorrhea, uterine pains, debility; ill for years; muscular band or contraction two-thirds of circumference of vagina, in upper region.
164	49	Menstruated at 18, easily.	Married at 25; seven labours.	Inflammation and hypertrophy of cervix.	Menses stopped for 7 months; erroneously thinks she is pregnant; uterine pains, leucorrhea.
165	31	Menstruated at 14, easily.	Married at 18; six labours.	Inflammation and ulceration of cervix; pregnant seven months.	Uterine pains, leucorrhea, bearing-down, debility; ill since last labour, 3 years ago.
166	40	Menstruated at 15, painfully.	Married at 16; sterile.	Ulcerated cancer of the uterus.	Lumbar pain, and offensive discharge, only within the last 2 months; vagina compromised.
167	41	Menstruated at 13, painfully.	Married at 30; five labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, bearing-down; ill since last labour, 3 years ago.
168	42	Menstruated at 10, easily.	Married at 21; four labours.	Inflammation and ulceration of cervix.	Dysmenorrhea, leucorrhea; ill since last labour, a cross-birth, 7 years ago.
169	33	Menstruated at 15, irregularly.	Married at 23; one labour; three abortions.	Inflammation, ulceration, and hypertrophy of cervix; pregnant three months.	Flooding, uterine pains, anemia; ill since labour at 24, since which abortions.
1848. Jan. 170	21	Menstruated at 12, easily.	Married at 18; two labours.	Inflammation and ulceration of cervix.	Uterine pains, hemorrhage, debility; ill since last labour, 4 months ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Jan. 171	20	Menstruated at 18, irregularly.	Virgin	Inflammation and ulceration of cervix.	Amenorrhea for last 5 months; leucorrhea; slight uterine pains; debility; erroneously supposes she is pregnant.
172	50	... ...	Married; several labours.	A large fibrous tumour of uterus.	Flooding.
173	38	Menstruated at 20, irregularly.	Married at 21; eleven labours; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; sanguinolent discharge; ill some years; placenta retained 6 weeks after last abortion.
Feb. 174	32	Menstruated at 12, painfully.	Married at 19; four labours.	Procidentia uteri; ulceration of cervix.	Uterine pains, leucorrhea, and prolapsus, since last labour; a cross-birth, 8 yrs. ago.
175	29	Menstruated at 14, painfully.	Married at 25; four labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; leucorrhea since a shoulder-presentation, 13 months ago; 6 weeks ago attended her for same presentation.
176	26	Menstruated at 12, easily.	Married at 20; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains and debility since marriage.
177	38	Menstruated at 18, easily.	Married at 26; one labour; two abortions.	Metritis	No uterine symptoms until a few weeks ago, then of acute metritis; now pus oozes from uterine cavity.
178	24	Menstruated at 14, easily.	Married at 19; one labour.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Leucorrhea, lumbar pain, bearing-down, and debility since labour at 20; placenta retained.
179	55	Menstruated at 17, easily.	Married at 26; seven labours; one abortion.	Corroding ulcer of cervix.	No uterine symptoms previous to cessation of menses, at 52; since then, sanguinolent discharge, or hemorrhage anemia.
180	51	Menstruated at 16, regularly.	Married at 25; one labour.	Small vascular polypus of os uteri; ulceration.	No uterine symptoms until a year ago; since then leucorrhea and uterine pains.
181	29	Menstruated at 16, easily.	Married at 21; three labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, dysmenorrhea, lumbar pain, debility; ill two years since last confinement; a recent abortion.
182	30	... ...	Married early; several labours.	Inflammation and ulceration of cervix; 7 months pregnant.	Severe uterine pains, leucorrhea.
Mar. 183	39	Menstruated at 14, painfully.	Married at 21; sterile.	Inflammation and ulceration of cervix.	No uterine symptoms until six years ago; since, uterine pains, leucorrhea, and debility; menses more painful.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. March 184	52	Menstruated at 11, painfully.	Married at 20; two labours; one abortion.	Ulcerated cancer of the neck of cervix uteri.	No uterine symptoms till between 40 and 50, when menses left; for 16 months sanguinolent discharge, slight pains in hypogastrium, debility.
185	22	Menstruated at 17, painfully.	Married at 21; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhea, breast painful, abortion 3 months ago, ill previous to marriage.
186	35	Menstruated at 17, painfully.	Virgin	Small vascular polypus of os uteri; ulceration.	Uterine pains, leucorrhea, debility for 4 years.
187	35	Menstruated at 14, painfully.	Married at 19; five labours.	Inflammation and ulceration, and hypertrophy of cervix.	Uterine pains for some years, worse since last labour, 3 years ago.
188	21	Menstruated at 14, painfully.	Married at 19; two labours.	Inflammation and ulceration of cervix; pregnant 7 months.	Uterine pains, leucorrhea since last labour, a cross-birth.
189	30	Menstruated at 14.	Married at 24; three labours; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Slight uterine pains, leucorrhea, anemia; cervix retroverted; ill nearly ever since marriage.
190	33	Menstruated at 15, easily.	Married at 21; three labours.	Inflammation and ulceration of cervix.	Leucorrhea, slight lumbar pains; apparently in tolerable health.
191	39	Menstruated at 18, easily.	Married at 19; ten labours; one abortion.	Inflammation and ulceration of cervix.	Leucorrhea, uterine pains; debility since middle of last pregnancy.
192	51	Menstruated at 18, at first irregularly.	Married at 30; five labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains and debility since abortion, six years ago; still regular.
193	33	Menstruated at 12, painfully.	Married at 24; two labours.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, leucorrhea, debility; ill since last labour, 2 years ago.
194	31	... ...	Married	Inflammation and ulceration of cervix.	Amenorrhea.
195	47	Menstruated at 13, regularly.	Married at 18; one labour; widow at 25.	Fibrous tumour of uterus, ulceration of os.	Never well since labour; treated many years for metritis; latterly flooding, uterine pains.
196	24	Menstruated early, painfully.	Married at 20; one labour.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhea, uterine pains, anemia.
197	50	Menstruated at 13, painfully.	Married at 22; four labours; many abortions.	Inflammation, ulceration, and hypertrophy.	Leucorrhea, uterine pains; debility since an abortion, 8 years ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. March 198	53	Menstruated at 11, painfully; ceased at 47.	Married at 21; one labour.	Procidentia uteri...	Uterus prolapsed after an effort 4 years ago; no uterine lesions or symptoms.
199	34	Menstruated at 11, painfully.	Married at 21; five labours, several abortions.	Inflammation and ulceration of cervix; pregnant five months.	Very severe lumbar pains, leucorrhea, ill some time; worse since pregnancy.
April. 200	35	Menstruated at 18, easily.	Married at 29; two labours.	Inflammation and ulceration of cervix.	Lumbar weakness, great debility; ill since last labour, ten months ago.
201	26	Menstruated at 14, painfully.	Virgin	Inflammation and ulceration of cervix.	Uterine pains, leucorrhea; ill four months, since menses stopped from damp feet.
202	28	Menstruated at 15, painfully	Married at 25; two labours.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhea, debility; ill since last labour, five months ago.
203	30	Menstruated at 13, painfully.	Married at 21; two labours, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, menses irregular, partial prolapsus; ill some years.
204	27	Menstruated at 14, painfully.	Married at 23; one labour.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, menses irregular, debility; ill since labour, at 24.
205	19	Menstruated at 12, painfully.	Married at 18; one labour.	Inflammation and ulceration of cervix.	Flooding, uterine pains, leucorrhea, debility, ill before marriage, worse during and since pregnancy.
206	32	Menstruated at 13, painfully.	Married at 22; sterile.	Congestion of cervix and vagina.	Leucorrhea, dorsal pain, debility.
May. 207	29	Menstruated at 17, painfully.	Married at 24; two labours.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhea, debility, rheumatic gout; ill since marriage.
208	28	Menstruated at 14, regularly.	Married at 21; five labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, anemia; ill since fourth labour, placenta retained.
209	52	Menstruated at 13.	Married early; twelve labours, five abortions.	Procidentia uteri, slight ulceration.	Uterus prolapsed since last labour six years ago, uterine pains, debility.
210	34	Menstruated at 11, regularly.	Married at 20; three labours.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhea, uterine pains, leucorrhea, debility; ill since first labour, at 21.
211	50	Ceased to menstruate at 43.	Married; several children.	Inflammation and ulceration of cervix.	Leucorrhea, for two years.
212	47	Menstruated at 15, painfully.	Married at 21; four labours, one abortion.	Procidentia uteri; slight ulceration.	Uterus prolapsed since instrumental labour 15 years ago, uterine pains.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. May. 213	34	Menstruated at 17, painfully.	Virgin	Inflammation and ulceration of cervix.	Leucorrhea, uterine pains, debility; ill above 2 years.
214	28	... ...	Married; one abortion.	Inflammation and ulceration of cervix.	
215	53	Ceased to menstruate at 47.	Married early; six labours.	Procidentia uteri.	Uterus prolapsed for 20 years; last labour at 43.
216	26	Menstruated at 14, painfully.	Married at 20; two labours.	Inflammation and ulceration of cervix.	Flooding, uterine pains, leucorrhea, debility; ill since first labour at 21.
217	33	Menstruated at 15, painfully.	Married at 30; sterile.	Inflammation and ulceration of cervix.	Ovarian pain, leucorrhea.
June. 218	47	Menstruated at 19, easily, ceased at 44.	Married at 27; seven labours, many abortions.	Procidentia uteri; extensive ulceration.	Uterus prolapsed above nine years, uterine pains, leucorrhea, debility.
219	24	Menstruated at 11, painfully.	Married at 19; three labours.	Inflammation and ulceration of cervix; laceration.	Uterine pains, partial prolapsus, debility; ill since first labour; worse since last.
220	40	Menstruated at 15, regularly.	Married at 22; five labours, two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, debility; ill many years.
221	32	Menstruated at 15, painfully.	Married at 21; six labours.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Leucorrhea, dorsal pain, anemia; ill some years, worse since last labour, 15 months ago.
222	40	Menstruated at 15, regularly.	Virgin	Large fibrous tumour of uterus.	Menorrhagia for 7 years, uterine enlargement perceived 3 years ago; latterly flooding, anemia.
223	26	Menstruated at 12, painfully.	Married at 25; one labour.	Inflammation and ulceration of cervix.	Hemorrhagia, uterine pains, debility; ill during pregnancy, which was followed by mild peritonitis.
224	35	Menstruated at 18, painfully.	Married at 25; five labours, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, anemia; ill since fourth labour, 5 years ago.
225	36	Menstruated at 14, regularly.	Married at 24; six labours, one miscarriage.	Inflammation and ulceration of cervix.	Hemorrhagia since abortion, 6 weeks ago, uterine pains, anemia; ill some months before.
July. 226	31	Menstruated at 16, regularly.	Married at 20; one labour.	Inflammation and ulceration of cervix.	Leucorrhea, hypogastric pains, debility; ill a year.
227	30	Menstruated at 12, painfully.	Married at 29; one labour.	Inflammation and ulceration of cervix.	Hemorrhage since labour, 2 months ago, uterine pains.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. July. 228	36	Menstruated at 16, regularly.	Married at 25; sterile.	Ovarian tumour of considerable size.	Menses irregular of late, uterus healthy, no uterine symptoms: tumour first perceived 6 years ago.
229	52	Menstruated at 15, easily; menses ceased at 49.	Married at 20; two labours.	Ulcerated cancer of cervix.	No uterine symptoms, until 6 months ago, then flooding, uterine pains, uterus fixed, vagina compromised.
230	38	Menstruated at 14, regularly.	Married at 28; one labour; one abortion.	Inflammation of cavity of cervix.	Leucorrhea, uterine pains; ill since abortion, at 30.
231	48	Menstruated at 14, painfully; menses ceased at 44.	Married at 18; sterile.	Vascular polypus of os uteri.	Uterine pains and leucorrhea, for last six months.
232	27	Menstruated at 15, painfully.	Married at 23; five abortions.	Inflammation and ulceration of cervix.	Hemorrhage since last abortion, five weeks ago; uterine pains, leucorrhea, debility.
233	35	Menstruated at 14, easily.	Married at 28; one labour; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhea, uterine pains, leucorrhea; ill since abortion, 3 years ago.
234	25	Menstruated at 15, regularly.	Married at 23; one labour.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, ovarian pain, debility.
235	33	Menstruated at 13, easily.	Married at 18; five labours.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, weakness in back, anemia; ill some years.
236	24	... ...	Married early; several labours.	Inflammation, ulceration, and hypertrophy of cervix.	
237	26	Menstruated at 11, easily.	Married at 23; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhea, leucorrhea, dorsal pain, debility; ill since abortion at 24.
238	32	... ...	Married.	Ulcerated cancer of uterus.	Flooding for 4 months.
Aug. 239	42	Menstruated at 14, painfully.	Married at 22; one abortion.	Inflammation of cervix and its cavity.	Uterine pain, debility; ill since abortion, at 22.
240	26	Menstruated at 16, regularly.	Married at 19; one labour.	Inflammation and ulceration of cervix.	Leucorrhea, bearing-down, debility; ill since ceased nursing, at 21.
241	43	... ...	Married; one labour.	Inflammation and ulceration of cervix; lacerations.	
242	38	... ...	Married early; three abortions.	Ulcerated cancer of uterus.	Uterus fixed; vagina compromised.
243	53	... ...	Married early; several labours.	Procidentia uteri.	Uterus prolapsed for 8 years; last labour at 28.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Sept. 244	43	Menstruated at 15, easily.	Married at 21; eight labours; two abortions.	Inflammation and ulceration of cervix.	Dorsal pains for years; worse since last labour, two years ago; with leucorrhea & debility.
245	22	Menstruated at 13, painfully.	Married at 21; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, hemorrhage, uterine pains, anemia; suspicious cutaneous eruption.
246	26	Menstruated at 12, easily.	Married at 15; three labours before 20.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; leucorrhea, debility; ill nearly ever since last labour.
247	21	Menstruated at 18, painfully.	Virgin	Ovaritis	Pain and swelling in left ovarian region, fever, menses suppression, second day, by wet feet.
248	30	Menstruated at 18, easily.	Virgin	Inflammation, and ulceration of cervix.	Dysuria and vesical irritation; uterine pains, bearing-down; ill six years.
249	36	Menstruated at 17, painfully.	Married at 19; eight labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, hemorrhage, dorsal weakness; gonorrhea four years ago; last pregnancy 8 years ago.
250	38	Menstruated at 13, painfully.	Married at 22; seven labours; two abortions.	Procidentia uteri; pregnant 3 months.	Uterus prolapsed some years ago, after fifth labour.
251	26	Menstruated at 16, irregularly.	Married at 17; four labours; one abortion.	Inflammation and ulceration of cervix.	Leucorrhea, bearing-down, debility, since last labour, 7 weeks ago.
252	44	Menstruated at 14, painfully.	Married at 24; seven labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pains, leucorrhea, partial prolapsus, debility; ill since last labour, 8 years ago; 1 abortion since.
Oct. 253	41	Menstruated at 12, painfully.	Married at 20; one labour.	Ulcerated cancer of the uterus.	Flooding and offensive discharge for the last six months; no uterine symptoms before; vagina compromised; health still tolerable.
254	30	Menstruated at 10, regularly.	Married at 18; sterile.	Inflammation and slight ulceration of cervix.	Dysmenorrhea, dorsal pains, leucorrhea; ill some years.
255	21	Menstruated at 15, regularly.	Married at 18; one labour; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, hemorrhage, leucorrhea, dorsal pain, partial prolapsus; ill since first labour.
256	32	Menstruated at 13, painfully.	Married at 18; seven labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, dorsal pain, debility; ill since abortion, a year ago.
257	26	Menstruated at 16, regularly.	Virgin	Inflammation of cervix and vagina; hypertrophy of cervix.	Dysmenorrhea, leucorrhea, uterine pains, debility.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Oct. 258	35	Menstruated at 13, painfully.	Married at 16; one labour; several abortions.	Inflammation, ulceration, and hypertrophy of cervix; pregnant two months.	Uterine pains, leucorrhea, great debility.
259	42	Menstruated at 11, painfully.	Married at 17; ten labours; five abortions.	Inflammation and ulceration of cervix; pregnant four months.	Dorsal pain, leucorrhea, partial prolapsus; ill since an abortion, 2 years ago.
260	38	Menstruated at 13, painfully.	Married early; six labours; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, hemorrhage, leucorrhea, dorsal pains, anemia; ill since abortion 6 months ago.
Nov. 261	35	Menstruated at 15, irregularly.	Virgin	Inflammation and hypertrophy of cervix.	Leucorrhea, extreme dysmenorrhea, hysteria, debility, decrepitude, semi-idiocy.
262	44	Menstruated at 12.	Married at 22; six labours; widow since 32.	Ulcerated cancer of uterus.	No uterine symptoms until 10 months ago; since then, dorsal pains; health tolerable.
263	27	Menstruated at 12, painfully.	Married at 19; one labour; four abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Excessive flooding, dorsal pain, anemia; very ill ever since marriage.
264	28	Menstruated at 16, easily.	Married at 22; one false conception.	Inflammation and slight ulceration of cervix.	Dysmenorrhea, dorsal pain; debility ever since marriage; the false conception a year ago.
265	30	Menstruated at 16, painfully.	Married at 21; three labours; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, dorsal pain, leucorrhea, debility; ill since last labour, 2½ years ago, since which two abortions.
266	35	... ...	Married... ...	Fibrous tumour of uterus (large.)	Ulceration of cervix.
267	32	Menstruated at 13.	Married at 24; two labours; one false conception.	Inflammation and hypertrophy of cervix.	Leucorrhea, uterine pains, debility; ill since last labour, at 27; since which the false conception.
268	34	Menstruated at 15, regularly.	Married at 28; one labour.	Inflammation and ulceration of cervix; pregnant three months.	Uterine pains, leucorrhea, debility, sickness; has only been ill a few months.
269	32	Menstruated at 16, regularly.	Married at 23; five labours; one abortion.	Inflammation and ulceration of cervix; pregnant five months.	Uterine pains, leucorrhea, bearing-down, debility; ill since last labour, two years ago, when placenta retained.
270	70	Menstruated at 19, painfully; ceased at 50.	Married at 26; two labours.	Ulcerated cancer of uterus.	No uterine symptoms until two years ago; since then hemorrhagia, thin yellow anemic, hypogastric pain, vagina compromised.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Nov. 271	26	... ...	Married at 20; sterile.	Inflammation and slight ulcer of cervix.	Uterine symptoms exist since marriage.
272	40	Menstruated at 17, painfully.	Married at 27; five labours.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pain, leucorrhea, vesical irritation, debility; ill since last labour, 3 years ago.
273	17	Menstruated once, 4 months ago.	Virgin	Inflammation and ulceration of cervix; abscess of vulva.	Leucorrhea, uterine pains, dysuria, bearing-down, breasts very painful, can scarcely walk, feverish. (See page 187.)
274	32	Menstruated at 12, painfully.	Married at 21; two labours; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pain, leucorrhea, bearing-down, debility; ill since last labour, 5 years ago, since which the abortion.
275	20	Menstruated at 16, regularly.	Married at 17; two labours.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhea, uterine pains; ill ever since marriage, worse since first labour.
Dec. 276	53	Menstruated at 16, regularly; ceased at 50.	Married at 25; sterile.	Neuralgia of uterus.	No uterine pains until 5 months ago; since then, agonizing pains, returning daily for several hours; uterus and cervix healthy.
277	28	... ...	Married at 26; sterile.	Inflammation and ulceration of cervix.	Leucorrhea, uterine pains, bearing-down; ill since metritis, soon after marriage.
278	30	... ...	Married early; several labours.	Inflammation and slight ulceration of cervix.	Ill since last labour, 4 years ago; has already been under instrumental treatment, and partly cured.
279	29	... ...	Married at 27; one abortion.	Inflammation and ulceration of cervix; pregnant 6 months.	Aborted from a fall a year ago; severe flooding; ill ever since.
280	29	Menstruated at 19, painfully.	Married at 21; two labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pain, leucorrhea, hemorrhagia, extreme debility; ill since last labour, at 23.
281	48	Menstruated at 14, regularly.	Married at 18; nine labours; one abortion.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Uterine pain, leucorrhea, bearing-down, sickness, great debility; ill ever since abortion, 5 years ago.
282	22	Menstruated at 18, easily.	Virgin	Inflammation and ulceration of cervix.	Dysmenorrhea, leucorrhea, uterine pains, debility; ill 18 months.
283	29	Menstruated at 18, painfully.	Married at 20; two labours.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pain, leucorrhea, bearing-down, debility; ill since last labour, 3½ years ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Dec. 284	28	Menstruated at 15, painfully.	Married at 26; sterile.	Inflammation, slight ulceration, and hypertrophy of cervix.	Uterine pains, bearing-down.
285	19	Menstruated at 12, painfully.	Married at 17; two abortions.	Inflammation, slight ulceration of cervix; pregnant 3 months.	Hemorrhage, leucorrhea, uterine pains, debility; ill since first abortion.
286	30	Menstruated at 14, painfully.	Married at 27; one abortion.	Inflammation, slight ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea; ill since marriage; worse since abortion.
287	16	Menstruated twice, six and three months ago.	Virgin	Inflammation and ulceration of cervix.	Abscess of left labium, dorsal pains, leucorrhea, bearing-down; ill nine months. (See p. 189.)
1849. Jan. 288	25	Menstruated at 14, painfully.	Married at 16; one labour; one abortion.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Menorrhagia, uterine pains, debility; ill since tedious labour, at 17; worse since abortion, at 20.
289	40	Menstruated at 14, painfully.	Married at 25; seven labours, one abortion.	Procidentia uteri, ulceration, and hypertrophy of cervix.	Uterine pains, and uterus prolapsed since last labour, 2 years ago, tedious; debility.
Feb. 290	33	Menstruated at 17, painfully.	Married at 23; one labour.	Inflammation, slight ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhea, bearing-down, debility since labour at 24.
291	60	Menstruated at 12.	Married at 20; nine labours and abortion.	Procidentia uteri, extensive ulcerations.	Uterus prolapsed many years; abundant muco-sanguinolent discharge.
292	35	... ...	Married early; five labours.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, and spasms; ill since last labour, 3 years ago.
293	65	Menstruated at 20, regularly, ceased at 50.	Married at 25; two labours.	Ulcerated cancer of uterus.	Last child at 30; no uterine symptoms until a year ago; then, leucorrhea, hemorrhage, dorsal pain.
294	30	Menstruated at 14, easily.	Married at 20; three labours; three abortions.	Inflammation and slight ulceration of cervix.	Uterine pains, leucorrhea, previously flooding; ill since last labour, 2 years ago, since which, two abortions.
295	50	Menses ceasing.	Married early; several labours.	Idiopathic hemorrhage on cessation of menses.	Cervix congested; no lesion; dorsal pain.
March 296	63	Menstruated at 15, painfully, ceased at 48.	Married at 26; five labours; last at 32.	Procidentia uteri, ulceration.	Uterus prolapsed 2 years ago, after an effort; leucorrhea.
297	25	Menstruated at 12, easily.	Married at 20; three labours.	Inflammation and ulceration of cervix.	Leucorrhea, lumbar pains; ill since first labour, 2 years ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1849. Mar. 298	37	Menstruated at 15, easily.	Married at 21; four labours.	Inflammation, ulceration, and hypertrophy.	Flooding every 10 or 15 days; no other uterine symptom since last labour, at 29; widow since then.
299	20	Menstruated at 15, easily.	Married at 18; one labour.	Inflammation and ulceration of cervix.	Severe dorsal and crural pains, leucorrhea; pains soon after labour, 7 weeks ago.
300	34	Menstruated at 14, regularly.	Married at 18; six labours; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, dysmenorrhea, bearing-down; ill since last labour, 14 months ago.

The treatment of the above cases was conducted on the principles laid down in the course of the work, and, generally speaking, with the most satisfactory results. I have not, however, thought it advisable to include these results in the tables. The attendance of persons who are treated for chronic disease, as out-patients, at a public institution, must, in many instances, be irregular and interrupted, and often prematurely brought to a close—the physician or surgeon exercising little or no control over their movements. It would, consequently, be injudicious and unfair to attempt to arrive at any statistical deduction as to the length or ultimate success of the therapeutic means employed, by the analysis of such cases.

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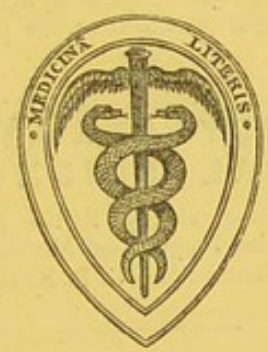
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