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THE

HISTORY, PATHOLOGY, AND TREATMENT

OF

PUERPERAL FEVER

AND

CRURAL PHLEBITIS.

I. A TREATISE ON THE EPIDEMIC PUERPERAL FEVER OF ABERDEEN.
BY ALEXANDER GORDON, M.D.

II. A TREATISE ON THE PUERPERAL FEVER: ILLUSTRATED BY CASES WHICH OCCURRED IN LEEDS AND ITS VICINITY IN THE YEARS 1809-12.
BY WILLIAM HEY, ESQ.

III. FACTS AND OBSERVATIONS RELATIVE TO THE FEVER COMMONLY CALLED PUERPERAL.
BY JOHN ARMSTRONG, M.D.

IV. ON PUERPERAL FEVER AND CRURAL PHLEBITIS.
BY ROBERT LEE, M.D., F.R.S.

WITH

AN INTRODUCTORY ESSAY,

BY

CHARLES D. MEIGS, M.D.,
Professor of Obstetrics and Diseases of Women and Children in the Jefferson Medical College.

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INTRODUCTORY ESSAY.

BY CHARLES D. MEIGS, M.D.

Much has been written of late years on the subject of *childbed fever*, whereby a great light has been shed upon the pathological features of several disorders heretofore designated under this title. These disorders are — inflammation of the substance of the womb; inflammation of the veins of the womb; inflammation of the absorbents of the same organ; and lastly, inflammation of the peritoneum: or several of these affections conjoined and grouped in the same subject. One of the most general and comprehensive terms is puerperal fever; a name said to have been first bestowed upon these affections by Dr. Edward Strother, an English writer, in his *Criticon Febrium*, or a Critical Essay on Fevers, with the Diagnostics and Methods of Cure, 1 vol. 8vo. Lond. 1716. Strother wrote in the somewhat quaint style of his age; and, as his name has been often cited by authors upon the subject under consideration, I shall here quote the principal part of what he has left us upon the topic.

"Puerperal fevers, are shelves poor females are often stav'd upon. They are generally inflammatory from the inflammation of the uterus, which arises from the suppression of the lochia. Custom has prevail'd among the ignorant and obstinate midwives to allow the *laborants* chickens, and such diet as they pretend cannot prejudice them; to rise out of bed three days after their labour, and to take some turns across the chamber; from whence I have seen the lochia stopt or lessen'd, and thence deliria or dangerous fevers; and yet 'tis easy to prevent these, if the ladies can be aw'd. 'Tis common for hard labours to produce them, as I have often known. If we are called in immediately after the mistake, it may be prevented by giving them tincture of castor or spirits of hartshorn in rue water, &c., and, giving them their diet lean, and so disposing them to sweat. But when the fever is begun, if they be plethoric, and the fever of the warm species, bleed in the arm and then in the foot, and after this throw in emollient glysters to dilate (by manner of a lotus) the orifices of the glands of the uterus, whence the lochia will flow afresh. Alexipharmics (with the cautions

above named) must be given as a thin diet, cooling and refreshing. If inflammatory symptoms come on, such as pleurisies, anginas, peripneumonies, &c., you will see below how to treat them. If the lochia are over, bleeding and purgatives (if indicated) may safely enough be made use of, as I have often experienced." p. 166.

Such is the language of Dr. Strother, who, it will have now been seen, had very faint glimpses of the disorder to which he gave the name of puerperal fever; but it is clear that he looked upon it as an inflammation, and, as far as he dared to go, he has recommended the proper remedies, in the use of venesection and cooling diet, as well as of purgative medicines. Much has been written since Strother's time; but it is only very lately that the clearest views have been enjoyed as to the dangerous tendency of the disorder, its varieties, and the modes of treatment.

Among numerous individuals who have made public their opinions, and the experience on which they were founded, great discrepancies are found to exist. One party pushing the use of the most vigorous antiphlogistics to the utmost; another recommending their very cautious use, while others seem afraid of them, except under the most guarded limitations.

So far as I can learn, a discrepancy equally as great as that among foreign writers exists in the profession on this side of the Atlantic. The question as to the nature and treatment of childbed fever being a most important one, we believe that we confer a benefit upon the public at large, and upon our brethren in particular, by calling their attention anew to the subject. In order to do this in the manner most likely to be useful, we shall lay before them certain works of authors who have acquired a just celebrity, and who are esteemed worthy to be held as authorities on childbed fever. It is undeniably a great public concern, that we should possess the productions of gentlemen whose theory and practice in these disastrous maladies, not only present doctrines the most consonant with reason and the philosophy of medicine, but claim for them results the most cheering and triumphant.

Such are the views that have now led to the reprint of Gordon, Hey, Armstrong, and Robert Lee. Let the reader and practical physician judge, and say whether the information derived from them is not an impayable acquisition.

So rapid and fatal in their course have been the epidemic and even the sporadic forms of peurperal fever, and so evident and early have been the signs of great prostration, or exhaustion and downward proclivity of the vital powers, that we have no room for surprise at the tendency of mankind to view them as *ataxic* or *typhous* in their very nature; and so requiring, on that account, a careful avoidance of strong antiphlogistic or debilitating measures. The idea of typhus is inseparably connected, in many minds, with that of great muscular weakness, tremors, dry tongue — with stimulants and cordials, and all the means of rapid reparation. In such persons it is enough to know that to-morrow the patient will be weaker, in

order to lead them to obviate that fearful debility by opium and brandy, and an alexipharmic course, and beef tea, &c., &c. Dr. Wm. Hunter, who saved but one case out of thirty-two, persisted to the last, according to Dr. Mackintosh, in beginning the treatment with a generous glass of brandy; and there are many gentlemen who, having repeatedly seen the belly filled with the fluid deposits of extensive peritoneal inflammations, and the veins gorged with pus, the product solely of inflammation, still contend that the employment of venesection is *very dangerous*, and requires great consideration of the constitution and habits of the patient, and is to be practised only on the most favourable subjects. Not only are there to be found respectable brethren holding these views, but even of those who preach the opposite doctrines, many, though bold in recommending the lancet to others, yet, in their own practice, stop short of the free use of this measure.

The mischievous effects of error are continued long after the error itself is overthrown: a man who has been trained, by bad teaching, to look upon a grave disorder as of a typhous nature, and therefore to be treated by stimulating means, finds it very difficult to liberate himself from the rules of action imposed by his early prejudices, which continue to bias his practice even long after his judgment has been fully enlightened.

At the present day, we know that women in childbed are liable to attacks of chills or rigors, followed by pain in the region of the womb, with a very frequent pulse, rising speedily to 120 or 150 beats per minute; and soon after by distention of the abdomen, pain, and other symptoms, which mark the childbed fever. This fever proves fatal to many of the patients attacked with it; and the examination of the bodies of those who die reveal either extensive inflammation of the peritoneum alone, or of the womb alone, — or of the womb and peritoneum both. In some of the cases the womb is proved to have become gangrenous or softened by inflammation; and in others, and many of them, its veins, and the veins returning its blood, are greatly inflamed and filled with inflammatory deposits of lymph, or gorged full of pus. Deposits of pus are also, in some of the cases, found in the thorax, or in remote parts of the body; to such extent, indeed, as to have given rise to the idea of a pyogenic or pus-creating fever. The absorbent vessels are also found to be affected in a manner similar to that of the veins.

Diseases of childbed like these have been noticed from time immemorial by writers of great ability. Faint and imperfect views of their nature, and some approaches to good sense in their treatment, as by Strother, had been obtained, but lost sight of again and again, until a great reformer of doctrine, as regards them, appeared in Scotland. I allude here to Dr. Alexander Gordon of Aberdeen.* This gentleman, who enjoyed an extensive

* Author of the History of the Puerperal Fever of Aberdeen. London, 1795. 8vo.

practice there, and in the country round about it, encountered a severe epidemic of puerperal fever, which, from December, 1789, to March, 1792, prevailed epidemically at and near Aberdeen. The first cases he treated without energy and without success. Taught by woful experience the inadequacy of his method, and enlightened by dissections of a few of the early victims, he adopted a more energetic practice, which was founded on the substantial proofs of inflammation revealed in the dissections. It consisted of free bleeding from the arm, aided by the use of purgative medicines. The result, to use his own language, was as follows: "When I took away only ten or twelve ounces of blood from my patient, she always died; but when I had the courage to take away twenty or twenty-four ounces at one bleeding, in the beginning of the disease, the patient never failed to recover, as was the case in No. 23, 28," &c., &c. In another place, he says, after citing the results of practice in other countries — "In my practice, of seventy-seven women who were attacked with puerperal fever, twenty-eight died; so that very near two-thirds of my patients recovered, which proves that I have been much more successful than any other practitioner. But it will be proper to mention that I was too late in being called to many of the cases, and that I had a fair trial only in fifty of the above number: of these fifty, only five died."

Dr. Gordon's volume is small, and is written without arrogance or great pretensions. It is a plain and, doubtless, a candid detail of his concern with that epidemic; and has so convincing and truthful an air in every page and line, that I cannot imagine anything more fitted to impress the mind of a reader with the warm and irresistible convictions of the author. Fifty years have elapsed since its publication. It is always quoted or referred to in treatises on the same topic, and still retains its good name. Every medical practitioner ought to read it, and I was almost ready to say that its perusal ought to be regarded as indispensably necessary to a right understanding of the history and treatment of puerperal fever. Whatever critics may say as to Dr. Gordon's performance, and however wofully several eminent writers and practitioners may have erred in their theories and practice, Gordon will be regarded as the reformer of the therapia of puerperal fever; for it can scarcely be denied that, since his publication, there is a more perfect and understood conviction of the inflammatory character of this disorder, and of the little regard to be paid to the state of the pulse in making up one's mind as to the necessity for treating it boldly in the first stage.* The work,

* M. Legonais, in his admirable and spirited treatise on the subject, pays a just tribute to the merits of this author; and, as he had the most abundant and fortunate opportunities, by a residence of several years in the *Maternité* at Paris, to witness the practice and carry out the directions of Chaussier, in the malady, I should conceive that his experience alone, unaided by the fine arguments of his volume, should constitute him a high authority. When I read Legonais's

precious as it is, has long been out of print; and I cannot conceal the satisfaction I feel at the prospect of its being placed at a cheap rate in the hands of numerous practitioners in our country.

Gordon had not the leisure or the privilege requisite to make very numerous and elaborate dissections. This task, however, has been well fulfilled by Robert Lee, in his work which forms part of this volume; to that degree, indeed, as to leave but little to be desired. All these researches have but added strength and assurance to the conviction derivable from Gordon's essay. These new and more minute inquiries, which proceed so much farther than he had gone, ought to be fully known by the medical fraternity. But it will not suffice to know only the later productions of the press. I do not believe that the writings of Hey, of A. Baudelocque, of Armstrong, Mackintosh, and Lee, studied alone, could carry such a weight of argument to the mind as their perusal after Gordon would do. He is the first in the series, and the others wait on him, and honour themselves by illustrating him. *Palmam qui meruit ferat.*

The four works comprised in this volume constitute, then, a beautiful series—rising from a simple proclamation of a deeply interesting and important principle, in the history of the Aberdeen fever, to an illustration and enforcement of it in the Leeds and Sunderland writers; while a most full, elaborate, and convincing display of the whole subject is found in the London author. The progression is complete.

There is no need why I should, in this Introductory Essay, attempt any review of these works. They are here to make their own proper impressions on the reader's mind.

It is obvious that the death of a puerperal patient is, in general, more to be deplored than the ordinary fatalities met with in practice. A woman, under these circumstances, appears to have a stronger claim on life; and the disruption of the ties which bind her to society and to her friends is more painful, from the new relations just established with them. If the child survives, it suffers, during the long period of infancy, childhood, and puberty, the bitter fruits of this terrible privation; while the breaking up of the domestic establishment, which usually follows that event, appeals, with irresistible power, to the public sympathy. Each family is a little patriarchate, state, or kingdom; and the domestic catastrophe has, within its proper pale, all the importance of a great political overthrow. It is a great misfortune to lose a patient in childbed.

Those diseases, therefore, which, by their attacks, expose women to an imminent danger of death in childbed, ought to be carefully studied by medical men; and the physician should be

excellent work, I am disposed to thank Gordon for it, as I am for every other valuable rule of practice in this most distressing disease. Nothing since Gordon's work, that I have seen, detracts from his merit by comparison. Few American physicians yet possess it.

deemed inexcusable who undertakes the management of them without a due, nay, an unusually careful preparation for the enterprise. He ought not to confide alone in his own keen perceptions at the clinic, nor in the results of his own most imperfect experience. He is obliged by his vocation to take up a position which he ought fully to examine and render secure before he enters into the conflict with so dangerous an enemy.

I refer to the statements in the volume of Robert Lee for accounts of the mortality produced in some parts of Great Britain, and on the Continent, by puerperal fever. Those gentlemen who, in our own country, have had occasion to observe it either as an epidemic or sporadic disease, will require no further incitement to a perusal of the volumes now published. They will see Gordon's success, who, by the antiphlogistic treatment, was able to save forty-nine out of seventy-seven cases; or rather, forty-five out of fifty; Hey, who met with a most encouraging success by the same method; and Lee, who lost fifty-nine only out of seventy-two cases; while Armstrong saved all but five of his patients. In bespeaking so great a share of attention to these writers, I do not mean to disparage the opinions of others who act upon the same practical principles. I would refer, with especial satisfaction, to the opinions and experience of Dr. Legonais, of David D. Davies, of Dr. Mackintosh, and the younger Baudelocque, for confirmation of the views of the gentlemen whose works are now republished.

Let us briefly consider the nature of the disorders usually comprised under the term childbed fever, after taking a view of the organs and tissues known to be affected in its different varieties and complications.

In the first place, the gravid womb is a hollow muscle, supplied with a vast profusion of veins, arteries, absorbents, and nerves. It would hardly be deemed the stretch of a prurient imagination, to compare it, on account of its great vascularity, to an enormous aneurism by anastomosis, furnished with a sufficient quantity of muscular fibres to reduce back and compress within safe and natural limits the luxuriant production of sanguine tissues, of which it is chiefly constituted, and which afford a proper nidus for the germ, which derives from so abundant a source the materials of its new development. Its nerves, abundantly distributed through its substance, and having the most intimate and complex connexion with the hypogastric, sacral, and renal plexuses, and indeed, the whole sympathetic system, endow it with a normal and pathological sympathy, coextensive with the body, and a keen sensibility to both intrinsic and extrinsic causes of excitement.

Under the circumstances of such a physical constitution we need feel no surprise at observing the extent of disturbing force which it exerts, when diseased, upon the whole economy; nor, indeed, at the rapid destruction it brings upon the living system, whenever it happens to become the seat of disorganizing inflammation.

The violent exertions of its contractile power, in labour, are often

alone sufficient to rupture or lacerate its tissues, and, *à fortiori*, to injure or disease them. It is also liable to be forcibly and injuriously compressed by the tenesmic action of the accessory muscles; to be subject to contusions by the projecting angles of the fœtus; or by the bony sides of the pelvis; and to be stimulated by the putrid discharges and absorptions incident to its lochial state. It is connected by its vagina in a bond of contiguous sympathies propagated along that canal; which, even more than itself, is subjected to accidents in the parturient act. It is attached to the ovaries, which seem to carry throughout pregnancy, and even for many months after delivery, an invitation to disease in the uncased remains of the *corpora lutea*, and in which, it is plausibly supposed, the first germs of some of the puerperal inflammations take their rise. It is attached by the broad ligaments to the sides of the pelvis. These ligaments are occupied with an abundant cellular tissue, liable to infiltrations and the consequences of pressure, contusion, and disruption in labour. It is invested by a peritoneum; a vascular membrane, in which superficial inflammation spreads, with the rapidity of erysipelas, over extended surfaces. This peritoneum is a component part of the womb — it is its investing membrane—its coat; and it is also common, as a tissue, to the whole alimentary tube, as well as to the liver, the spleen, the diaphragm, the bladder, and the abdominal muscles. Inflammation of the intestinal, gastric, or hepatic peritoneum, is also inflammation of those several organs; and, in fine, a peritonitis attacking a childbed patient, which becomes at all extensive, radiating from the surface of the womb, soon involves in its disastrous embrace every important abdominal viscus: hence the tympanites; hence the constipation or the diarrhœa; and hence, at last, and as closing phenomena, the nausea, the eructations of incipient gastritis, and the last fatal regurgitation of the puerperal black vomit.*

But not only are the reproductive organs liable to be attacked by a simple peritonitis destined to extend far and wide; they are the not unfrequent seats of phlebitis after labour. Nor should this liability excite any wonder or suspicion in the mind. Who that has ever listened to the rush of the blood in the uterine veins under a powerful contraction of that organ in labour, but must admit that the compression of them in each pain must do violence, in a greater or less degree, to their structure: since, at every return of the pain, a major part of the blood contained in the veins and sinuses of the organ, is hastily and forcibly driven out into collateral vessels, to return as soon as the contraction ceases, and to be expelled, again and again, for the fiftieth or the hundredth time.†

* Some of the older writers have been sneered at for supposing that childbed fever was really an inflammation of the viscera of the abdomen. What else does it prove to be?

† A stethoscope, or the immediate auscultation of the womb during a labour pain, gives a very strong perception of the violence and haste with which the blood

The placental superfices of the womb, generally the most vascular part of the organ, is frequently left in a state comparable to that of a wounded organ; portions of the texture are slightly torn, or small shreds of the placental lobules are left adhering, and even the mouths of uterine vessels are, for days in succession, found discharging the lochial fluids. Under such circumstances, the veins inflame as do the veins in an amputated limb — the frequent cause of death from that surgical operation: and when inflamed, their mucous, or common membrane, like the mucous surface of the larynx or trachea, soon begins to be covered with inflammatory or plastic exudation; it becomes thickened, and is the seat of a pyogenic irritation. Under such circumstances, the future drainage of the blood thrown into the organ by the arteries is impeded or wholly suspended. The blood injected into the womb through the ovarian and uterine arteries can no longer freely pass off by the uterine or ovarian veins, whose lining membrane becomes the seat of hasty and plastic inflammation, which either wholly obstructs the tubes, or so far diminishes their calibre as seriously to interfere with the passage through the capillary and even the larger vessels.

The observations that I have had opportunities to make, have led me to the conclusion, that the process of inflammation, obstruction, and destruction of the lining membrane of veins, may be hurried on with a celerity equal to that of the most rapid croup. But these changes of structure in organs indispensably necessary to the constitution of the womb, imply as a consequence its own inevitable destruction with that of the patient.

The numerous absorbents of the womb may be viewed under the same light, and as being placed in the same category.

Besides the above too abundant sources of danger and evil, there is a great liability to inflammation of the womb alone, and not extending beyond its proper texture. This inflammation, like that in some other tissues, reduces the womb almost to the state of a pulp, in certain cases, so that it may be pierced through with the point of a knife, or torn with the slightest force.* We have seen instances in which considerable portions of the inner extending nearly half way through to the peritoneal surface, have been converted, within seventy or eighty hours, to a soft and gangrenous material, almost fit to be described as a colluvies or liquamen.

Such diseases as these are to be cured soon, or not at all. It is like a battle — "Quid est! Concurritur, et momento horæ, aut cita mors venit, aut lœta victoria." If the nurse allow the precious moments of the forming stage to elapse before the alarm is taken;

in the uterine veins is squeezed out from their cavities; and so great is the apparent rush, that the sound is extremely disagreeable; on account, I suppose, of the conviction that it is so violent as to compromise, to a certain extent, the safety of the tissues concerned.

* Robert Lee gives samples of this *ramollissement*, or softening, of the uterine texture.

or if the physician, through inattention or failure in making the diagnosis, pursues, in the beginning, a feeble or erroneous practice, no human skill, sagacity, or devotion, can be relied upon to rescue the victim, who has already begun to die before the first hand is extended for her rescue.

We hear and read of numerous cases in which prompt measures have been taken, of the very class we would recommend, but in vain. We admit it has been so, and it must be so often in future; for, unhappily, the greatest watchfulness is sometimes incapable of detecting the existence of a disease destined to destroy, because the forming stages — the curable ones — are already overpast before the patient herself, much less the nurse or the physician, have perceived the least cause for alarm.* Inflammation of the lining membrane of a vein is not painful in its commencement; nor is inflammation of the bronchus painful in its commencement, to a degree at all commensurate with its dangerous tendency; so that, it happens, in bad epidemic cases, that the attempt to cure fails, because the aid is presented too late. Unquestionable authority exists to prove, that uterine inflammation, in some cases, has already gone far beyond any curable stage long before the delivery of the child had permitted its existence to be even suspected.

Under the above recited circumstances, the question is brought up — What shall we do for the saving of the life committed to our care, humanly speaking?

Can we safely abandon the philosophy of medicine, and, relying upon some vague and ill-defined notion of a constitutional depravation, undertake to counteract these vivid and almost electric movements of life, local in their origin and domain, by means of a few drugs applied to the mucous membrane of the stomach or bowels; by some cataplasms or liniments, or fomentations to the belly; or, at most, by dozens or hundreds of leeches fixed on the cutis of the abdomen? What are great inflammations, that they can be overcome by such means; especially inflammations concealed in the very recesses of the body, remote from the surfaces, and deriving their source, their impetus, their proximate cause, their *ipsissima causa*, from the injecting power of arteries springing directly from the emulgents, the aorta, or the hypogastric tubes? It would appear to me to be mere dawdling with the malady, in comparison with the vigorous and masterful influences of blood-letting, which is perfectly obedient to the will of the physician, goes directly to its object, and stops short at the desirable point: which reduces the injecting force of the systemic ventricle, and

*I am disposed to believe, from opportunities recently enjoyed, that even the constitution of the patient does not take the alarm in some examples of phlebitis, until the disease has already reached a certain stage of development, at which it is incurable. This is undoubtedly the case in certain cases of crural phlebitis — where our attention is called to a state of the limb, just discovered by the patient, and which must have already existed many hours before she herself detected or even suspected any disorder.

brings it to such a state as to leave the necessary equipoise between all the parts of the angiotenic apparatus: a therapeutic agent, which, wisely and well directed to the exigencies of the case, surpasses all other modes of relief or cure.

In the application of this great measure for the cure of these puerperal inflammations, I might feel content to refer to the exhortations of Gordon, to be firm and decided; and I trust that every one of my medical brethren who may read his book, will give due weight to his energetic expressions on that point. But I cannot resist the desire I feel to remark, that a feeble and timid employment of the measure will be likely, not only to fail of success, but even to give additional impetuosity to the disorganising tendencies of the malady.* The pulse, under certain circumstances of constitutional irritation, is found to be in the state which Dr. Rush characterised as the oppressed pulse,—a pulse in which the beat is apparently feeble, and rendering it doubtful whether a safe recourse is to be had to the lancet; but which, after the abstraction of a certain quantity of blood, rises and bounds like a full *synochus fortis* action. To raise the pulse to this condition, and leave it so, is to disengage the heart — the injecting power — from something that obstructed and embarrassed its action; and to enable it, by setting it at liberty, as it were, to force new and greater torrents of blood into the inflamed parts, impacting it there, and extending the inflammatory engorgements and obstructions into the collateral capillaries in every direction. Hence it is apparent, that in using venesection as a remedy, it will not suffice to stop as soon as the pulse has risen: it must be carried to the extent of subduing and reducing down within safe limits the power which it is instituted to control.

If there be anything true in medicine, it is that all the nervous, muscular, and nutritive functions, have a very close dependence upon the circulation of the blood. An increase of the momentum of the blood tends to augment the development of the nervous force; every organ is stimulated and brought to a higher degree and expression of vital power by increased rapidity of the blood's motion. On the contrary, diminished intensity of its motion tends to diminish the innervative force, with all the action of all the organs dependent on that force. To bleed in fevers and inflammations, is to lessen them. But the question is, not as to bleeding; it is, as to how much? by what sign shall we know when to stop? Is there a safe limit?

What is that safe limit? The practitioner is the sole judge. It is easy to stop short of its attainment: it is by no means difficult

* There is great difficulty, except in the clearest cases of violent reaction, in bringing one's mind to the point of courage so anxiously inculcated by Gordon, and which it seems he himself found it hard to attain. Let the reader of his book ponder well his directions; and if they meet the concurrence of his judgment, let him bear them in mind at the clinic — "*Jugulare febrim*" should be the motto in such cases.

to go beyond it; and thus render most injurious a means designed only for good. Experience is the only teacher: the physician must have acquired that familiarity with the condition of the pulse, in health and disease, that can alone enable him to say — this is sufficient; the movement of the circulation is now no longer destructive or dangerous; the columns of blood driven through the arterial tubes upon the inflamed tissues, reach them with a force sufficiently moderate to permit them to recover. Experience, habit, tact, sagacity, these will govern him, and show him that he can go no further safely. Gordon insists upon twenty-four ounces, as the quantity to be drawn in the early stage — within twenty-four hours of the attack — and looked with confidence to a cure when that quantity could be drawn. I find no objection to his standard, which is concurred in by Hey, with certain exceptions. It is probably sufficiently large to effect the desirable degree of reduction in most cases, but I should not be willing to adopt it as a universal rule; since there are many constitutions that would bear a greater abstraction than he proposes without injury, while others would not endure to lose near so much without a fall of the rate of circulation below the desirable point: the same point, in a word, being attainable in some by twenty-four ounces, in others by thirty, and in others, again, by twelve or fifteen. Let the pulse declare; let the breathing declare; let the cessation of pain declare; let the general sensations of the patient declare: while her voice, gesture, *decubitus*, and physiognomonic expression, concur in indicating that enough has been done, and not too little, nor too much.

There is not, and there cannot be, any safety in practising physic by a *rule*. The state of the case ought always first to be made out, and understood; the physiological rate of the parts concerned in disease should be detected, as well as the epiphenomena which the prime disorders have superinduced; and from this knowledge should be collected the indications of cure, and the precise agents of that process determined. The innervation, the circulation, and the respiration, are the great offices of the constitution: all constitutional disorders must implicate one or more of them. Let the physician take care that these suffer no material detriment in the case; and the remaining functions that are of greater or less vital importance will be all the safer for the wise precautions he may take as to these principal ones. Death must, in every instance, depend upon the cessation of vital action, either in the brain, or heart, or lungs, according to the beautiful exposition of Bichat. Let the medical attendant, then, in his plan for the treatment of such grave disorders as those under consideration, adapt his measures to the conservation or rectification of these functions. I say again, then, let the pulse declare; let the breathing declare; let the pain, the *decubitus*, the expression, &c., all concur in declaring what he ought to do, and teach him that he is about to do, or has done, right; neither too little, nor too much.

There is a valuable work by Dr. Legonais, published in 4to., Paris, 1820. It is entitled, "*Reflections and Observations on the Employment of Bleeding, and of Purgatives in the Treatment of Puerperal Fever.*" This gentleman appears to have had a very enlarged field for observation on the subject in question, and claims, with apparent justice, to be heard on the topic. He sets forth (p. 12) the evidences which go to prove that the disease is an inflammation.

He says:—To acknowledge that the disorder most common to lying-in women is an inflammatory one, is to admit that sanguine evacuations must constitute an essential part of its treatment. We cannot avoid the adoption of such a proposition: its truth is demonstrated to us; and we have on this point the highest degree of conviction that can be attained in medicine. But we are far from admitting this without qualification; and, however great may be the acknowledged utility of venesection in puerperal peritonitis, as a general proposition, it appears to us equally important that its employment should be subjected to certain rules in order to insure its success: without such rules even venesection, instead of proving useful, becomes injurious to the disease. (p. 17.)

Dr. L. thinks, that venesection is applicable to the first stage, or stage of *irritation;* and that, when the inflammatory movement has gone so far as clearly to indicate to what termination it tends, the use of bloodletting serves only to derange the action or hasten that result, whatever it may be. He admits that the duration of this stage may be very different in different subjects: the medical attendant is to judge of the duration. (p. 17–18.)

He contends that this stage does not extend beyond twenty-four hours, and that he has never seen any good result from it at a later day, except in a very small number of cases; and even in these the abstractions have been so small in quantity as to leave room to doubt of their influence, if any. (p. 19.)

The paragraph commencing at p. 21 is devoted to the question, as to the quantity of blood to be taken; which, Dr. L. insists, should be large enough, *jugulare febrim*, as Galen says, to destroy it at a blow, and not merely to weaken the force of the disease for a short period, in order that it might rise with greater power in a system weakened and not saved by the first operation. He finds the fault, generally found with Leake, who, understanding the nature of the case well, and urging early and free bloodletting, yet did not himself go beyond eight or ten ounces.

Again:—"We believe, then, that in treating puerperal fever by bloodletting, the object should be to abolish the disease entirely by the powerful and energetic use of the remedy. It is the fabulous hydra, which can only be destroyed by cutting off at a blow all the heads. If a single one be spared it is sufficient to keep alive a vital principle, which soon reproduces the monster more terrible than before." (p. 23.)

In a paragraph, at p. 24, he regards the quantity needful as eighteen, twenty, or twenty-four ounces at the first operation; less than this rarely produces an advantageous and sure result.

The student of the history of childbed fever will not have failed to observe, that many individuals of the profession who have been called upon to encounter the disease in question, when it prevailed as an epidemic, have trusted to the use of remedies, which, although not successful in curing the disorder, or saving the patient from death, yet could not be accused of mischievous or pernicious action in the case. This arises from the less obvious or less evident nature of the operation of drugs than of venesection, which produces effects so sudden and palpable upon the great vital functions, as to render them intelligible to the ordinary bystanders and friends. A patient taking large doses of calomel or James's powder, or ipecacuanha, or purgatives, if she grows worse and worse in childbed fever, will be readily supposed to do so, notwithstanding the salubrious tendencies of their operations: *Post hoc, sed non propter hoc.* Whereas, should she decline as rapidly under the use of the lancet, that decline is apt to be charged directly to the loss of blood. Dr. Robert Collins of Dublin, in his *Practical Treatise on Midwifery*,* says, that of the eighty-eight cases which he had under his care while Master of the Dublin Lying-in Hospital, thirty-two recovered and fifty-six died. (p. 190.)

Dr. Collins, in this important work, discourages the use of venesection in the epidemic forms of the disorder. Let it be observed, however, that he had eighty-eight cases, of which fifty-six died, and thirty-two recovered. He says, "In *fifteen* only of the eighty-eight, did we deem it advisable to bleed generally; *seven* of the fifteen recovered." Notwithstanding this, the doctor gives the following summary:—"The result of my observations upon the treatment of puerperal fever is, that general bleeding, except when there is a strong, full pulse, and the symptoms are of a highly inflammatory character, is injurious. On the contrary, *local* depletion, by the application of three or four dozen leeches, followed by the warm-bath and stuping, all of which should be repeated according to circumstances, and as often as the strength will permit, seemed most beneficial. These means, together with the active employment of calomel, conjoined with hippo or opium, offer the best prospect of relief. Blistering the whole abdomen, after leeching had been pushed as far as could be, was found serviceable. In some cases the debility was so excessive as to induce us to apply the blister at once, using calomel and stimulants at the same time." (p. 396.)

Dr. Collins evidently entertains the opinion, adverse to my own, that puerperal fever is a something over and above the local disease, and constitutional affection resulting therefrom. In

* Select Medical Library, February, 1838, Philada., Barrington & Haswell.

this opinion he has many supporters. But, accustomed to look for causes sufficient, and not more than sufficient, for the production of certain effects, I find myself still unable to believe that he and those who think with him are right. Phlebitis of the recently discharged womb is alone sufficient to produce all the frightful rapidity of which Dr. Collins speaks — so is gangrenous inflammation of the inner paries of the organ; and equally capable of causing a rapid, a most sudden overthrow of all the functions, is an inflammation of the whole peritoneum; by which is implied, as I have before explained, a disease of every organ which receives an investment of the peritoneal membrane as part and parcel of its own nature and texture.

I cannot but avow, that so great is the respect I feel for Dr. Collins of Dublin, on account of the very valuable services he has rendered to mankind, and particularly to the medical profession, in giving to them the work above quoted from, that it is with much reluctance I find myself compelled to dissent from his opinions on puerperal fever. Acknowledging, therefore, his great authority as a medical teacher, I disavow it for his article on puerperal fever; in which neither does his reasoning take captive my judgment by its force, nor his practice overcome my prejudices by its success; in fact, its success was very bad — he having lost nearly two out of three cases; and his reasoning not better, since it is founded on the bare postulate, that the disease was something more — something beyond inflammation of tissues; an opinion which, were it even proved to be true, could not alter my views of the urgent necessity to reproduce the reciprocity of force betwixt the receiving or inflamed tissues and the injecting agent, viz., the heart and arteries.

I am further compelled to dissent from Dr. Collins's authority, and that of those who agree with him, in regard to the preferableness of leeching to direct bleeding from veins. I have never yet perceived the full force of the reasoning which induces many medical practitioners to prefer local to general bleedings in such great cases. The mere fact that the leech draws blood from the cutis of the abdomen, ought not to be taken as proof that it is capable of exhausting a system of collateral vessels in the interior of the body. What direct connection can be asserted to exist betwixt the capillaries of the skin and those of the peritoneum; or the uterine veins, or absorbents, or the proper texture of the womb? The abdominal peritoneum and the intestinal peritoneum are in all probability equally exempt from the charge of originating or setting on foot the first movements of the inflammation in childbed fever. But the womb and its annexed organs are supplied from the ovarian and the uterine arteries. This circulation is in nowise directly related to the circulation in the skin. Hence I infer, if the leeching is useful in this case, it is through its power on the action of the heart alone, and not by an immediate

depletion of the inflamed parts. But if the object in truth be, to modify the injecting power of the heart, by diminishing the quantity of the blood and changing its crasis, why not take it from a vein at once, where you can control the operation? where you can take one ounce or twenty? where you can go on or stop at the slightest warning? and where you avoid all the fatigue and exposure to cold and dampness inseparable from the operation of leeching? A patient who can bear leeches can in general much better tolerate the lancet. I shall be glad, therefore, when the day arrives in which the therapeutical employment of the leech should be understood as confined solely to local disorders; while the lancet should be esteemed as applicable for both the local inflammations and engorgements, and the constitutional derangements either arising out of them, or originating them.

Dr. Baudelocque, the younger, in his *Traité de la Peritonite Puerpérale*, cites opinions from the *Dict. des Scien. Med.* unfavourable to the use of general bleeding except in special cases, but highly laudatory of the employment of leeches as a means of cure. Dr. B. opposes the sentiments of that party as follows:—

"It has been further alleged in favour of leeching, that in drawing blood from the capillary system they are also able to abstract it directly from the diseased organ, by means of vascular connexions existing betwixt the skin and the subjacent parts. This communication seems to me to be remote even in the case of inflammation of that portion of the peritoneum that lines the anterior parietes of the abdomen; and it must be absolutely null when the inflammation is seated in the broad ligaments, upon the womb, the intestines, &c., which is most commonly the case." (p. 330.)

"I do not participate in the fears of MM. Gase and Marat, as to the disadvantages of general bleedings; and cannot place the same confidence that they do in local depletion. Whenever the loss of blood is indicated, and properly administered, venesection is not more likely to promote the development of an adynamia than a leeching; if, on the contrary, the loss of blood is contra-indicated, the employment of leeches will do less harm than that of the lancet. But we ought not to select one remedy in preference to another because it will do less injury to the patient."

A little further on he speaks in the following terms:—"In my opinion, bleeding from the arm is to be preferred in the majority of cases to leeching; and that the latter should be resorted to only where, after having obtained by venesection a considerable diminution of the symptoms, there remain several painful points in the abdomen. These points should be covered with leeches, which will then dissipate a disorder for which general bleeding would have been much less efficacious. In weakly persons it would be proper to use the leeches at once, especially if the inflammation should be partial, of small extent, and accompanied with but little fever. But they should be used in pretty great numbers: it is not by

applying eight or ten leeches that advantage may be expected;—twice or thrice this number should be put on. *A fortiori*, the number should be much more considerable, where, from peculiar circumstances, we are obliged to abstain from general bleeding in a robust person, and confide in leeches alone for the cure of the peritonitis; in such case we ought to use fifty or sixty each time."* (p. 333.)

In the above views of M. B. I do not perceive how any one can fail to concur. It seems to me that, except for purely local affections, the loss of blood ought to be effected from a vein of considerable size, in order to bring about a state of the whole circulation favourable to the termination by resolution. I have had, as I think, many occasions of observing, that where leeches were applied for the relief of great and extensive inflammations, attended with much constitutional perturbation, they rather served to weaken the patient than to diminish the force of the disorder.

Nor is it at all apparent to me, that even in those cases where leeching is practised to the extent of bringing on a disposition to syncope, any advantages superior, or even equal, to those derivable from venesection, can be claimed. The debility occasioned by leeching *ad deliquium animi* has always, under my observation, been alarming, and even dangerous. It is much less easily recovered from than in the case of its following phlebotomy.

Dr. Mackintosh, a writer of great reputation, in his *Principles of Pathology and Practice of Physic* gives a few pages to the subject of puerperal peritonitis; and it is true that, at p. 201, new edit., 1834, he bestows much praise on the employment of leeches in the case. Nevertheless, his views are conformable to those of Gordon, Hey, Armstrong, &c., in regard to the greater dependence to be placed on venesection, as may be seen in his summary at p. 202, and in his critical and sarcastic remarks upon Dr. Hamilton. It is perhaps useless to multiply citations here; and, indeed, I am quite willing to leave the decision to the judgment of any practitioner who will give due regard to the arguments drawn from the nature and extent of the disorder, the indications of treatment, and the comparative powers and facilities of the several remedies.

There are writers who disapprove of frequent repetitions of venesection in the treatment of puerperal fever; as, for example, Legonais. I have already said that it is not difficult for the approvers of venesection to carry the abstraction of blood too far. I know that in some cases, when it has been deemed needful to bleed very copiously for the cure of an inflammatory attack, the latter part of the case has been rendered very unmanageable by the supervention of a state of the pulse, which may be qualified by the epithet soap-bubble, owing its slight resistance to pressure, notwithstanding the considerable remaining volume of the radial artery. Such a pulse

* The reader will bear in mind the greater powers of sanguineous detraction of the French over the American leech.

is frequently met with after very violent uterine hemorrhages; and is not unapt to mislead the inexperienced by its apparent vehemence, when, in fact, it arises from the insufficient stimulation of the heart and brain, the consequence of a diminished crasis of the blood. The blood for its healthful constitution requires a certain proportion of crassamentum, from which it derives its proper crasis. While, I am aware, on the one hand, that the constitution of the blood may be seriously changed by the imprudent repetition of phlebotomy, I am not afraid to repeat the venesections in peritonitis, &c., until I feel assured, both from the state of the crassamentum and the signs presented by the patient, that no more can be taken with prospect of benefit to the patient. To show what can be borne in certain cases, let me relate the following observation. In the course of the present year a case fell under my care, of which the following is a correct statement:—A young, married lady, at the end of her fourth pregnancy, was attacked about 3 A.M. with pains of labour and flooding. I did not see her until midday. Upon arriving at the house, I judged, upon careful inspection of the napkins and sheets, &c., that had been removed from about her person, that she had lost fifty ounces of blood; an opinion strengthened by an examination of her pulse, her muscular strength, and her skin, which was excessively pale. Upon making an examination I found the hemorrhage still active; and, in order to check it, resolved, as the placenta was not in reach, and the os uteri one-third dilated, to rupture the membranes, according to the method, as it is called, of Louise Bourgeois. As soon as the water had gone off, the hemorrhage was stayed; and she, not long afterwards, gave birth to a healthy child. The young lady was very weak. I saw her late in the evening, and she was comfortable, but extremely pale. During the course of the next day and night she was comfortable, and was kept carefully in bed, being without other complaint than debility. But at 4 o'clock in the morning she was attacked with intense rigor, amounting to ague, accompanied by excessive pain and soreness of the belly, with a pulse at 150 per minute, rising at times to 160 beats; and she presented, indeed, all the phenomena of a violent attack of puerperal fever. I did not see this patient until as late as 11 A.M.

Upon making out the diagnosis, I again made inquiries of her mother, a most intelligent person, who convinced me that the first estimate as to the quantity lost in the hemorrhage was far too small; and I have not, at this moment, any doubt of her having lost on that day full seventy ounces of blood. As puerperal fever was prevailing considerably at the time, I felt deeply concerned as to the line of my duty in the actual circumstances. It appeared to me more than probable, considering the violence of the attack after so great a hemorrhage, that it would prove fatal under any treatment that might be adopted. I thought it certainly would have a fatal result, should I allow the heart to continue beating at so violent a rate. 150 pulsations per minute will give 115,200

pulsations per diem over and above the number required for the healthful rate of the circulation; which, at 70 per minute, gives a little over 100,000 per day. Let any one conceive the amount of danger and mischief concomitant with the long continuance of such an excessive rate of a vital function. But, the patient had already lost profusely of her blood; and hence, with due regard for my own reputation, or the credit of a most invaluable remedy, could I venture to increase this loss by bleeding her, whose death, probable under any treatment, would be boldly charged to malpractice. It was a severe struggle; but I had firmness enough to follow the suggestions of my judgment; and having bled her as freely as I dared to do, I had the satisfaction to find that the pulse soon fell to a more moderate state, and in forty-eight hours my patient was out of danger, and is now enjoying health, and a life which I sincerely think would have been destroyed by metro-peritonitis, but for the correct decision I made as to the use of the lancet.

I have recited the above case as evidence of the propriety of bleeding a patient, notwithstanding she has already lost freely of her blood; and numerous instances have fallen under my notice where venesection has been reiterated during successive days after the attack was fully formed. In the winter of 1840, I visited the wife of a gentleman at Concord, 20 miles from the city, who had been three days ill under the care of a neighbouring physician; the latter had bled her once, but sparingly, on the second day, though she was labouring under severe peritoneal fever. Upon arriving in the night at her residence, where I met the medical gentleman, we concurred in opinion as to the propriety of another venesection, which was promptly effected, and repeated the next day, and then followed by cupping of the belly; so that she perfectly recovered after a very narrow escape. In the lying-in wards of the Pennsylvania Hospital, I have seen seven women recover from the most alarming attacks of metro-peritonitis under the vigorous employment of the lancet, carried to the full extent of Gordon's views; not a single death has taken place there under this treatment, within my notice. I shall recite the following sample from my note-book, which may suffice to show more clearly my views of the plan that ought to be followed.

Mrs. W. G., aged about twenty years; first pregnancy; was delivered on the 4th November, Thursday, 1830, of a female child after a labour of four hours.

She was very comfortable on Friday and Saturday. There was already a small quantity of milk in the breasts, but they were neither full nor painful. The bowels were opened on Saturday by a dose of castor oil, a table-spoonful and a half, which operated through the day and night ten or twelve times. She has had, for her diet, tea and bread, and oatmeal gruel. There was no fever on Friday or Saturday.

Sunday, November 7th.—I did not call to see her until past 10

A.M. She had had a chill in the night, rested badly, and now suffers pain and soreness in the right flank and iliac region. The parts were very tender on pressure, distended and resonant under percussion; the *fundus uteri* above the symphysis pubis sore to the touch; lochia bright and free; urine abundant; tongue whitish, soft, moist, and broad; headache; thirst; dorsal decubitus; motion of thighs gives pain in abdomen; any attempt to rise or turn also gives pain; pulse 148, with a vigorous stroke. She was bled 18 ounces from a large orifice, when faintness came on, and the arm was bound up. In a few minutes after the bleeding the pulse was 112, but it soon rose again to 152. Although the bowels had been moved so often, I thought their flatulent state indicated an arrest of the peristaltic movement from inflammation of their peritoneal coat; and to reëxcite them, she took a common enema, which operated twice with relief. A flannel bag, filled with wheat bran soaked in boiling vinegar and water, after being well pressed, was laid warm on the belly: it was changed occasionally.

At 20 minutes past 3 P.M. The pulse 145, with a smart stroke; the tenderness of the belly neither less nor greater. I took 12 ounces of blood from the arm in a large stream. I was obliged to stop on account of faintness, though I had first drawn the pillows from under the head in hopes of getting a larger quantity. In fifteen minutes afterwards pulse 144.

At 4½ P.M. Calomel, gr. viij.; Opium, gr. iss. The powder was taken for a dose. To drink gum water.

At 6½ P.M. Has slept, and feels decidedly less pain and soreness; but as the pulse is frequent and strong, I took 22 fluid-ounces of blood, which was carefully measured. It made a firm clot, and had a thick coat of size. She took Manna, ℥ss.; Sem. anise, ʒi.; Magnes. carb. ℥ss.; Aq. bullient. ℥vi. An infusion was made of the anise and manna in the boiling water; which, when cool, was strained: after which, the magnesia was added to make a proper mixture. A fluid ounce was taken for a dose every hour until the bowels were moved.

At 10½ P.M. Pulse 136, full and strong; the right mamma filling and hardening, the left soft and flaccid, but the gland is developing favourably; no headache; thirst; the soreness and pain on pressure (carefully examined) are very much lessened; lochia free; *decubitus* still dorsal.

Monday, 8 A.M. Has slept a good deal; pulse 130, and softer; no pain, except by firm pressure on abdomen; thirst lessened; both mammæ full and hard.

3 P.M. Pulse 120, full and strong; no pain, not even from pressure; tongue clean; had several stools; not thirsty.

9½. Same.

Tuesday, 9th November, 9 A.M. Pulse 124, and strong; tongue somewhat furred; plenty of milk; breasts soft; no pain; bowels moved again.

9 P.M. Pulse 111; sore nipples.

Wednesday, 10 A.M. Has been sitting up; no pain; pulse 126.

In a few days after this last date she was perfectly well.

This young woman had a healthy and strong constitution. In her case I took away, between 11 and 6 o'clock on the first day of the attack, 52 ounces of blood, without which, I think, she must have died.

I have related the above case from my note-book. I present it as a fair specimen of the mode of practice, in such attacks, which I have for years been in the habit of pursuing. I have treated cases in the Pennsylvania Hospital and in private houses upon the same principle; and I have the satisfaction to say, that my just expectations of success, founded on the doctrines of Gordon, have rarely been disappointed.

A TREATISE

ON THE

EPIDEMIC PUERPERAL FEVER OF ABERDEEN.

BY ALEXANDER GORDON, M.D.

PREFACE.

The design of the following treatise is to investigate the cause, ascertain the nature, and establish the treatment of a disease which has, hitherto, been the subject of great dispute among medical practitioners. For though many eminent physicians have published their observations upon it, yet their labours have not been attended with great success; so that what a celebrated author says of the dysentery is very applicable to the puerperal or childbed fever; viz., "that the pen of writers has done little more than record the times and places when and where it proved most fatal; the appearances it put on; its symptoms; its devastation; and a variety of modes of treatment that had no certain success."

The mortality attending the puerperal fever is truly lamentable. In the year 1750, at Paris, none who were seized with it recovered. In one hospital in London, in the space of two months, thirty-two patients were affected with this disease, and all, except one, fell victims to it. In another hospital, nineteen were seized with it, during the epidemic season, thirteen of whom died. In the lying-in ward at Edinburgh, all who were attacked with it, in the epidemic season, died.

A professor of midwifery in the University of Edinburgh, declared the puerperal fever to be incurable; and another professor in the same university concludes his observations upon it with the following words: "From the above cases, and from all that has been yet written upon this subject, we may, with great truth, conclude, that we know little of the nature and still less of the cure of the puerperal fever."

In this state of matters it is certainly the duty of every practitioner, who has been successful in treating the disease, to publish his observations. And, as an extensive practice has enabled me to make some important observations on the puerperal fever, I shall make no apology for laying them before the public. On the

contrary, I think it incumbent on me to make an apology for not discharging this duty sooner.

The delay was occasioned, partly by the laborious duties of my public office, but especially, by a complication of domestic calamities.

The observations which I have to offer are of the utmost importance to society, and I am only diffident of my ability to express them in the manner they deserve. I have, however, made an attempt, which, I hope, will meet with a favourable reception from the public; especially, as I have advanced no opinion that is not an obvious conclusion, immediately resulting from facts, and as all the facts may be depended on.

Copious bleeding, which was found so efficacious in curing the disease, has been recommended both by Dr. Leake and Dr. Denman; but the former had recommended large and practised small bleedings; and, though the latter has recommended large bleeding, yet he has left the quantity undetermined. This defect is supplied in the following work; for I have both limited the quantity of blood necessary to be taken away, and fixed the time when the taking away of that quantity will certainly cure.

To the treatise I have added an Appendix, in which I have been led to examine the opinions of some of the best writers on the puerperal fever. This, notwithstanding its tendency to involve me in controversy, which I very much dislike, could not well be avoided, because, without it, the work would have been defective. For, in it, several practical points of great importance are established, and, in particular, it is proved, that all the different varieties of the disease require a similar treatment; because, whatever be the cause, the effect is the same, viz., abdominal inflammation. The discussion of this point will relieve the minds of inexperienced practitioners from many doubts and difficulties, which must have otherwise perplexed them.

The benevolent reader must observe, with displeasure, the ungenerous treatment which I met with from that very sex whose sufferings I was at so much pains to relieve; for, while I was using my best endeavours to mitigate the calamities of many miserable sufferers, several others were very busy in traducing my character, who, prompted by prejudice, very uncandidly, proclaimed the deaths, and concealed the cures, on purpose to raise an odium against my practice. This was hard; but it was some consolation to me to reflect, that a similar misfortune happened to one of the greatest ornaments of our profession, the illustrious Dr. Sydenham, who has been very properly styled the modern Hippocrates. Uncommon sagacity and diligent observation enabled him to discover a successful method of treating most diseases, for which he was rewarded with ingratitude and defamation. But this worthy man, actuated with the purest philanthropy, was more solicitous to do good to mankind than to be praised by them, expecting his reward elsewhere.

CHAPTER I.

HISTORY AND SYMPTOMS OF THE DISEASE.

History.— The disease which I propose to describe made its appearance at Aberdeen in the month of December, 1789, and prevailed as an epidemic among lying-in women till the month of March, 1792, when it finally ceased.

This epidemic seemed, in every respect, to answer the description of the puerperal or childbed fever, on which many authors have written, particularly Drs. Hulme, Denman, and Leake, who have described it with great ability.

The puerperal fever, according to the account given of it by authors, is more frequent and fatal in large towns and in hospitals, than in the country and private practice. But that under consideration was not confined to the town of Aberdeen, but extended to the suburbs and contiguous country, where it proved as fatal as in the heart of the city. It was not peculiar to any particular constitution or temperament, but promiscuously seized women of all constitutions and temperaments; for the strong and the weak, the robust and the delicate, the old and the young, the married and the single, those who had easy, and those who had difficult labours, were all equally and indiscriminately affected.

It prevailed principally among the lower classes of women, and, on account of my public office and extensive practice in midwifery, most of the cases came under my care. But women in the higher walks of life were not exempted, when they happened to be delivered by a midwife or physician who had previously attended any patients labouring under the disease.

In the history of this disease, an account of the weather and state of the atmosphere will, no doubt, be expected; but though I paid particular attention to these, I have omitted any such account, because I discovered that the disease was occasioned by a cause very different from the sensible qualities or constitution of the air. What that cause was, shall be mentioned afterwards in its proper place. For the present I shall only remark, that, by observation, I plainly perceived the channel by which it was propagated; and I arrived at that certainty in the matter, that I could venture to foretell what women would be affected with the disease, upon hearing by what midwife they were to be delivered, or by what nurse they were to be attended during their lying-in: and, almost in every instance, my prediction was verified.

The disease was new and unknown in Aberdeen, and a very powerful prejudice prevailed against the treatment proper for

curing it; for the cure depended upon bleeding and purging, and both were repugnant to popular opinion. The only disease, supposed by the vulgar to be incident to lying-in women, is a disorder commonly called the weed, which is an ephemera similar to the paroxysm of an intermittent fever, and always terminates without any danger. Puerperal fever was a term and a disease to which they were total strangers. And, because its attack was always with a rigor, or cold fit, it was, for that reason, confounded with the weed, and the same treatment recommended. On this ground, heating cordials were profusely exhibited by female practitioners, who are as numerous now in Aberdeen as they were formerly in London in the days of Sydenham: but they obtained no great credit by such a practice, for none who were treated in this manner recovered.

The disease was not only unknown to the vulgar, but even medical practitioners had very little experience in treating it; most of whom had no other knowledge of the disease than what they had derived from books; and the book most commonly read was a work which represents the puerperal fever as a putrid disease; the performances of Drs. Hulme, Denman, and Leake, the best writers on the subject, being in very few hands. For though a similar disease was epidemic in Aberdeen in the years 1760 and 1761, yet there was no physician alive, who practised at that time, to assist by his experience on this pressing occasion. Such was the situation of matters when the puerperal fever made its appearance in Aberdeen; and I thought proper to call in two of the oldest, most respectable, and most experienced practitioners of the city, who were men of no less candour than skill, and possessed minds perfectly open to conviction; so that, if any doubts remained with respect to the nature of the disease, they were thoroughly removed upon seeing the cases, dissections, and method of cure.

Symptoms. — With respect to these I may truly affirm, that there is scarce any disease more regular in its time and manner of attack, or more uniform in its appearance and symptoms. It most commonly commenced on the second or third day after delivery; for, except in two cases, it always seized the patient before the secretion of the milk; and three-fourths of the whole were taken ill on the day after the delivery, in the afternoon or evening. Its attack was regularly with a violent rigor, or shivering fit, which was succeeded by a great degree of heat, rapid pulse, and severe pain in the abdomen, which was always very tender to the touch, and when pressed occasioned great uneasiness. These were the principal pathognomonic or characteristic symptoms essential to the disease.

But, unfortunately for the patient, it too often happened, that the cold fit, which ushered in the disease, was called a weed, and not considered as dangerous; and that the pain in the abdomen was, by nurses and midwives, mistaken for after-pains, and little atten-

tion paid to it. These were fatal mistakes for the patient, because, by the delay thereby occasioned, the disease was incurable before assistance was sent for. And this delay frequently happened, notwithstanding I was at particular pains to explain to all concerned in the charge of lying-in women the difference between them, which was by no means difficult to be understood. For the pain of the puerperal fever is constant, and after-pains periodical; in the puerperal fever the abdomen cannot be pressed without occasioning great pain, in the after-pains the abdomen is not painful to the touch; in the puerperal fever the pulse is always very quick, in after-pains the pulse is not at all affected.

The pain was generally seated in the hypogastric region, and in a few cases there was a pain which darted from the pit of the stomach down to the spine; but in three-fourths of the whole, the principal seat of the pain was the right side, near the origin of the colon. The pain, in whatever part it was seated, was so excruciating that the miserable patients described their torture to be as great, or greater than what they suffered during labour.

Some complained of a violent pain in the small of the back; and many complained of a severe pain in the lower extremities, which, being too frequently taken for rheumatism, was another fatal cause of mistake.

The pulse was sometimes hard, but more frequently weak, and acquired an uncommon velocity at the beginning of the disease; for, except in two or three cases, in which the pulse was at the rate of 128, in all the rest it was not under 140 strokes in a minute, very early in the disease. And, unless the disease was early checked by proper remedies, it continued to increase in quickness, till it exceeded 160 strokes in a minute; and, before the fatal close, it generally became too quick to be numbered.

In most of the cases, especially those which had been neglected at the beginning, there was a considerable tumefaction of the abdomen, which, as the disease advanced, frequently became as much distended as before delivery.

The tongue in most cases was white, but soft and moist; in those, however, which were long protracted, it became dry and rough, having the same appearance as in typhus.

The urine was sometimes high coloured, but more frequently turbid, and was often passed with pain and difficulty.

The blood taken away in this disease had always a very thick inflammatory crust, and was exactly similar to that of patients in pleurisy and rheumatism.

The skin was generally hot and dry, but sometimes it was moist; and an universal sweat was diffused over the whole of the body, pretty early in the disease, even in some cases which terminated fatally. Partial sweats, however, were very common, and when cold and faint, and confined to the face and breast, announced the approach of death.

A circumscribed crimson colour in the cheeks was a symptom which sometimes occurred towards the close of the disease, and was a mortal symptom.

A vomiting of bile, of a green colour, was a symptom which frequently occurred, especially when the patient was costive: and when there were symptoms of mortification, what the patient vomited was black, and had a strong resemblance to the grounds of coffee.

A diarrhœa was a frequent symptom, and was a symptom rather to be desired than dreaded; for, without a spontaneous or artificial diarrhœa, very few recovered. The stools were frothy, and of a yellow, greenish, or dark brown colour; and every discharge by stool seemed to give temporary relief: but, towards the end of the disease they were frequently involuntary, and, sometimes, became black and very fetid, resembling moss-water, and were one of the symptom of internal mortification.

The lochial discharge commonly continued to flow as usual, though in some the discharge was diminished, yet in few or none was it wholly suppressed. In those cases which terminated fatally the secretion of the milk never took place, and in such as recovered there was no secretion of it till after the crisis.

As the disease advanced, especially when the pain was great and the abdomen much distended, respiration was performed with great difficulty. This did not appear to be owing to any complaint in the thorax, but to the mechanical compression, made upon the tender viscera of the abdomen, by the diaphragm and abdominal muscles during respiration, which were too tender to bear the smallest pressure, without occasioning the most exquisite pain.

The situation of the patient, at this period of the disease, was truly deplorable; for the pain of the abdomen, already excruciating, was aggravated by the act of respiration, and by the smallest motion of the trunk. The miserable patient, therefore, lay on her back incapable of turning on either side, and unable to breathe. Death, in such circumstances, was an event to be much wished for.

The intellectual faculties were sometimes, but not frequently, deranged; for I seldom observed a delirium, except in a few improperly treated or neglected cases, to which I was called late in the disease. But, in general, the patient retained her senses to the last.

In all of them the attack was sudden, without any previous complaint or indisposition.

This disease, when left to nature, or improperly treated by art, generally proved fatal. Nor was it commonly less regular in its crisis than it was in its time of attack; for, as it commonly seized the patient on the day after delivery, so it commonly proved fatal on the fifth day from the attack; and, of such as died, more than a half died on the fifth day. Some died with great composure, others

in great pain. For, in some, there was a total cessation of pain a few hours before death; and, while the patient was transported with the sudden transition from extreme pain to perfect ease, and overjoyed with the thoughts of recovery, death came by surprise, and carried her off, amidst the congratulations of her friends. To such patients death might be said to be rather pleasant than painful. Several, however, had a violent struggle, and died in great agony.

When called in the beginning of the disease, that is, within six or eight hours after the attack, I was often able to put an immediate stop to it, even when the pulse was at the rate of 140. But when the patient had been ill twelve or twenty-four hours before I was called, I was not able to bring the disease to an immediate conclusion; the most I could do, in such cases, was to check its violence, and overcome it by degrees; for I could seldom bring it to a complete termination before the fifth day.

But, when the patient had been ill for a longer space than twenty-four hours before I was sent for, I generally found that the disease was no longer in the power of art.

CHAPTER II.

CASES AND DISSECTIONS.

Before I proceed to the consideration of the nature and cause of the disease, it will be proper for me to give a narrative of the cases, and likewise a description of the appearances, discovered by the dissection of such patients as died of the disease. On these, which are so many established facts and incontrovertible truths, my doctrine of the puerperal fever is grounded.

There was such a similarity in the cases of the several patients, that to give a minute detail of every individual case would be a tiresome tautology. I shall, for that reason, only select a few out of the whole as specimens.

But some general circumstances relating to every case are comprehended in the annexed table, which contains all the casesthat came under my care. And, to this table, I shall have occasion frequently to refer in the course of the work.

A TABLE

Containing an account of those patients affected with the puerperal fever, who were attended by Dr. Gordon, from December, 1789, to October, 1792.

When taken ill.	No.	Name.	Age.	Residence.	Cur'd.	Dead.	By whom delivered.
1789.							
Dec.	1	Jas. Garrow's wife	27	Woolman-hill		5th day	Mrs. Blake
Do.	2	Jas. Smith's wife	30	Do.		23d	Do.
Do.	3	John Smith's wife	34	Green		11th	Mrs. Elgin
Do.	4	Al. Mennies wife	25	Hardgate		11th	Do.
1790.							
Jan.	5	J. Anthony's wife	25	North-street		3d	Dr. Gordon
Feb.	6	Christian Durward	36	Rottenholes		3d	Do.
April	7	Al. Stuart's wife	30	Denburn	1		Mrs. Philp
May	8	Wm. Elrick's wife	34	Exchequer-wynd	2		Mrs. Blake
Do.	9	Elizabeth Murray	28	North-street		7th	Do.
Do.	10	Helen Mitchell	30	Do.	3		Do.
Do.	11	Janet Wier	34	Denburn	4		Mrs. Elgin
Aug.	12	Mrs. Johnston	36	Littlejohn's-str't	5		Mrs. Smith
Do.	13	Geo. Webster's wife	38	Fowler's-wynd	6		Mrs. Blake
Do.	14	Peter Paul's wife	32	Windmill-brae	7		Do.
Do.	15	John Low's wife	25	Justice-mills		5th	Mrs. Smith
Do.	16	Mrs. Milne	27	North-street	8		Mrs. Blake
Sept.	17	Isabel Allan	36	Birnie's-close		5th	Mrs. Coutts
Do.	18	Robt. Burr's wife	30	Gallowgate		2d	Mrs. Irvine
Oct.	19	Al. Eddy's wife	36	Do.		3d	Mrs. Clark
Do.	20	Agnes Milne	24	Putachie-side	9		Do.
Do.	21	Al. Stuart's wife	26	Green	10		Mrs. Blake
Do.	22	Eliza'th Jamieson	25	Windmill-brae		5th	Dr. Gordon
Do.	23	D. Nicol's wife	25	Green	11		Mrs. Philp
Do.	24	Al. Brown's wife	27	Loan-head		5th	Mrs. Elgin
Do.	25	Anne Smith	24	Denburn		5th	Do.
Do.	26	Mrs. Malcom	25	Green		1st	Do.
Do.	27	W. Robertson's wife	30	Gilcomston		5th	Mrs. Emslie
Do.	28	Jean Webster	17	Justice-port	12		Mrs. Anderson
Nov.	29	Anne Cumming	29	North-street	13		Do.
Do.	30	Margaret Still	25	Do.	14		Do.
Do.	31	Janet M'Kay	38	Gallowgate	15		Mrs. Clark
Do.	32	Jean Laing	32	Do.		7 th	Dr. Gordon
Do.	33	Mrs. Leitch	40	Carnegie's-brae	16		Do.
Do.	34	Anne Barclay	20	Tannery-street	17		Mrs. Clark
Dec.	35	Mrs. Muffart	36	Hardgate	18		Mrs. Davidson
Do.	36	Jean Galloway	27	North-street	19		Mrs. Anderson
Do.	37	Janet Anderson	25	Putachie-side		5th	Mr. Harvey
Do.	38	Mrs. ———	25	———		5th	Dr. Gordon
1791.							
Jan.	39	Al. Main's wife	40	Poinernook		1st	Mrs. Henderson
Feb.	40	Violet Thom	25	Green	20		Dr. Gordon
Do.	41	Mrs. Home	22	Carnegie's-brae	21		Mrs. Ogilvie
Do.	42	Mrs. Walton	25	North-street		11th	Do.
Do.	43	Elspet Riach	25	Do.		5th	Mrs. Balfour
Mar.	44	Janet Cormack	25	Back-wynd	22		Do.

Table continued.

When taken ill.	No.	Name.	Age.	Residence.	Cur'd.	Dead	By whom delivered.
1791.							
Mar.	45	And. Duncan's wife	26	Back-wynd		5th day	Mrs. Blake
Do.	46	Anne Davidson	34	Justice-port	23		Mrs. Anderson
Do.	47	Elspet Fife	30	Windmill-brae	24		Mrs. Keith
Do.	48	Margaret Forbes	40	Footdee	25		Mrs. Anderson
April	49	Janet Robertson	36	Correction-wynd	26		Mrs. Coutts
Do.	50	Wm. Gibbon's wife	27	Do.	27		Dr. Gordon
Do.	51	John Duncan's wife	26	Woman-hill		7th	Mrs. Keith
Do.	52	J. Davidson's wife	25	Castle-street	28		Dr. Gordon
Do.	53	Rachel Gordon	36	Do.	29		Mrs. Mitchell
May	54	Mrs. Clark	25	Gallowgate	30		Dr. Gordon
Do.	55	Geo. Duthie's wife	30	Torry		5th	Mrs. Philp
June	56	Anne Molison	27	Windmill-brae	31		Mrs. Emslie
Do.	57	Mrs. Henrie	30	Lodge-walk	32		Mrs. Elgin
Sept.	58	Elspet Robertson	25	Shoe-lane	33		Mrs. Blake
Do.	59	Rachel Leith	25	Back-wynd	34		Mrs. Taylor
Do.	60	Mrs. Thomson	25	Lodge-walk	35		Dr. Gordon
Oct.	61	Mrs. Ligertwood	30	Queen-street	36		Do.
Do.	62	Widow Forbes		Printfield	37		Mrs. Taylor
Nov.	63	Mrs. Brown	42	Fintray		5th	Mrs. Mitchell
Do.	64	Mary Meldrum	32	Windmill-brae		5th	Mrs. Chalmers
Dec.	65	Jean Brown	36	Vennel	38		Mrs. Anderson
Do.	66	Margaret Yull	23	Castle-street	39		Dr. Gordon
Do.	67	Anne Hervie	23	Woman-hill	40		Mrs. Keith
Do.	68	Isaac Allan's wife	22	Windmill-brae	41		Mrs. Emslie
1792.							
Jan.	69	Mrs. White	30	Printfield		5th	Mrs. Keith
Do.	70	Mrs. Byrn	27	Broadgate	42		Mrs. Philp
Do.	71	Christian Sangster	30	Green	43		Mrs. Ogilvie
Feb.	72	Al. Sim's wife	27	Printfield	44		Mrs. Chalmers
Do.	73	Jas. Gordon's wife	28	Do.	45		Dr. Gordon
Do.	74	Mrs. Mather	26	Drum	46		———
Mar.	75	T. Wallader's wife	36	Printfield	47		Mrs. Keith
Do.	76	Mrs. Imlach	24	Pesly	48		Dr. Gordon
Oct.	77	Anne Skinner	36	Gallowgate	49		Do.

Case I. *John Low's wife*, No. 15 in the Table.— In the afternoon of the 19th of August, 1790, John Low, miller at Justice-mills, came to my house, requesting me to go immediately to his wife, "who," he said, "had severed after delivery, and was in great danger." I accordingly went, and found her in a dangerous situation; she complained of an acute pain in the lower part of the abdomen, attended with a very great degree of fever, the velocity of the pulse being at the rate of 140 strokes in a minute.

The disorder commenced with a violent rigor at six o'clock in the morning, being about 36 hours after delivery.

I had no difficulty in ascertaining the patient's disorder, having had previous opportunities of seeing it both in London and in the course of my practice in Aberdeen, for this was the fifteenth case I

had attended since the epidemic began, though the first of which I kept a journal. And, in every respect, the disease answered the description of that known to practitioners by the appellation of the puerperal fever, a distemper which so frequently proves fatal to women in childbed, baffling the skill of the most eminent physicians. As, therefore, I had so often seen the disease, I could not be puzzled in regard to the proper method of treatment; though, at the same time, I was well aware that I could by no means promise success.

I accordingly ordered bleeding to the quantity of sixteen ounces, the abdomen to be fomented, and a glyster to be given; and, at the same time, I ordered large quantities of diluting drink: I likewise directed an anodyne diaphoretic draught to be given at night, and a cooling laxative the ensuing morning.

On the 20th, when I visited the patient, I found the velocity of the pulse somewhat diminished, but no abatement of the other symptoms (the pain and tension of the abdomen remaining as before).

The laxative given in the morning had the desired effect; the blood drawn exhibited a very thick inflammatory crust; the lochia were suppressed; the urine was scanty and voided with pain; when recent it was high coloured, but when allowed to stand for a short time it became exceedingly turbid.

The fomentations were continued, and an opiate given in the evening.

On the 21st, when I visited her in the morning, I was happy to find that she had been pretty easy throughout the night, and had enjoyed some hours sleep. The pulse was 136. She was in a profuse sweat, which, I hoped, would prove critical, and, therefore, endeavoured to promote it by small doses of tartar emetic in the saline mixture. But I was sorry to find that I was disappointed in my expectation; for, when I returned in the afternoon, I found that the sweat had disappeared, being succeeded by a diarrhœa.

The patient now complained of very great pain, and the swelling of the abdomen seemed to increase. I ordered an opiate in a large dose, and applied a blister to the abdomen.

On the 22d, I was sorry to find that the disease was making rapid progress, in spite of all the remedies employed; and, as I perceived that the diarrhœa was not proving critical, (for the pain and tension were extended over the whole of the abdomen,) and that the patient's strength was sinking, all hopes of recovery were now totally abandoned.

The patient's agony was now extremely great, and called loudly for relief; I, therefore, thought proper to administer opium both externally and internally, on purpose to mitigate pain, and, if possible, to procure rest.

I went early in the morning of the 23d to visit my distressed patient, and found that the storm was lulled into a calm. The

friends received me with transports of joy, vainly thinking that the danger was over.

The patient, supposing herself perfectly well, asked my permission to rise; for she seemed to feel no pain, and suffered me to touch and press the abdomen, without showing any signs of uneasiness; a proof that the parts were in a state of gangrene. For this sudden cessation of pain, in the puerperal fever, is a fatal symptom, which announces the approach of death, and denotes that a mortification has taken place. The friends, ignorant of this circumstance, were quite overjoyed to see the patient so composed, after such excruciating pain. However, notwithstanding this composure and apparent ease, it was evident, from the ghastly appearance of the countenance, from the tumefaction of the abdomen with the absence of pain, from the sunk state of her pulse, and from the coldness of the extremities, that death was not far off. Accordingly, in a few hours, the scene was closed.

On this occasion, my practice exposed me to the unmerited reproaches of the ignorant and illiterate. For, though I had given an unfavourable prognosis, and desired a consultation, early in the disease, yet that did not exculpate me, nor mitigate the severity of popular clamour. On this, as well as on many other occasions, I found that scientific practice and populur opinion very seldom correspond.

According to a vulgar custom in this country, the women came from all quarters to see the patient, and to offer their advice. Several ladies likewise joined the crowd; and though they neither knew the nature, nor even the name of the disease, yet they gave their advice with great freedom! Some said it was wrong to bleed, others that it was improper to purge a patient in such a situation; some prescribed heating, and others astringent medicines, supposing the disease was what they call a weed improperly treated; and, seemingly actuated by other motives than the good of the patient, they proposed different practitioners, every one recommending her own favourite.*

To put an end to this unpleasant scene of discord and confusion, I called in Dr. Bannerman, a very respectable physician, and of great experience, whose opinion coincided with my own, both in regard to the nature of the disease, the treatment, and apparent danger.

We were both very solicitous for leave to inspect the abdomen after death, but the friends could not be prevailed upon to give their consent; however, from the foregoing detail of symptoms it may be judged what was the state of the parts.

Case II. *Isabel Allan*, No. 17.—On the 24th of September, 1790, I was called to Isabel Allan, a married woman, aged 36 years, who, about twenty-four hours after delivery, had been attacked

* So minute a detail might, perhaps, have been omitted; but I have given it to show the obstructions I met with in my practice.

with a violent rigor, which was succeeded by an acute pain in the lower part of the abdomen, especially in the right side, attended with a great degree of fever. She had been thirty hours ill when I was sent for. Before I saw her, the abdomen was considerably tumefied; her pulse was at the rate of 140, and hard; she likewise complained of sickness at the stomach, and vomited bile of a green colour. The lochia were suppressed, and the urine was high coloured. In short, she had all the symptoms of the puerperal fever.

I, therefore, ordered her to be freely bled, a purgative to be given; the application of fomentations to the abdomen, and an anodyne diaphoretic draught at night.

When I saw her on the morning of the 25th, I was happy to find her, to appearance, much better; her pulse was now only 124, the pain of the abdomen was much abated, and she was in a profuse sweat, which I endeavoured to promote, by giving emetic tartar in small doses. But in the evening I was sorry to learn that there had been a return of the rigor, which lasted long, and was followed by a considerable increase of fever, with a very pungent pain, and tension of the abdomen.

I did not think it prudent to venture with a second bleeding, but I ordered a large blister to be applied to the abdomen, and a cooling purgative to be taken in the morning.

Next morning, when I visited her, I was concerned to find that all the symptoms were worse; the pain and swelling of the abdomen were increased, and the pulse was at the rate of 160. But I had not much reason to be surprised at this, as none of my orders had been obeyed. I, therefore, considered the case as hopeless. The miserable patient struggled for twenty-four hours, when she died, being the fifth day of the disease.

Dissection. — Leave being given to inspect the abdomen, I went on that business on the evening of the 28th, attended by Mr. Harvey, Mr. John Gordon, and Mr. Joseph M'Rae.

Upon opening the abdomen, I found the peritoneum and its productions, the omentum, mesentery, and mesocolon, in a state of inflammation. The omentum had lost about half its substance by suppuration; the mesentery and mesocolon, and that part of the intestinal canal with which they are connected, were very much inflamed. But the disease appeared more especially to occupy the right side; the right ovarium had come to a suppuration; the colon, from its caput along the course of the ascending arch, was much inflamed, and beginning to run into gangrene. A large quantity of pus and extravasated serum appeared in the cavity of the abdomen, which, when taken out and measured, amounted to two English pints. The peritoneal coat of the uterus was inflamed, and the organ itself not so compact and contracted as it ought to have been. Upon opening it, its cavity was found covered with a black-coloured substance, which at first had the appearance of

mortification, but when wiped off was found to be nothing else than the membrana decidua, in the state in which it naturally is about this time.

Case III. *Janet Anderson*, No. 37. — Janet Anderson, a dispensary patient aged twenty-five years, after an easy labour, was brought to bed of a living child on the 3d of December, 1790, and had no complaint till the 4th, when about five o'clock in the afternoon the puerperal fever made its attack, with a very long and violent rigor, and I was immediately sent for.

Before I saw the patient the cold stage was over and the hot commenced; the pulse was at the rate of 128, and hard. I ordered immediate bleeding; but before the gentleman could be got who was to perform the operation about an hour elapsed, and, what is very remarkable, the pulse, in that short space, rose from 128 to 140! — a striking proof of the rapid progress of the disease.

I ordered her to be largely bled, but, before the intended quantity was taken away, the patient fainted, and, for that reason, the operator thought proper to desist. After the bleeding a purgative was given.

The next morning I was happy to hear that she had enjoyed a pretty good night's repose, though I was a good deal disappointed to be informed that the purgative had not answered my wishes. The blood had a thick inflammatory crust; she complained much of her belly, and her pulse continued at the rate of 140, and the lochia still continued to flow in moderate quantity.

The feebleness of the pulse deterred me from repeating the bleeding; the next design, therefore, was to excite a diarrhœa, and to endeavour to determine to the skin by sudorifics. In order to answer these intentions, I prescribed the powder of jalap in the saline mixture, to be given, at proper intervals, till it answered the end. When I returned in the evening, I was informed that she had slept a good deal throughout the day, and that the purging medicine had produced two or three motions. I ordered the same medicine to be continued.

On the 5th, when I visited her, I was informed that she had enjoyed a pretty good night's rest; the medicine had procured some stools, but not so many as I could have wished; the pulse was about 136; the pain of the abdomen was not exquisite, and chiefly confined to the right side.

In the evening, when I returned, I was happy to find the patient in a gentle diaphoresis, which extended over the whole body, and I was in great hopes that it would prove critical; but I was unhappily disappointed; for, next day, being the fourth from the attack of the disease, I was sorry to find that all the symptoms were aggravated. The diaphoresis had continued for a short time only, and she had a bad and restless night. The pain in the side was now very exquisite, and the abdomen tumefied; there was likewise a great difficulty of breathing, and oppression about the præcordia; the velocity of the pulse was greatly augmented; the tongue very

white; the thirst great; the lochia were now suppressed, and the patient began to be delirious.

These alarming symptoms induced me to avail myself of the assistance of another practitioner; I therefore thought proper to call in Dr. Skene, who readily accompanied me to the patient, and, with his approbation, a blister was applied to the side affected, the laxative medicine was continued, and an anodyne diaphoretic draught given at night.

On the 7th, being the fifth day of the disease, I found an increase of all the unfavourable symptoms; the pain and tumefaction of the abdomen were greatly increased, as was also the difficulty of breathing. A plentiful diarrhœa now came on; but it was too late, for nature, unhappily, was refractory, at the time when her efforts were likely to have been of service.

In the evening, when I visited her, there was every sign of approaching death; the pulse was sunk, and the extremities cold; and, in a few hours, the scene was closed.

Dissection. — Many arguments were ineffectually used to persuade the friends to permit an inspection. However, at last, very unexpectedly, they gave their consent, and this circumstance obliged me to go on that business, at a very late hour, attended only by my principal pupil, Mr. Harvey, who always accompanied me on such occasions. I was sorry that the lateness of the hour deprived me of the pleasure of Dr. Skene's company, whose presence is desirable, on these occasions, on account of his anatomical knowledge.

When the abdomen was opened, the omentum presented itself perfectly entire, and very little diseased, only somewhat more of a red colour than it is in a natural state; the stomach was sound, but all the intestines were much inflamed, and distended with air, particularly the colon. The left ovarium was sound, but the right was almost totally wasted by suppuration. There was about half a pint of pus and extravasated serum in the cavity of the abdomen. The uterus was lying above the brim of the pelvis, and was considerably more enlarged and distended than it ought to have been. Upon cutting into it, its internal surface exhibited the same appearances already mentioned in the case of Isabel Allan.

The lateness of the hour prevented me from proceeding to the dissection of the thorax; and I was the less solicitous about the matter, as I had seen in the abdomen the cause of the patient's death.

Case IV. Mrs. ———, No. 38. — This lady thought herself secure because she was to be delivered by me, and I shall ever regret that her expectations were disappointed.

She had an easy labour, and remained perfectly well till the day after delivery, when, about five o'clock in the afternoon, she was seized with a shivering fit, which lasted long, and was succeeded by a very quick pulse, and an acute pain in the right side of the abdomen.

I was sent for soon after the attack, and found the pulse at the

rate of 140; I ordered sixteen ounces of blood to be taken away, and a purgative to be given, which unhappily failed to operate.

Next morning I called in Dr. Bannerman, a very skilful physician, and we agreed to repeat the bleeding to ten ounces, and to administer Dr. James's powder, which, in a short time, produced five or six plentiful motions, by which the patient was greatly relieved.

In the evening we were joined by Dr. Skene, a physician of great experience, who proposed to discontinue the purging plan, and to substitute sudorifics in its place. This, though a deviation from my usual practice, I did not oppose, because it was the proposal of a senior physician.

On the third day, in the morning, there was a remission, but, in the afternoon, the fever returned with greater violence than before, and the event of the disease was now too evident. Accordingly, the remainder of life was one continued conflict, painful to the patient, and distressing to the spectators.

A large blister was applied to the abdomen, which, instead of doing service, seemed rather to aggravate the patient's distress by the irritation it produced. Alarming symptoms seemed to increase every hour; the intellectual faculties began to suffer by a temporary delirium: convulsions were frequently interposed; the pulse became weaker and weaker, till, at last, it ceased altogether; the extremities grew cold; the sight failed; and death closed the melancholy scene.

Dissection. — This afforded a lamentable proof of the imperfection of our art; for we had the mortification to find that we had almost conquered the disease, and lost our patient for want of courage to carry evacuations to a proper extent; for there was but a slight degree of inflammation, and no inflation of the intestines; the right ovarium was enlarged to the size of a hen's egg, and was approaching to a state of suppuration; there was but little extravasation in the cavity of the abdomen, and what there was seemed to have proceeded from the inflamed ovarium. And, I am fully persuaded, that, if we had carried our remedies to a greater extent, the life of the patient would have been thereby saved. If either the quantity of blood, which was taken away at the two bleedings, had been taken at the first bleeding, or the purging been continued, which was exchanged for sweating, I am thoroughly convinced we should have been able completely to overcome the disease.

This was the opinion which I formed from the dissection, and its truth was confirmed by my success in all the succeeding cases to which I was called.

Thus, the loss of this patient was the means of saving many others.

Case V. *Janet Cormack*, No. 44. — On the 1st of March, 1791, I was called to Janet Cormack, a married woman, aged twenty-five years, and found her in imminent danger; for, on the second day after delivery, the puerperal fever made its attack with a very violent rigor or cold stage.

She had been five days ill before I was sent for. When I saw her, I found the abdomen tumefied, and very painful to the touch; the patient's strength was much exhausted, and her pulse so much sunk that I did not think it possible for her to survive many hours.

In such circumstances there was scarce ground for any indication, or rational method of cure; I, therefore, called in Dr. Skene to have his opinion, whose sentiments corresponded with my own; for we were both of opinion that her case was hopeless. However, we thought proper to give an opiate in a large dose, on purpose to mitigate pain. But what was given as a palliative, very unexpectedly proved a cure; for it both procured rest and produced a copious sweat, and the patient next morning was greatly relieved. A plentiful sweat continued for several days, and the pulse became less frequent.

Care was taken to keep the bowels open, and to procure rest by opiates; and I was now in hopes that nature would perform a cure. However, she still remained in a very precarious state, for the fever never entirely left her. The tumour of the belly was at the same time large and hard, so that there could be no doubt of internal suppuration. Little hopes, therefore, could be entertained of the patient's recovery. But, about a month after the attack of the disease, nature, by a wonderful and an astonishing effort, relieved the distressed patient by an aperture at the umbilicus, through which a very large quantity of purulent matter was discharged, which continued to flow for the space of three weeks, when the tumour subsided and the orifice closed.

The patient soon after began to menstruate, and in a little time recovered more strength than could have been well expected.

Thus, we have a very singular and uncommon termination of a very dangerous and deplorable case, which shows the wonderful powers of nature, and what she is capable of performing, even in the most desperate and hopeless cases.

And, what is equally remarkable, the first case of puerperal fever which I had an opportunity of seeing in Aberdeen, terminated in the same extraordinary manner, though I was called early, and notwithstanding bleeding and other evacuations were carried to a greater extent.

So curious a case deserves to be described, and the history thereof is accordingly subjoined.

Case VI. *Thomas M'Robert's wife.* (Not in the Table.) — In November, 1788, I was called to the wife of Thomas M'Robert, in Belmont-street, whose labour was attended with difficulty, owing to the presentation of the face; however, the child was expelled by the action of the uterus, and great care was taken to guard the perinæum.

The woman had no complaint till the second day after delivery, when I was called to her at midnight; her husband being alarmed, on account of a very long and severe shivering, with which his wife had been seized.

When I went to the patient I found her labouring under a great

degree of fever, attended with a violent pain in the abdomen. She likewise complained of great sickness, and frequently vomited bile of a green colour; which symptoms clearly ascertained the nature of the disease.

I immediately bled the patient to the amount of sixteen ounces, and ordered a cooling purgative to be taken in the morning.

When I visited her next forenoon, I found no abatement of the disease; I, therefore, prescribed a repetition of the bleeding to ten ounces, and ordered the application of fomentations to the abdomen.

The lochia, which continued till now, were suppressed; the urine was scanty, high coloured, and passed with pain; I therefore ordered an infusion of linseed for drink, and nitre with crystals of tartar to be given in pretty large doses.

On the third day there was a remission, and on the fifth a complete termination of the fever.

The crisis was by a diarrhœa, accompanied with an erysipelas of one of the arms.

Dr. Bannerman was a witness of the treatment employed in this case.

About ten days after I had taken my leave of this patient, I was called to her again, on account of a violent pain in the abdomen, accompanied with swelling and tension.

The pain was very excruciating, and was described by the patient as similar to those shooting pains attending inflammatory tumours which are approaching to suppuration.

These symptoms left no room to doubt, that the disorder was the consequence of the puerperal fever, and that there was an internal suppuration. Every application was employed which had a tendency to mitigate pain, and alleviate the distress of the sufferer, till nature brought relief in the same extraordinary manner, and by the same wonderful means already mentioned, in the case of Janet Cormack. For, about six weeks after delivery, to the great relief of the patient, an outlet was made for the matter through the umbilicus. The discharge continued for several weeks, till the whole was exhausted, when the orifice closed. The patient again recovered perfect health, and has been several times pregnant.

Case VII. *Isaac Allan's wife*, No. 68. — This case terminated in a similar manner with the two cases just described.

The disease attacked the patient on the eighth day from delivery, after she had been employed in washing clothes, and began with a cold stage, to which succeeded fever and pain in the abdomen.

She had neglected to have recourse to any medical assistance at the beginning of the disease; but the pain at last became so excruciating, that she was under the necessity of sending for me. When I was called, I perceived that it was too late to attempt a cure by evacuation, and that all that art could do was to mitigate pain, and palliate the patient's sufferings by opiates, which were given in large doses.

The abdomen was swelled and painful to the touch, and the poor woman's agony was very great for the space of two months; when the disease came to a crisis, by a discharge of purulent matter from the urethra, after which the pain and swelling of the abdomen subsided. Purulent matter continued to be discharged by this outlet for the space of a month, when it stopped, and the woman recovered strength sufficient to enable her to nurse her child, and she is now in perfect health.

The few foregoing cases may be said to contain the whole, for the history of all the rest is comprehended in them.

Nos. 18, 24, 25, 26, 27, 36, and 64 had symptoms similar to the case first described, with this difference only, that in them the bowels were costive, and, for several hours before death, they vomited a matter resembling the grounds of coffee; whereas she vomited none, but had a diarrhœa, with stools not unlike moss-water. And most of the other cases, which I attended, may be referred to one or other of those above described, and are, therefore, properly omitted.

CHAPTER III.

NATURE AND SEAT OF THE DISEASE.

These have been subjects of great dispute among writers on the puerperal fever. And, I hope, that the observations which an extensive experience has enabled me to make will serve to illustrate the points in dispute. This I shall attempt to the best of my ability; wishing to avoid all controversy, to which I have a great aversion; for I am fully persuaded, that if practitioners had observed more and reasoned less, there would have been little dispute, either about the nature or seat of this disease.

Nature of the Disease. — This is a point much disputed; for some maintain, that the puerperal fever is a disease of an inflammatory, while others as strenuously contend that it is of a putrid nature. And I am very solicitous to establish this point, because it is a matter of the utmost moment, and has a direct and an immediate influence on the method of treatment; for inflammatory and putrid diseases are supposed to require remedies altogether different, and diametrically opposite.

Some, in my opinion, guided more by theory than observation, have endeavoured to settle the dispute by reasoning. But, to show how precarious reasoning is, and how little to be trusted, I think proper to mention, that the arguments employed by others to prove that the puerperal fever is a putrid disease, appear to me rather to prove that it is inflammatory. Since, therefore, different conclusions may be drawn from the same premises, no opinion

concerning the nature of a disease is of great weight which does not rest on a better foundation than that of reasoning.

Were I disposed to reason, *à priori*, concerning the nature of the puerperal fever, I would do it in the following manner.

Since the state of childbed is the conclusion of a great process, which begins with conception and ends with labour, and since an inflammatory disposition of body attends the whole process from beginning to end; is it reasonable to think that there would be an immediate transition, a sudden change, from inflammatory to putrid, at the close of the process? It is surely much more natural to think, that the same disposition will be continued, and that the commotion excited by labour, and the cordials so commonly given on that occasion, will rather increase than change the inflammatory state.

But there is no argument like matter of fact; I shall, therefore, relinquish reasoning, and have recourse to facts. And the doctrine which I propose to deliver concerning the nature of the puerperal fever, shall be grounded on the cases which I saw and the dissections which I made.

The foregoing table contains seventy-seven cases of the disease, which are the foundation on which my doctrine is grounded, and which I defy any theory to shake.

Of that number forty-nine patients recovered, and twenty-eight died.

Of the former, the greater part owed their recovery to such evacuations as cure inflammatory diseases, carried to a very great extent; some, to the same evacuations spontaneously excited, and continued; some, to a translation of the inflammation to the extremities, or other external parts, in form of erysipelas or abscess; and a few, to an astonishing effort of nature in discharging the abdominal suppuration by an external outlet, of which wonderful crisis I have given three remarkable cases.

Of the latter, or those who died, we have ocular demonstration of the nature of the disease in three dissections; and, in all the rest, there were evident symptoms either of mortification or suppuration of the parts contained within the cavity of the abdomen.

And if to these facts be joined this additional one, that of those who got wine and cordials, upon the supposition that the disease was putrid, none recovered, it may be considered as an established truth, that the puerperal fever is a disease of an inflammatory nature.

That it frequently puts on a putrid appearance in its progress, or in the advanced stages, I by no means refuse to admit; but observe, that this putrescency is only the effect, or consequence, of previous inflammation neglected or improperly treated. For, in the course of the disease, considerable extravasation takes place into the cavity of the abdomen; and the matter thus extravasated, by stagnation, must soon acquire an acrid and putrescent quality, and, being absorbed, will occasion putrid symptoms. And this

explains why the puerperal fever puts on a putrid appearance, and acounts for the many mistakes of physicians, with respect to its nature, who have taken the effects, or consequence, for the cause, and confounded the different stages of the disease.

But the puerperal fever is putrid in its progress only, and not in the beginning; and such putrescency is the effect, or consequence, of previous inflammation; for, when the disease is properly treated at the commencement, or soon after the attack, that is, at the beginning of the inflammatory stage, no symptoms of putrescency ever appear.

Having proved that the puerperal fever is an inflammatory disease, I shall next endeavour to investigate the specific nature of the inflammation, or inquire whether it be of the nature of phlegmon or erysipelas?

That the puerperal fever is of the nature of erysipelas, was supposed by Peautau forty years ago, and has been the opinion of Drs. Young and Home, of Edinburgh, since that time. I will not venture positively to assert, that the puerperal fever and erysipelas are precisely of the same specific nature; but that they are connected, that there is an analogy between them, and that they are concomitant epidemics, I have unquestionable proofs. For these wo epidemics began in Aberdeen at the same time, and afterwards kept pace together; they both arrived at their *acmé* together, and they both ceased at the same time.

That the erysipelas accompanied the epidemic disease of lying-in women, of the years 1787 and 1788, described by Dr. Clark of London, appears from the following words: "Inflammatory diseases have been extremely unfrequent, or, if they have occurred, they have been principally of the erysipelatous kind."*

The analogy of the puerperal fever with erysipelas will explain why it always seizes women after and not before delivery. For, at the time when the erysipelas was epidemic, almost every person admitted into the hospital of this place with a wound, was, soon after his admission, seized with erysipelas in the vicinity of the wound. The same consequence followed the operations of surgery: and the cause is obvious; for the infectious matter which produces erysipelas was, at that time, readily absorbed by the lymphatics, which were then open to receive it.

Just so with respect to the puerperal fever; women escape it till after delivery, for till that time there is no inlet open to receive the infectious matter which produces the disease. But after delivery the matter is readily and copiously admitted by the numerous patulous orifices, which are open to imbibe it, by the separation of the placenta from the uterus.

And thus a question, which has given rise to various speculations and conjectures, is solved in a very simple and satisfactory manner.

* See Dr. Clark on the Epidemic Diseases of Lying-in Women, p. 11.

The connexion of the two diseases is still further confirmed by the great extent of the inflammation and rapid progress of the disease.

And the same connexion is evident from this circumstance, that a very frequent crisis of the disease is by an external erysipelas; which is a proof that there is a metastasis, or translation, of the inflammation, from the internal to the external parts.*

From these facts the reader may draw his own conclusion concerning the nature of puerperal inflammation. At the same time, I am aware, that this investigation will afford argument against the treatment recommended in the sequel, to those who have been taught that bleeding and purging are improper in erysipelas, and that it is most successfully treated by cordials and tonic medicines. This is the doctrine taught at present in some of our schools, and will of course be adopted by many young practitioners.

But I combat opinions on the certain ground of practice, and not on the uncertain ground of theory; for which reason, the highest authority upon earth could not persuade me to admit a doctrine which disagrees with my own experience. And, therefore, I shall only briefly observe, that if such practitioners had lived in Aberdeen, during the epidemic season, and seen the success of bleeding and purging, and the fatal consequences which followed the exhibition of wine and cordials, in erysipelas, they must have altered their sentiments, or disbelieved their own eyes.

Having investigated the nature of the puerperal fever, I next proceed to inquire into the

Seat of the Disease. — With respect to the seat of the puerperal fever, writers have differed very much.

That the omentum is the seat of the disease is a supposed discovery, the merit of which has been claimed by two different authors,† each of whom has asserted his right to that honour.

It is indeed very true, that the omentum is affected in the puerperal fever; but it does not appear to be more especially affected than the other productions of the peritoneum, which are all equally and indiscriminately affected.

The dissections which I made prove, that the puerperal fever is a disease which principally affects the peritoneum and its productions, and the ovaria.

The peritoneum, or investing membrane of the abdomen, was inflamed; and the extensions, or productions, of the same membrane, which constitute the omentum, mesentery, and peritoneal coat of the intestines, were all promiscuously affected.

* This critical erysipelas most commonly fixed on the extremities, but, in a few instances, on the external surface of the abdomen, which happened in a case of puerperal fever which I attended in the year 1788. The case alluded to is the wife of William Walker at Newbridge, whom I attended, at the same time with Thomas M'Robert's wife, whose history is given in Case VI. In both cases the crisis was by an erysipelas, which, in the latter, fixed on one of the upper extremities, and, in the former, on the integuments of the abdomen.

† Drs. Hulme and Leake.

In all the subjects which I dissected, the right ovarium was diseased, and the left sound. Now, it may be asked, was this accidental, or was there some other reason for it? I observed, that in all the three cases, that ovarium was affected in which impregnation had taken place.

Does the disease universally fix upon that ovarium in which conception had taken place, or is the right ovarium more commonly affected than the left, from some cause not yet discovered?

I would, therefore, recommend this matter to the observation of future dissectors.

Thus, I have proved that the puerperal fever is an inflammatory disease, and that the seat is in the abdomen; it may, therefore, be considered as consisting in abdominal inflammation.

CHAPTER IV.

CAUSE OF THE DISEASE.

Various causes have been assigned by writers for the production of the puerperal fever. I am unwilling to repeat the observations of authors which are, or ought to be, in the hands of every practitioner who pretends to female practice.

I shall, therefore, take no notice of the numerous causes mentioned by authors, but proceed to investigate the cause of the epidemic puerperal fever under consideration.

That the cause of this disease was a specific contagion, or infection, I have unquestionable proof.

When the puerperal fever is frequent and fatal, that is, when it prevails as an epidemic, its cause has been referred to a noxious constitution of the atmosphere.*

But that the cause of the epidemic puerperal fever under consideration was not owing to a noxious constitution of the atmosphere, I had sufficient evidence; for, if it had been owing to that cause, it would have seized women in a more promiscuous and indiscriminate manner. But this disease seized such women only as were visited, or delivered, by a practitioner, or taken care of by a nurse who had previously attended patients affected with the disease.

In short, I had evident proofs of its infectious nature, and that the infection was as readily communicated as that of the small-pox or measles, and operated more speedily than any other infection with which I am acquainted

With respect to the physical qualities of the infection, I have not been able to make any discovery; but I had evident proofs that

* See Leake on the Puerperal Fever, p. 97.

every person who had been with a patient in the puerperal fever, became charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere. This is not an assertion, but a fact, admitting of demonstration, as may be seen by a perusal of the foregoing table.

The midwife who delivered No. 1 in the table carried the infection to No. 2, the next woman whom she delivered. The physician who attended Nos. 1 and 2, carried the infection to Nos. 5 and 6, who were delivered by him, and to many others. The midwife, who delivered No. 3, carried the infection to No. 4; from No. 24 to Nos. 25, 26, and, successively, to every woman whom she delivered. The same thing is true of many others, too tedious to be enumerated.

It is a disagreeable declaration for me to mention, that I myself was the means of carrying the infection to a great number of women. But, happily, before I knew that the disease was infectious, I had discovered a remedy which would certainly cure it, if early applied. This discovery was a consolation, which, in a great measure, compensated for the uneasiness which the knowledge of the above-mentioned fact would have otherwise occasioned,

The midwife who delivered Mrs. K——— carried the infection to No. 55 in Nigg, a country parish not far from Aberdeen, from whom it spread through the whole parish.

The servant of Sir William Forbes, Bart. carried the infection from his sister in Aberdeen to his wife in the parish of Fintray, six miles from town; and the midwife who delivered her infected two others in the same parish soon after, both of whom died.

The midwives from Aberdeen carried the infection to the Printfield, or great cotton-works, two miles from town, where a great number of lying-in women was affected; while, at the same time, the women in the neighbourhood who were delivered by country midwives escaped.

The infection was carried by practitioners of midwifery from Aberdeen to Gilcomston, and the Hardgate, villages in the suburbs of the city; while women in the adjacent country, who were delivered by midwives on the spot, escaped.

Now, it may seem remarkable that the puerperal fever should prevail in the new town and not in the old town of Aberdeen, which is only a mile distant from the former; that it should prevail at the Printfield, in Gilcomston, and the Hardgate, villages in the parish of the old town of Aberdeen, and not in the old town itself. But the mystery is explained, when I inform the reader that the midwife, Mrs. Jeffries, who had all the practice of that town, was so very fortunate as not to fall in with the infection; otherwise the women whom she delivered would have shared the fate of others.

Why it prevailed in the parish of Nigg and of Fintray, and not in the adjacent parishes, I have already explained.

These facts fully prove, that the cause of the puerperal fever, of which I treat, was a specific contagion, or infection, altogether unconnected with a noxious constitution of the atmosphere.

That the infection which produces the puerperal fever is not a specific contagion, but of the same nature with synochus, or typhus, has been asserted by a late writer on the puerperal fever. This author says, "that the disorder is not one, *sui generis*, confined to in-lying women, but merely an unusual form of a very common disease, and is in reality no other than the common infectious fever, complicated with a more or less extensive inflammation of the peritoneum."*

"We look on the puerperal fever as a form of the common synochus or typhus."†

The cause of both is undoubtedly infection, but the two infections are of a very different nature. For the circumstance which excites the infection of the puerperal fever, seems to prevent typhus. The former always takes place after, and not before delivery; but the latter (if pregnant women are exposed to the infection) takes place before and very seldom after delivery.

The public office of which I have the charge has afforded me an opportunity of attending an immense number of pregnant women affected with fevers occasioned by infection; and the re-result has been, abortion in the early part, and labour in the latter part of pregnancy. Which events, so far from proving fatal, for the most part brought the disease to an immediate termination, the flooding of abortion and the lochia of childbed proving critical.

But the contagion producing typhus is not only of a different nature from that which produces the puerperal fever, but the diseases thereby occasioned have very different symptoms. The principal symptom of the puerperal fever is pain in the abdomen; whereas, the principal symptom of typhus is pain in the head, without any complaint in the abdomen.

The difference is well illustrated by a case in point related by Dr. Kirkland:—

"A young woman very lately had, as I was informed, an extreme good time of her first child; but she was unfortunately put into a bed out of which her sister, my patient, was removed, who had long lain ill of a slow nervous fever. If we except her not having a stool, she went on very well for five or six days, the lochia being properly discharged; she slept well, and her breasts were filled with milk: but about the conclusion of this period, probably when the miasma received from the curtains and bed-clothes began to take effect, she complained of a pain in her head, was feverish, and her fever increasing with want of sleep, I was desired to see her on the eighth day of her lying-in. I then found her in a hot sweat, with an excessive quick weak pulse, and exactly the same kind of symptoms which accompanied her sister's fever. A clyster

* Walsh on the Puerperal Fever, p. 13. † Ibid., p. 23.

was immediately given with good effect; other remedies were ordered, and her breasts had been, and still continued to be, carefully drawn, till they became flaccid from milk not being secreted: but the parents of this woman, having lost another daughter in childbed, were firmly persuaded that this would die also. Thus she continued in the same bed, remedies were entirely neglected, she soon became delirious, and did die on the twelfth day from her delivery; but she had neither diarrhœa, pain, soreness, or swelling in any part of the abdomen, &c."*

CHAPTER V.

PROGNOSIS OF THE DISEASE.

In so dangerous a disease the prognosis must be precarious, and for the most part unfavourable; for, of all acute diseases, the plague excepted, the puerperal fever is perhaps the most dangerous.

Indeed, one of the best writers on the puerperal fever has represented it to be as destructive as the plague itself.

"The pestilence," he says, "like a fierce and untamed enemy, spreads his hostile banners in open day, and feasts on carnage and destruction, till, glutted with slaughter, he himself sinks down and dies! But the puerperal fever, like a secret revengeful foe, stabs in the dark to the very vitals; and though he kills one only at a time, yet he is privately slaying every day, and never satiated; thus making up by length of time what the other does by a sudden devastation."†

The celebrated Dr. Hunter gives a very unfavourable account of the event of the puerperal fever. And, by the same gentleman, we have a melancholy history of its fatality in one of the lying-in hospitals in London; for in that hospital, in the space of two months, thirty-two patients were affected with it, and only one of that number recovered.

In 1746, at Paris, none recovered.

According to Dr. Leake, thirteen patients out of nineteen died of this distemper, during the epidemic season.‡

And, according to Dr. Young, all the women died who were affected with this disease in the lying-in ward at Edinburgh, not one of them recovering.

In my practice, of seventy-seven women, who were attacked with the puerperal fever, twenty-eight died; so that very near two-thirds of my patients recovered, which proves that I have been much more successful than any other practitioner.

* Dr. Kirkland on Childbed Fevers, Case XVI.
† Hulme on the Puerperal Fever, p. 29.
‡ Leake on the Childbed Fever, p. 246.

But it will be proper to mention that I was too late in being called to many of the cases, and that I had a fair trial only in fifty of the above number: of these fifty, only five died.

Nothing, therefore, can be a stronger proof of the truth of my doctrine, than the success of my practice; for, according to this account, if the cure be early attempted, and conducted according to the method which I propose, only one in ten will die, if we calculate according to my success in the above-mentioned fifty cases. And it deserves to be remarked, that all these five died before the third dissection, from which I discovered the certain method of curing the puerperal fever. The time, when the third dissection was made, may be reckoned the æra from which we are to date the discovery of the cure of this disease; for, after that time, of thirty patients who were treated in the manner to be afterwards mentioned, not one died.

The course of the disease is pretty uniform, but in this there is some variation depending principally upon the time of attack; for the earlier it begins after delivery, it will prove the sooner mortal; and the later it seizes a patient, it will be the longer protracted.

Two died in the space of twenty-four hours after the attack; one in thirty-six hours; three on the third day of the disease; fifteen on the fifth day; three on the seventh; three on the eleventh; and one on the twenty-third.

Thus, more than one-half of the deaths happened on the fifth day. The fifth, therefore, may be reckoned the principal of the fatal critical days, and it is likewise the principal critical day when the crisis is salutary. By attention to this circumstance, I was enabled to give a prognosis which frequently surprised the patient's friends; for they were astonished to find, that the event corresponded in point of time with my prediction.

The salutary symptoms are a diarrhœa coming on early, especially if the tumefaction of the abdomen be thereby diminished, the pain relieved, and the pulse rendered slower. Indeed it is so far a good symptom, that without a natural or artificial diarrhœa, few or none recovered. A gentle moisture on the skin, a flow of milk to the breasts, a plentiful discharge of the lochia, are all favourable symptoms. It is likewise a favourable sign when the patient can turn herself; for, in dangerous cases, the patient generally lies in one posture, unable to turn herself in bed. But one of the most favourable symptoms is an erysipelas on the extremities, or abscesses on different parts of the body; for such are certain signs of a salutary crisis.

The dangerous or unfavourable symptoms are, a very quick pulse; violent pain and tension of the abdomen; laborious respiration; a violent rigor, and the progress of the disease very rapid; a dry, rough tongue; delirium; black vomiting; black stools; and a circumscribed crimson colour on the cheeks. Cold clammy sweats on the face and breasts, involuntary stools, a fluttering pulse, and a cessation of pain, were the immediate harbingers of death.

CHAPTER VI.

CURE OF THE DISEASE.

THERE is, perhaps, no disease in which less is done by nature, or more may be done by art. For, though I have mentioned a few wonderful cures performed by nature, yet, in general, her efforts were ineffectual; whereas, when early recourse was had to the skilful assistance of art, the disease, in most instances, was very speedily and effectually cured.

And the method which I found most successful was, by copious bleeding soon after the attack of the disease. But this did not answer the end unless it was performed early and in large quantity. And what Botallus says of the plague is strictly applicable to the puerperal fever. That author says —

"Bleeding proves more beneficial than all other remedies, provided it be seasonably used, in due quantity; but I am of opinion it sometimes does no service, either because practitioners are too late in having recourse to it, or use it too sparingly, or commit some error in both these particulars. For if a disease, which requires four pounds of blood to be taken away in order to cure it, and only one is taken away, destroys the patient; it does not prove destructive because bleeding was used, but because it was performed in an improper, and perhaps in an unseasonable manner."*

Now, nothing can be more applicable to the puerperal fever than the observations of Botallus; for, when I took away only ten or twelve ounces of blood from my patient, she always died; but when I had courage to take away twenty or twenty-four ounces, at one bleeding, in the beginning of the disease, the patient never failed to recover, as was the case with Nos. 23, 28, 33, 35, 36, 40, 41, 52, 53, 54, 56, 58, 60, 61, 62, 67, 70, &c., in the foregoing table.

If, therefore, a practitioner is called to a patient in the beginning of the puerperal fever, he must never take away less than twenty or twenty-four ounces of blood at one bleeding, otherwise he will fail in curing the disease.

I know that this will be thought too large a quantity by those who never take away more than eight or ten ounces of blood from their patients; but such practitioners would never cure the puerperal fever. For, unless a practitioner venture to take away the quantity mentioned, it would be much more prudent in him not to bleed at all, because his patient will certainly die, and the bleeding will be blamed; for among the vulgar and illiterate there is a strong prejudice against the practice of bleeding women in child-

* Botallus, cap. 7. De curatione per sanguinis missionem.

bed, it being a popular opinion that bleeding stops the lochia, and proves certain destruction to every one that undergoes it.

And I felt this prejudice in its full force, when I had not courage to take more than twelve, or fourteen, or even sixteen ounces of blood from my patients. But when I had resolution to take twenty- or twenty-four ounces at one bleeding, I disregarded it, because I was sure that that quantity, taken away within six or eight hours after the attack, would certainly cure the disease, and that of course there would be no clamour against bleeding. But when I was not called at the beginning, or soon after the attack of the disease, when the success of bleeding was uncertain, I did not bleed at all.

In this manner, at last, I fairly got the better of a prejudice, which I thought invincible; for, when people saw that all who were bled recovered, and that almost all who were not bled died, even those who were most prejudiced against bleeding were compelled to be silent. And thus, I had the satisfaction to see the voice of clamour effectually silenced.

But twenty or twenty-four ounces, which I have limited as the quantities requisite for the cure of the puerperal fever, will not be thought too large a bleeding by such practitioners as have been accustomed to see the large quantities of blood which pregnant women sometimes lose, with safety, in cases of flooding. In such cases, I have frequently seen women lose from two to upwards of four pounds of blood, in the space of a few hours: and yet these patients had good recoveries, and were the only women, delivered by me, who escaped the puerperal fever in the epidemic season."*

Besides, the quantity of blood necessary for the cure of the puerperal fever is not near so great as that recommended by some practitioners of the first rank for the cure of other diseases. Both Hippocrates and Galen bled very largely when occasion required, the latter sometimes taking away six pounds of blood with manifest advantage; and he, and other ancient physicians, did not hesitate to bleed *ad deliquium* in fevers. The illustrious Sydenham says, that he has seldom known a confirmed pleurisy cured, in grown persons, without the loss of about forty ounces of blood; and both Cleghorn and Huxham used to take away a still greater quantity in the same disease. Dr. Cullen says, that a man

* Since this work was finished, I was called to the wife of Thomas Paterson, in Gilcomston, who, at the commencement of labour, had lost four pounds of blood before medical assistance was desired. Being engaged with a case of difficult labour, I sent Mr. Booth and Mr. Morgan, my pupils, on purpose to deliver her; but she would not allow them to proceed before I visited her. In the mean time she lost about two pounds more. So that, before she was delivered, this woman lost six English pints of blood; and yet, notwithstanding this profuse hemorrhage, in three weeks she was able to walk to my house, the distance of a mile, to return thanks, when she was perfectly recovered, and had a thriving infant on the breast!

of tolerable strength may lose from four to five pounds of blood, in the course of two or three days, for pneumonic inflammation.

Now, when I was called early to patients in the puerperal fever, and had courage to take away twenty-four ounces, at one bleeding, I never failed, at once, to cure the disease. Nos. 58, 60, 62, 70, 72, 75, and 77, are instances of the truth of this.

I was called to Elspet Robertson, No. 58, a few hours after the attack of the puerperal fever, which took place on the day after delivery. This patient complained of a very acute pain in the abdomen, which had succeeded a severe rigor, or shivering fit, and the pulse was at the rate of 160. She was bled to the extent of twenty-four ounces, and got a purgative at two o'clock in the afternoon immediately after the bleeding, which produced six or seven plentiful motions. And when I saw her, at eight o'clock in the evening, to my great surprise, the pulse had come down from 160 to 108, and the pain of the abdomen was gone. Next morning, when I called, I found her without fever, pain, or any other complaint.

I was called to Mrs. Thomson, No. 60, in similar circumstances. She was treated exactly in the same manner, and the same success attended the treatment.

An express came for me, one night, to go to the Printfield to Mrs. Forbes, No. 62, who had been seized with the puerperal fever, which made rapid progress, and was attended with symptoms, which alarmed the patient's friends, and made them send for me. I despatched Mr. John Gordon and Mr. Joseph M'Rae, with instructions how to act; and they managed the case with great propriety, for, when they had taken away about twelve ounces of blood, the patient fainted: but the young gentlemen were not alarmed at that, but waited till she recovered, when they took away other twelve ounces; and, after the bleeding, they gave a brisk purgative, which operated well, producing ten or twelve plentiful motions.

When I visited the patient, next day, I found, that both the fever and pain of the abdomen were totally gone.

The attack of the puerperal fever, in this case, was on the day after delivery, in the afternoon, and she was bled and got the purgative within six or eight hours after the commencement of the disease.

Thus, I found that twenty-four ounces of blood, taken away at one bleeding, within six or eight hours after the attack of the disease, together with a single purgative, never failed, at once, to cure the puerperal fever. But when a less quantity was taken away, I either failed in curing the disease, or could not accomplish a cure without a course of purging.

Next to bleeding, therefore, purging constitutes a principal part of the cure of the puerperal fever, and this is the outlet by which nature, when left to herself, attempts her own relief.

After bleeding, therefore, it was my practice to give some active purgative, on purpose to bring on a diarrhœa, which, when excited, I found necessary to continue through the whole course of the disease, till it was entirely conquered.

When the disease was early combated, and treated in the manner mentioned, I either cured it at once, or brought it to a remission on the third day. Now, this remission on the third day is very ready to impose upon inexperienced practitioners, inducing them to give a favourable prognosis, and to desist from further purging, upon a supposition that the danger is over. But the event will convince them of their mistake; for, unless the advantage thus gained be improved by a continuation of purgatives, it will be found that the remission is only a respite, during which the disease is preparing strength to return again, in order to renew the conflict with redoubled vigour, when it will not be in the power of art to check its impetuosity. Like an enemy who retreats, on purpose to take the first opportunity of rallying on more advantageous ground, when the contest is renewed with tenfold fury.

The purging, therefore, is to be early excited, and to be continued without intermission, till there be a complete termination of the disease, which generally happens on the fifth day.

And here, again, new difficulties presented themselves; for I met with as much opposition in regard to purging as bleeding, for popular opinion was as much against the one as the other. I was, therefore, under the necessity of giving my purgatives in a concealed way. For some time, I gave powder of jalap, or *syrupus de rhamno*, in the proportions of a dram of the former, or two ounces of the latter, in six ounces of the saline mixture, of which the patient took an ounce at proper intervals. But this medicine I found to answer better for continuing, than introducing the diarrhœa; for which reason, the preference was given to others which I found more effectual. And it is a matter of the utmost moment to prescribe such purgatives as will operate with all possible speed. After trying a great variety, I found that most dependence was to be put in calomel and jalap; three grains of the former and two scruples of the latter were mixed with conserve of roses, and made into a bolus, which I always administered immediately after bleeding, without giving the least intimation of the intention of the medicine, either to the patient or her friends. This medicine commonly operated speedily and briskly, and never disappointed me, as other purgatives frequently did; and the diarrhœa, thus begun, was afterwards continued by the purging mixture already mentioned, which was given, in such proportions, as to produce five or six motions every day, without intermission, for the first three days of the disease; after which I diminished the dose, but still continued the medicine, till the disease totally ceased. Every night I administered an opiate, in order to give a respite to nature and strength to the patient, to

enable her to bear the evacuations which she must necessarily undergo the ensuing day.

In this manner I treated my patients, and the same method, if followed by others, will, I am confident, be attended with equal success. It may, perhaps, be thought a severe method of cure, but I can affirm, from extensive experience, that no other method will cure the puerperal fever. The cure is severe, but it is only short, for the patient is cured in a few days, or not at all.

"Cita mors venit, aut victoria læta."

All the patients, who were early and largely bled, and plentifully purged, recovered. On the contrary, all died who were sparingly bled, and in whom we could not excite a diarrhœa in the beginning of the disease; as in Nos. 1, 2, 3, 5, 6, 9, 17, 18, 19, 22, 24, 25, 26, 27, 32, 37, 38, 42, 43, 45, 55, of the cases in the foregoing table.

The propriety of purging in the puerperal fever was clearly pointed out to me by nature, in the case of Janet Wier, No. 11.

I was called to this patient about twenty hours after she had been attacked with the fever. She told me, that the disease began, the day after delivery, with a severe shivering. The abdomen was tumefied and painful to the touch; but the pain was most severe in the right side; her pulse was at the rate of 140, and hard. Sixteen ounces of blood were immediately taken away, which gave her great relief, and a purgative was also given. The blood had a thick inflammatory crust; and the purgative operated well. The cure, which was begun by art, was carried on by nature; for a diarrhœa continued without intermission for seventeen successive days, and was extremely violent, being at the rate of twenty or thirty stools every day. The violence of the diarrhœa made me endeavour to restrain it, but to no purpose. For nature, bent on conquest, and disdaining the impediments of art, seemed determined to continue her career, till she came off victorious. And, if it be admitted that disease is a conflict of nature fighting for her safety, this was one of the warmest contests I ever had an opportunity of witnessing. I frequently thought that the patient was irrecoverably sunk, and ready to expire; but still she revived again, and the conflict was renewed. And, after an unparalleled struggle of seventeen days, the fever ceased, and the diarrhœa abated. But, though the diarrhœa abated, it did not entirely cease; for it continued, though in moderation, for the space of six weeks; and having completely carried off the disease, it then ceased spontaneously. And what is very remarkable, after all, she had milk in her breasts, and nursed her child, which she kept at the breast for the long period of fifteen months.

Bleeding and purging are the two great hinges upon which the cure of the puerperal fever turns. Sweating is both uncertain and difficult to be excited; blisters seem rather to do hurt than good by

the irritation they occasion; warm fomentations, which are so commonly used by practitioners, are of no great service, and when applied too hot they evidently increase the pain and quicken the velocity of the pulse. In short, the only proper method of curing the puerperal fever is, by large bleeding early in the disease, and plentiful purging, with the interposition of opiates.

But though bleeding be the principal and most effectual of all remedies, yet its efficacy is limited to the beginning of the disease. However, I think that it may be successful, and ought to be tried at a later period than I could venture, on account of the prejudices of the people among whom I practised, which compelled me to be extremely circumspect.

After much experience in the disease, and mature deliberation concerning the conduct most proper to be pursued, in my peculiar situation, I came to the following resolution: If called to a case within twelve hours after the attack, I insisted on bleeding the patient, and promised for its success; but if at a later period, viz., from twelve to twenty-four hours after the attack, in that case, like Sydenham with the same remedy in the small-pox, I thought it incumbent on me to propose it as the only effectual remedy, but I neither insisted on it, nor promised for its success.

Purging, the other principal remedy for curing the puerperal fever, is not so circumscribed in its application as bleeding; for it is well adapted to all the different stages or periods of the disease, and is the evacuation to which nature herself gives the preference; being the only proper critical, or salutary discharge, that takes place in the puerperal fever.

If the disease has been neglected, or improperly treated in the beginning, the event is for the most part fatal; for the inflammation, continuing to increase, terminates in suppuration or gangrene. At any rate, considerable extravasation takes place in the cavity of the abdomen; and the disease, which was inflammatory in the beginning, becomes putrid in its progress.

In this stage of the disease most authors have recommended the use of tonic and antiseptic medicines; but my experience authorises me to put little confidence in them. For the source of the poison is in the cavity of the abdomen, for which there is no antidote in the *materia medica.*

"Dic, quibus in terris, et eris mihi magnus Apollo."

This deep-seated poison cannot be corrected, in any other way, than by being carried out of the body. But there is no direct outlet from the cavity of the abdomen, and the only channel is by a long circuit, or indirect course through the absorbents into the circulation, and out of the system by the common excretories. For the absorbents are capable of imbibing the extravasated poison, and carrying it into the system, from which it is most readily discharged by the intestinal canal. Now this method

nature frequently attempts by exciting a diarrhœa, and the practitioner, in imitation of nature, must pursue the same intention, by giving purgatives, if a spontaneous diarrhœa has not taken place.

That nature sometimes succeeds in this way, we have a remarkable instance in the case of Janet Wier, already described.

Before I finish this chapter I think proper to mention the event of this disease in the hands of those who treated it with wine and cordials, without either bleeding or purging their patients. And I took particular notice that all the women died who were attended by such practitioners. Yet their practice was praised, though it always failed, because it was pleasant, and corresponded with popular opinion: whereas my practice was blamed, though always successful, because my method of cure had the appearance of severity.

I wish the reader to take notice that I do not assert this on purpose, or in such a way as to injure the character of any individual; for I mention no name. But I consider it as a sacred duty, a matter of conscience, to mention every circumstance relating to the subject. And as the lives of thousands are at stake, the less apology is necessary. The maxim of every author ought to be the same with that of Aristotle, who says, "Plato is my friend, but Truth much more." And, in this instance, I esteemed the men, though I disapproved of their practice.

I shall finish the chapter with observing, that though the cure turns upon bleeding, yet it is to be done *early* and *largely*, or not at all; that purging can never be omitted with impunity: and that, if any one neglect to excite an artificial, or venture to restrain a spontaneous diarrhœa, or give cordials early in the disease, he will certainly lose his patient.

CHAPTER VII.

PREVENTION OF THE DISEASE.

Considering the many difficulties and the opposition which I met with in curing the puerperal fever, it will be readily believed that I should be extremely solicitous to discover a preventive for the disease. And, though I was very diligent in this search, yet my endeavours were for a long time unsuccessful. For those means which have been recommended by authors were found altogether inadequate to the purpose. And, for this reason, I hope I shall be pardoned for considering them as the suggestions of theory, which will not stand the test of experience; my experience authorising me to say, that those who trust to them will be greatly disappointed.

Those who propose to prevent the puerperal fever must have two intentions in view. The one is, to prevent the infection from being communicated; and the other is, after the infection has been communicated, to prevent its action.

My endeavours were entirely directed to this last purpose; for the puerperal fever had prevailed for some time before I discovered that it was infectious; and after this discovery was made, I saw the danger of disclosing the fatal secret.

With respect to the most effectual means of preventing the infection from being communicated, I must speak with great uncertainty, because in this matter I have not experience for my guide. When treating of the cause, the nature, and cure of the disease, I spoke with the utmost confidence, because I had experience and facts for my guide; but here those sure guides are wanting, and therefore I speak with diffidence.

Whether the infection of the puerperal fever is capable of being destroyed by the same means as that of other fevers, I cannot affirm with certainty; but think it very probable, and that they ought to be tried.

That fresh air and cleanliness are insufficient for the destruction of contagion, and that there is no certain antidote but fire and smoke, has been demonstrated by the ingenious Dr. Lind. This excellent author has proved, that fire and smoke are the most powerful agents for annihilating infection; and, as he thinks, even the plague itself.

The methods which he recommends for the purification of infected chambers, and for the fumigation of infected apparel, may be seen by perusing his ingenious papers on fevers and infection, to which I refer the reader.

The same means ought to be practised for preventing the infection of the puerperal fever. The patient's apparel and bedclothes ought either to be burnt or thoroughly purified; and the nurses and physicians who have attended patients affected with the puerperal fever ought carefully to wash themselves, and to get their apparel properly fumigated before it be put on again.

So much with respect to the method of preventing the infection of the puerperal fever from being communicated. I shall next consider the means of preventing the action of that infection after it has been communicated; and on this head I speak with proper confidence, because I speak from experience, the surest test of medical truth. And, as I have already mentioned, I found myself disappointed when I trusted to those means which have been recommended by some authors of considerable respectability. For neither antiseptic nor tonic medicines, nor such as obviate sensibility, or irritability, were found effectual. Consequently, bark, wine, opium, &c., will disappoint those who put their confidence in them.

I found, likewise, that neither the greatest care, the best of management, nor the strictest attention to regimen, were sufficient to prevent it.

After many unsuccessful trials, I began to think that those means which cured the puerperal fever would, *à fortiori*, prevent it. Bleeding, therefore, occurred to me as the most probable means of preventing the puerperal fever; but I was unwilling to have recourse to it as a preventive, because if it failed I was by that means deprived of the only certain remedy for the cure. And such was the prejudice against bleeding, that if I had used it as a preventive and it had failed, I should not have been permitted to repeat the operation afterwards, at the attack of the disease, when it was indispensably necessary.

I was therefore compelled to rest contented with purging; and the purging bolus, which was so effectual in the cure, was equally efficacious as a preventive. This bolus was given the day after delivery, in the morning, and it either prevented the disease altogether, or answered this good purpose, that the cure was anticipated before the attack of the disease.

In short, all who got the medicine either escaped the disease, or were easily cured if they did not. Indeed, all who got it escaped, except James Davidson's wife, No. 52, who got the bolus the day after delivery, which purged her briskly; but she was, notwithstanding, seized with the fever on the third day, about 5 o'clock in the afternoon. Being in the country I did not see her till eight, when her pulse was 140, attended with the usual symptoms of pain in the abdomen, &c. The bolus was repeated, and twenty-four ounces of blood taken away, by which the disease was at once cured.

APPENDIX,

CONTAINING

PRACTICAL REMARKS ON THE PUERPERAL FEVER.

That popular opinion and the doubts of many practitioners, with respect to the propriety of bleeding women in childbed, are ill founded, I have proved in the preceding Treatise.

This opinion seems to have arisen from an idea, that the system, after delivery, is in a state of inanition. But that the system on this occasion, so far from being in a state of inanition, is, on the contrary, in a plethoric state, must appear evident to every attentive observer. For during pregnancy the menses are retained, and there is a great quantity of blood derived to the uterus, which, if not discharged after delivery, must be redundant, and occasion plethora. Now, in order to obviate this plethora, or superabundance of blood, nature, in her wisdom, has thought proper to excite the lochial discharge, and to determine to the breasts by

the secretion of milk. And, as in the puerperal fever the latter is frequently diminished and the former wholly suppressed, these circumstances undoubtedly indicate, *à priori*, the propriety of bleeding. But it is unnecessary to reason upon a point which is ascertained by experiment.

The propriety of bleeding in the puerperal fever being established, does it follow that it ought to be practised in every case?

This question is the more pertinent, because there are many rules and cautions laid down by practitioners on the subject; and a celebrated writer on this disease tells us, that "there are some cases where bleeding is very necessary, and others where it is highly improper."*

Now, in my judgment, bleeding is proper in every case; for, whenever the disease is distinctly marked, I hold bleeding to be indispensably necessary in every case, being decidedly of opinion that it can never be omitted with impunity.

Bleeding I consider as proper in all cases at the beginning of the disease; and the indications for it are more urgent than in pneumonic inflammation, where its propriety has never been questioned.

And it is strange that there should be any doubts about the propriety of the same remedy in abdominal inflammation, which is much more dangerous than the other. For, in pneumonic inflammation, there is a direct outlet, whereby the matter can be discharged, supposing a suppuration to take place; but there is no direct outlet, whereby purulent matter can be discharged from the cavity of the abdomen. Consequently, bleeding is, *à fortiori*, much more pressingly indicated in the puerperal fever than even in pneumonic inflammation.

We are directed by Doctors Hulme and Leake to form our judgment from the pulse.† But I assert, in the most peremptory manner, that if practitioners allow themselves to be guided by the pulse, they will run into a fatal error: because the pulse is more frequently weak and feeble, than strong and full, even at the beginning of the disease. Yet I bled, notwithstanding, with great success; and, contrary to what might have been expected, the pulse, instead of being thereby weakened, became more full and strong than before.

The conduct of practitioners must be governed by the stage of the disease, and not by the state of the pulse. And I have found Huxham's observation, with respect to the pulse in pneumonic inflammation, strictly true in the puerperal fever. "Pulsus enim haud-quaquam in hoc morbo hujus satis fidus est index."‡ For when the pulse seems to sink in the beginning, that circumstance depends upon oppression, and not weakness, and, therefore, urgently requires bleeding.

* Hulme on the Puerperal Fever, p. 76.
† Ibid. Also, Leake on Puerperal Fever, p. 105.
‡ Huxham De Aere et Morb. Epidem., vol. ii., p. 67.

Practitioners must be aware of being imposed upon by the state of the pulse; for, as Dr. Leake has very properly observed, there is a great difference between nature oppressed and nature exhausted.

Bleeding must, therefore, be performed without regard to the state of the pulse, if the other circumstances of the case require it, and the stage of the disease admit it. The circumstances of the case which require it may be known by the presence of those symptoms described in the sixth chapter, which are so unequivocal that they can scarce be mistaken. The stage of the disease which admits it is likewise very explicitly described in the same chapter, where the reader will find it restricted to the beginning.

The propriety of bleeding being admitted, the quantity proper to be taken is a great desideratum in practice. This, though a matter of the utmost importance, has not been determined by writers; and I have attempted to supply this deficiency in the preceding Treatise. It is true, Doctors Denman and Leake have both recommended large bleeding in the puerperal fever: but the former has left the quantity undetermined; and though the latter in his writings has recommended copious bleeding, yet in practice we find him taking away only eight or ten ounces. It, therefore, by no means surprises me, that he lost so many patients; for, till I took away more than double that quantity, I had no better success than Dr. Leake. And Doctor Hulme has given us a precept in regard to this matter which my experience authorizes me to reverse. The precept is, "rather to err in point of bleeding too little than of bleeding too much."* For, I am thoroughly convinced from much experience, that there is far greater danger to be apprehended from bleeding too little than from bleeding too much. The first error would be fatal, whereas the last would produce only a temporary weakness unattended with danger.

The quantity of blood proper to be taken away in the puerperal fever I have limited to twenty or twenty-four ounces. Now, any woman of tolerable strength can very well bear the loss of twenty-four ounces of blood, and twenty ounces will not materially hurt even one that is weak. And I found, that all those who were bled to that extent, in the beginning of the disease, had speedy and perfect recoveries.

In short, my experience with respect to bleeding in the puerperal fever, corresponded with that of Cleghorn in pleurisy. "It was remarkable," says that author, "to observe how quickly the sick recovered their usual health and strength, notwithstanding the great loss of blood they had sustained; while many who had been bled more sparingly continued in a languid, infirm state for months."†

* Hulme on Puerperal Fever, p. 77.

† Cleghorn on the Epidemic Diseases of Minorca, p. 261.

This was precisely the case in the puerperal fever, with this difference only, that those who were sparingly bled, instead of having slow recoveries, did not recover at all.

Besides, the quantity of blood which I have limited as necessary for the cure of the puerperal fever, added to that lost by the lochial discharge, does not exceed the quantity directed by Sydenham for the cure of pleurisy, and falls short of that recommended by Huxham, Cleghorn, and Cullen, for the same disease, and far short of the quantity taken away by Galen and the ancients in fevers.

I have been the more particular in regard to bleeding, because the propriety of it has been much questioned, and its promiscuous use highly censured by some practitioners.

"It is allowed that these fevers sometimes arise even after large uterine effusions; ought we then to expect to cure a disorder by bleeding, which bleeding would not prevent?" says one.*

"It is an axiom in physic, that a remedy which cures any disorder will always prove a prophylactic against it; and, therefore, if bleeding were the proper cure in the puerperal fever, the disease ought to have been prevented by a large evacuation of blood, when that happened previous to its seizure," says another.†

Those gentlemen themselves know best on what foundation their opinion is grounded; but, for my part, I found that large uterine effusions invariably prevented the epidemic puerperal fever which I have described. For I was called to several cases of flooding in time of labour; and I observed that those were the only women, delivered by me, who escaped the puerperal fever in the epidemic season. This was too remarkable to escape my notice; and it may be easily accounted for.

The common lochial discharge does not prevent, but occasion it, by opening a channel for the infection to enter. But when the same discharge proceeds to a flooding, or when that has happened during labour, it obviates the effects of that infection by preventing inflammation, which is the immediate consequence of such infection.

The circumstances which seem to have deterred practitioners from bleeding are, apprehension of putrefaction, and the dread of debility. But that such fears are groundless I am warranted to assert from extensive experience. For those who were bled most largely had the most speedy and perfect recoveries; and as to putrescency, it never appeared but when the disease had been neglected or improperly treated; for, as I have already observed, the puerperal fever is always inflammatory at the beginning, and becomes putrid only in its progress. And if we cure the inflammation by early bleeding and purging, we infallibly prevent the putrescency, because we prevent the abdominal suppuration, on which the putrid symptoms depend.

* Mr. White on the Management of Pregnant and Lying-in-Women, p. 219.
† Dr. Manning on Female Diseases, p. 371.

But the foregoing work treats only of the epidemic puerperal fever; and, it may be said, that the treatment proper for it is improper in the other sorts of that disease, of which there is a great variety, each of which will require a different method of cure.

In regard to this matter, I shall observe, that various causes may produce the puerperal fever, and that it differs in degree in different patients; but still it ought to be considered as the same inflammatory disease, differing only in the degree of inflammation. I am, therefore, of opinion that all the different varieties of the disease require, if not the same, at least a similar method of treatment. For, though a few cases may be so mild as to require nothing more than purging, yet most are so violent as to be manageable only by copious bleeding and purging early in the disease. But in al doubful cases, it is better to use both than to trust to one of these remedies.

I have seen several cases of puerperal fever arising from different causes, both before the commencement and since the cessation of the epidemic constitution; and I have invariably found that it was most successfully treated by the method recommended in Chapter VI., viz., by bleeding and purging.

I have added one case to the table, though it occurred after the epidemic was at an end.

The cause of the fever, in this case, was the application of putrid matter to the uterus from a fœtus which had been retained for a considerable time after death, and was in a very corrupted state.

This patient was seized with a shivering fit the third day after delivery, to which succeeded a violent pain in the abdomen, with a very quick pulse, which did not beat less than 140 strokes in a minute.

She was bled to the amount of twenty-four ounces, and got purging medicines, which were continued till the disease was brought to a crisis, which happened on the fifth day.

That putrid matter is capable of producing an inflammatory disease, is a position which, perhaps, will be questioned by many readers. Be that as it will, its truth is proved both by dissection and inoculation for the small-pox; for if matter be taken from the most malignant small-pox, and applied to the arm of a person who never had the disease, it produces inflammation in the part to which it is applied, and afterwards (provided the patient has been properly prepared) a distinct small-pox of the mildest kind.

And, if in the dissection of a putrid body a surgeon scratch his finger, the parts festers, that is, inflames and suppurates; and if a fever should be the consequence, it is inflammatory in the beginning, and only ultimately putrid. And further, if such a fever be properly treated in the beginning, it never becomes putrid at all.

In like manner, if putrid matter be applied to the uterus, it inflames that organ and the contiguous viscera; that is, it gives rise to the puerperal fever, which is ushered in with a cold stage, and succeeded by a very rapid pulse and acute pain in the abdomen.

I have had an opportunity of seeing many cases of this kind, and all of them were successfully treated by bleeding and purging; the blood constantly exhibiting a very thick inflammatory crust, with other symptoms of inflammation.

We find the greatest variety of puerperal fever in Doctor Kirkland's treatise on this disease, and accordingly the treatment, which varies with the cause, is so complicated that it cannot fail to perplex inexperienced practitioners.

But, if I were permitted to give my opinion, I could prove, from an observation made by the author himself, that all the different varieties which he describes require the same treatment.

This author's words are, — "I believe it is a certain fact, whatever may be the cause of a puerperal fever, that within a limited time the whole abdomen is more or less inflamed, because the belly always turns green and putrid in a very short time after death, in the same manner as we find it happen to those who have died of an inflammation of the bowels."*

Thus, whatever be the cause of the puerperal fever, the cause of death is the same in all its varieties, viz., abdominal inflammation; and therefore the cure must be conducted on the same principle, or that which is calculated to obviate this inflammation, for which reason all of them require the same or a similar treatment.

If young practitioners think proper to be guided by my experience, which I am inclined to think will not mislead those who trust to it, I would lay down the following brief rule for their direction: —

Whenever a lying-in woman complains of a fixed pain in the abdomen, attended with a quick pulse, a practitioner ought immediately to bleed and purge his patient, without perplexing himself about the cause of the disease.

I have had an opportunity of attending a great number of cases of puerperal fever, arising from various causes besides contagion; for I have seen it produced by cold, by fear, by errors in diet, by too early fatigue, and premature endeavours to appear well, by the application of putrid matter to the uterus, &c. But I attended to the symptoms without being solicitous about the cause. And whenever a patient complained of a fixed pain in the abdomen, attended with fever, I bled and purged her without regard to the cause. And I found this treatment equally successful in every case, when those symptoms were present, whatever was the cause of the disease.

In order, therefore, to treat the puerperal fever in a successful manner practitioners must be guided more by the symptoms than the cause.

But, besides the propriety of bleeding, the diarrhœa, which so frequently takes place in the puerperal fever, has been, in like manner, the source of no little controversy among physicians; some considering it as critical, and others as symptomatic.

* Dr. Kirkland on Childbed Fevers, p. 55.

Were I permitted to interpose my opinion, I should not hesitate to assert that the diarrhœa which takes place in this disease is entirely critical.

I am decidedly of opinion that the diarrhœa, in the puerperal fever, is always either critical, or an effort to a crisis. It is an attempt made by nature to cure the disease, which, in the beginning, has a tendency to carry off the abdominal inflammation, and, in the progress of the disease, to evacuate the serum that may happen to be extravasated in the cavity of the abdomen. And, though it may fail in these purposes, yet the salutary tendency of the discharge is sufficiently obvious. My opinion, in this matter, is supported by an extensive experience.

A spontaneous diarrhœa proved completely critical in the case of Janet Wier, No. 11, and in several others. And by this lesson, which nature taught me, I profited very much; for, after bleeding at the beginning, it was by an artificial diarrhœa alone that I was able to bring the disease to a favourable termination. And in all the cases in which I could not excite a diarrhœa by purgatives at the beginning of the disease the event was fatal.

In this point I differ in opinion from Doctors Leake and Home, who maintain that the diarrhœa which takes place in the puerperal fever is symptomatic. The opinions of Doctors Leake and Home are no doubt very respectable; but I am authorized to differ from them, not only on the ground of my own experience, but even on that of theirs. For though both these physicians assert, that the diarrhœa in puerperal fever is symptomatic; yet any one who reads Dr. Leake's cases, will see that four of six, who were the only survivors out of nineteen, in the epidemic season, owed their recovery to a critical diarrhœa.

And, of the two cases recorded by Dr. Home, Myrtle, who recovered, owed her recovery to a critical diarrhœa, while Reid died for want of it. Dr. Home's words are: — "Myrtle had a diarrhœa from the beginning. "Reid on the contrary was costive, and a diarrhœa could not be excited even by purgatives for some days."*

An artificial diarrhœa proved critical in the soldier's wife mentioned in Dr. Denman's Essay on the Puerperal Fever; for, after getting the antimonial powder, "she had seventeen stools, like yeast in appearance, within six hours after the repetition of the powder."†

And a spontaneous diarrhœa proved critical in the tradesman's wife mentioned in the same Essay, after continuing six days.‡

With respect to the efficacy of emetics in curing the puerperal fever, as practised by M. Doulcet of Paris, I can say nothing from my own experience. The success of this method has been so much extolled, that I had a strong inclination to try it; but popu-

* Dr. Home's Clinical Experiments, p. 68 and 87.
† Dr. Denman on the Puerperal Fever, p. 31.
‡ Ibid., p. 36.

lar opinion was so much against this practice, that I could not venture without running the hazard of universal opposition. And there was no temptation to run any risk, or to try the effects of doubtful medicines, because I had already discovered a certain remedy for the disease, in bleeding and purging.

Besides, the success of emetics is confined to the very instant, or moment of attack, at which I never happened to be present in any case. And so powerful were the prejudices of the people in this city against the practice of exhibiting vomits to lying-in women, that there would not have been found a nurse, or midwife, to give such a medicine if it had been proposed. At the same time I can readily believe, that emetics are not only innocent, but may be given with advantage at the beginning, or during the cold stage, which ushers in the disease, when the blood is accumulated in the internal parts. The effort of vomiting, therefore, at that time, by determining the circulation to the surface of the body, unloads the internal parts, and thereby prevents the abdominal inflammation, which would otherwise take place. But after the disease has subsisted for some time, and inflammation taken place, emetics, by agitating the system, have a tendency rather to aggravate than mitigate the malady.

A TREATISE

ON

THE PUERPERAL FEVER:

ILLUSTRATED BY CASES WHICH OCCURRED IN LEEDS AND ITS VICINITY, IN THE YEARS 1809—1812.

BY WILLIAM HEY, ESQ.

PREFACE.

THERE is, perhaps, no disease of equal importance with the puerperal fever, respecting which such contrariety of opinion has prevailed amongst medical writers and practitioners. This disease is mentioned in the earliest records of medicine, and has been noticed by many of the most celebrated authors from the time of Hippocrates to the present day. Yet, though they are generally agreed as to the leading symptoms and the extreme danger of this dreadful malady, their descriptions of it are, nevertheless, in many respects dissimilar; and they are still more at variance in their sentiments of its true nature, and of the most appropriate method of treatment.*

As to the danger and mortality of the disease, it is asserted by one author that the puerperal fever "occasions the death of much the greater part of those women who die in childbed."† Another remarks, that "there is not, perhaps, any malady to which the human body is subject, where powerful remedies of every kind have been tried with more diligence and less success." Again, he says, "Those (the methods of cure) hitherto adopted have generally failed."‡

"A professor of midwifery in the University of Edinburgh declared the puerperal fever to be incurable; and another professor in the same university, concludes his observations upon it with the fol-

* "Scarce any two authors have described this fever alike." — *White on the Management of Pregnant and Lying-in Women*, p. 24.

"With regard to the method of cure, no disease has more divided the sentiments of physicians than the puerperal fever."—*Manning on Female Diseases*, quoted from Hulme's Treatise, p. 145.

† Denman's Introd. to Midwifery, vol. 2, p. 456, Ed. 4.

‡ Leake on the Childbed Fever, Introd. p. 7, 8.

lowing words: 'From the above cases, and from all that has been yet written upon this subject, we may with great truth conclude, that we know little of the nature and still less of the cure of the puerperal fever.'"*

Such are the sentiments of these eminent practitioners respecting the puerperal fever; and to their testimonies might be added many others of a similar nature. Their assertions might also be corroborated by facts equally strong and melancholy.

In some accounts given of the fever, all who were seized with it are stated to have died, and in others a very large proportion; so that it has been considered as "a fair computation," that "three-fourths of the "women who have been attacked with this disease, have fallen sacrifices to it."†

In such a state of alarm for the consequences of this destructive malady, and of doubt and perplexity as to its true nature, it could scarcely fail to excite the interest of the medical world, to learn that a remedy had been discovered which seemed almost to claim the merit of infallibility.

In the year 1782, the Report of a Memoir, read before the Royal Medical Society of Paris, which was published there under the authority of Government, and translated into English by Dr. Whitehead in the following year, informs us, "that the late M. Doulcet found a method of curing this disease, extremely simple, and which has never yet failed of success since it has been employed; although before this method was made use of the disease had always been fatal to every woman who had been attacked with it in that hospital (the Hotel-Dieu)."‡ We are further informed, that "the success was in every instance the same; so that in four months, during which this epidemic disease raged with fury, near two hundred women were saved to society, excepting five or six, who all refused" to use the remedy, "and were victims to their own obstinacy."§

Another physician, in London, confirms the efficacy of this method of cure from his own experience, in a treatise which he published in the year 1787, five years after the publication of M. Doulcet's discovery. He tells us that his directions, which, it appears, have M. Doulcet's plan for their basis, though differing in some respects from it, "have hitherto in real practice been justified by an uninterrupted success."‖ "And that he can with truth advance, that he himself never lost a patient as yet in this disease, though he has had no inconsiderable number under his care."¶

Whether this mode of treatment has not been fairly tried, or to whatever other cause its failure or disuse may be attributed, we are disappointed to find, that it does not seem to have answered the

* Gordon on the Puerperal Fever, *ante*, p. 29.
† Thomas's Modern Practice of Physic, p. 626. Ed. 3.
‡ Whitehead's Translation of M. Doulcet's Memoir, p. 2.
§ Ibid., p. 10.
‖ Walsh on the Puerperal Fever, Preface, p. iv. ¶ Ibid., p. v.

expectation which its high pretensions might reasonably justify For a teacher of midwifery in London, in describing an epidemic puerperal fever which first made its appearance soon after the publication last mentioned, seems to have found, "that those medical men, whose age and experience were great in the diseases of puerperal women, were staggered at the fatality, and embarrassed and perplexed in the treatment of the disease,"* &c.

I have ventured to express a doubt, towards the close of this work,† whether the success attributed to the plan of M. Doulcet, may not have been unintentionally overrated; and have there offered my reason for this supposition.

Towards the end of the year 1789, the puerperal fever appeared as an epidemic at Aberdeen, and continued to prevail there till the beginning of the year 1792.

Dr. Gordon published his admirable treatise on this epedemic in the year 1795; in which he points out, with much perspicuity and force of reason, the nature, seat, and cure of the disease, giving the most convincing argument of the justness of his opinions in the extraordinary success of his practice.

Yet, with the contrariety ever attending this obscure distemper, his opinion of its nature, and his method of cure, are diametrically opposite to the sentiments and practice of those authors whose publications had most recently preceded his own.

I have not the presumption to suppose, that any observations of mine will have weight enough to settle a dispute which has engaged the pens of so many able writers; but should this attempt to elucidate a subject which has already undergone so much discussion, be thought to require an apology, I would avail myself of the sanction of the last-named author; who, having lamented the mortality and ill success attending the treatment of the puerperal fever, adds, "In this state of matters, it is certainly the duty of every practitioner, who has been successful in treating the disease, to publish his observations."‡

I am persuaded that there is no better way of arriving at truth in difficult and obscure cases, than by diligently observing the *juvantia* and *lædentia* — what does good, and what does harm; and assistance of this kind can surely in no case be more necessary than in this disease now under consideration, respecting which, opinions entitled to the greatest regard are in direct opposition to each other. Perhaps there is some truth in Dr. Gordon's remark, "That if practitioners had observed more, and reasoned less, there would have been little dispute, either about the nature or seat of this disease."§

It was by observing the effect of different remedies, that first began the successful practice hereafter described, in opposition to

* Clarke's Practical Essays, p. 111. † Chapter IV.
‡ Gordon on the Puerperal Fever, *ante*, p. 29.
§ Ibid., *ante*, p. 46.

what then appeared to be the prevailing sentiment respecting the puerperal fever; and taking this hint from partial success, I determined fully to adopt Dr. Gordon's plan of treatment, till experience should teach me the necessity of deviating from it.

Though I have little that is new to add to this plan, yet, since the practice in puerperal fever is far from being settled, whatever may throw additional light on the complaint, or on any treatment that has been adopted for its cure, cannot be thought superfluous.

Should my success have any share in confirming Dr. Gordon's practice, and making his excellent treatise more generally attended to, I shall think that I have rendered the medical profession and the female sex a great service. If I have found any necessity for deviating from his plan, it is chiefly by extending it in the same direction. Whether I have improved upon it or not, must be left to the judgment of others. If, on any occasion, I have differed in opinion from him it has been in matters of inferior consideration.

It is with no little reluctance and diffidence that, in the following pages, I have noticed with so much freedom the opinions of many authors of great and deserved celebrity. But, having faithfully related the bad, as well as the good success of my own practice, it seemed also essential to the usefulness of the work, and to the elucidation of the controverted subject of which it treats, to examine some of those various opinions which, from their contrariety, have tended to perplex the practitioner, and to involve the subject in greater obscurity. I trust that, in attempting this invidious task, I have not exceeded the bounds of liberal and candid discussion.

It was not till the following Treatise was prepared for the press, that I had the opportunity of seeing Dr. Armstrong's valuable work on the same subject. It is scarcely necessary to inform the reader, what he may observe from the dates of the cases, that the puerperal fever of Leeds was prior to that of Sunderland. This Treatise has, indeed, been delayed much longer than at first was intended. It had just been begun, at the end of the year 1812, when an alarming complaint in the chest obliged me, for nearly twelve months, to lay aside my design. It was resumed at a distance from home, under the disadvantage of an absence from books, and other sources of necessary information. So that, on my return to Leeds in September, 1814, though the work was then written, yet much remained to be done, and that amidst many avocations, increased by my long absence. Thus much in explanation of the delay. I will only add, that if there should be found any coincidence in my sentiments and practice with those of Dr. Armstrong, so far our respective works will stand as independent testimonies of a similar view, as to the nature and treatment of a very important disease.

Postscript.—While this work was in the press, my father was favoured with a letter from Dr. Brenan of Dublin, accompanied by a present of his Tracts on the Puerperal Fever, for the cure of which he recommends the internal and external use of spirit of turpentine.

This remedy has, indeed, been serviceable to horses labouring under the disease called the colic, and has been administered with safety to the human subject in the case of tænia, &c.; but of its use in the puerperal fever, or any other inflammatory disease, I can give no opinion, having never seen it tried in such cases. I sincerely wish that Dr. Brenan may find it to answer his most sanguine expectations. I should not, however, think myself justified in substituting a method of treatment which has not yet been sanctioned by extensive experience, for one which, when properly used, I have hitherto found infallible.

March 1st, 1815.

CHAPTER I.

INTRODUCTION.

The puerperal fever, in its most simple state, may be defined to be, fever in childbed, accompanied with pain, which has no complete intermission, and extreme soreness in the abdomen.

These may properly be called pathognomonic symptoms, because they are inseparable from it; and accordingly we find, that, however authors may differ in their ideas of the nature of the fever, or however different the forms of it which they describe, these symptoms invariably make a part of the description.

There are, besides, a great variety of other symptoms, which are more or less commonly joined with those before-mentioned; and which, being variously modified, according to the cause of the attack, the constitution of the patient, the state of the air, the prevailing epidemics, &c., produce a great diversity in the appearance of the disease.

Hence has arisen that difference of opinion, which has always prevailed, respecting its true nature.

While some authors have considered the disease to be purely inflammatory, others have supposed it to be a modification of the typhus or jail-fever; and others, again, have adopted a middle course, and believed it to be inflammatory in its commencement, but to have a strong and rapid tendency to putrescence in its progress.

The opinions of its causes have been still more numerous. It has been thought to arise from obstruction of the lochia, from translation of the milk, from injury received in labour, from taking cold, from rising too early, from foulness in the primæ viæ, from absorption of putrid lochia, from foul air, from contagion, &c.

So various, indeed, have been the causes to which this fever

has been attributed; so different and opposite the sentiments of practitioners respecting its nature, seat, and cure; that we can scarcely avoid the conclusion, that different diseases have been treated of under the same name.

One of the latest writers on the diseases of lying-in women, who must have had considerable opportunities of acquiring information respecting the different kinds of puerperal disease, impressed with this view of the subject, and desirous to remove the confusion in which it has been involved, as well as "to reconcile these diversities of sentiment and practice,"* has arranged the result of his experience and inquiries in the following manner.

Those inflammatory and febrile diseases which succeed labour, and which have usually gone under the general denomination of puerperal fever, he divides into four kinds; viz., "inflammation of the uterus and ovaria;" "inflammation of the peritoneum;" "inflammation of the uterus, ovaria, and fallopian tubes, or of the peritoneum, connected with inflammatory affection of the system;" and, "the low fever of childbed, connected with affection of the abdomen, which is sometimes epidemic."†

It is not my intention, in this place, to examine how far this division is founded in nature; but it is evident, from the author's account of these different affections, that a nice discrimination will often be requisite, in order to determine to which class each case belongs. Of the two former diseases, he observes, "that they are often mixed together; insomuch, that the mixed case is that which we most commonly meet with."‡ It is of the less consequence, however, to make a distinction here; since the diseases are allowed to be so similar in their nature, that he can point out no difference in the manner of treating them. Yet, from the following caution, it would seem, that there is some danger of confounding them with a disease which is supposed to be essentially different from them. "Before I close this part of my subject," he says, "I must beg leave to caution those of my readers, whose experience may have been short, to be very careful in distinguishing these diseases from cases of fever consequent to labour, occurring in debilitated constitutions, in large towns, and in hospitals, more particularly where there is any disposition to epidemic complaints, which have a low tendency."§

The third class, viz., "cases of inflammation of the uterus, ovaria, and fallopian tubes, or of the peritoneum, connected with inflammatory affection of the system," seems to form an intermediate step between the two former diseases and the last. For the treatment is described as nearly similar to that of the former; but greater caution is recommended in the application of those remedies which have a tendency to reduce the strength. Bleeding,

* Dr. John Clarke's Practical Essays, p. 58. ed. 1793. † Ibid., p. 58
‡ Ibid., p. 92. § Ibid., p. 92.

which is entirely forbidden in the low fever of childbed, is to be used here in a very sparing and limited manner.

The last disease in this division, viz., "the low fever of childbed, connected with affection of the abdomen, which is sometimes epidemic," "notwithstanding that in some respects it is analogous to the diseases described in the former sections," is yet considered as essentially different from them "in the nature of its attack, in its general progress, and in the manner of its termination."* In conformity with this idea, the method of treatment is quite opposite to that of the former diseases.

In this case, which we might expect to be easily distinguishable from the former, we are not left without embarrassing varieties. It is allowed, that an occasional cause "may produce inflammation of the uterus or peritoneum, which, existing along with a low fever, may sometimes make rather a mixed case,"† in which the method of treatment is stated to require unusual "nicety of discrimination, since the very life of the woman hangs upon the decision."‡

Dr. Thomas of Salisbury, in his "Modern Practice of Physic,"§ has taken nearly a similar view of this subject; and since he informs us in his preface, that "again have the latest writers of celebrity been consulted, and their opinions been noticed," we may fairly conclude, that the distinctions, which he and Dr. Clarke have made, are consonant with the opinions of the most celebrated practitioners of the present day.

Dr. Thomas does, indeed, notice the epidemic of Aberdeen, and the success of Dr. Gordon in the treatment of it; yet it would seem as though he considered the disease, in this instance, as an unusual variety — an anomaly in the history of puerperal fever; for he does not give any intimation, that his own views of the nature and cure of puerperal fever were affected by the account; nor hint a suspicion, that the prevailing opinions respecting it might possibly be erroneous; neither does he attempt to account for the extraordinary success of Dr. Gordon by a method of cure so opposite to that which *he* recommends. On the contrary, he still maintains that "it is certain, that it (the puerperal fever) has generally a strong tendency to the typhoid type,"‖ and that "there is still so material a difference" between the puerperal fever and inflammation of the uterus, peritoneum, or omentum, "in the nature of its attack, its general progress, the manner of its termination, and the treatment it requires, that there seems to exist an essential distinction between them."¶ He further adds, with respect to the treatment, that, in a strong plethoric habit, after laborious or forcible delivery, where no epidemic constitution of the atmosphere to low fever prevails, and there are evident signs of inflammation, we may venture to recommend early

* Clarke's Practical Essays, p. 112.
† Ibid., p. 169. ‡ Ibidem, p. 170. § Edition 3d, 1810.
‖ Modern Practice of Physic, p. 624. ¶ Ibidem, p. 623.

bleeding; "*but under no other circumstances can it ever be advisable.*"*

I have particularly noticed the distinctions laid down by these authors; because it is obvious, that whatever may enable the practitioner to discriminate in cases of alarming and obscure disorders, must be highly valuable; and, in the present instance, whatever may tend to establish these distinctions, if they are well founded, or to controvert them, if they are otherwise, must be of the utmost importance; since it will essentially affect the practice of the physician and the safety of the patient.

In the following account of the puerperal epidemic of Leeds and its neighbourhood, it is my wish to write entirely as a practical man. I have no theory of my own to establish; and I trust, that my aim is sincerely to search after truth; and to endeavour to throw some further light upon a subject, upon which, "though much has been written by men of the first abilities and reputation for medical knowledge," it must be confessed, that much obscurity still remains.

With these views, my *principal* object in noticing the distinctions above-mentioned, is to introduce a remark, or rather the statement of a fact, which, if there is any close analogy between the puerperal fever, as it has lately appeared in Leeds, and as it is described by authors, must be of some importance in its practical consequences.

When the puerperal fever which I purpose to describe first made its appearance in Leed, I was so far from deriving any advantage from these distinctions in real practice; that, on the contrary, I am persuaded, an attention to them had no inconsiderable share in restraining me from adopting that method of treatment which afterwards proved so eminently successful.

To explain myself further: for some time after the commencement of this dreadful malady, it proved fatal in every case that came within my knowledge; and though a few patients afterwards recovered under the treatment which my father and I had formerly found successful in the puerperal fever, yet the success was very small, till the method hereafter described was fully adopted.

Alarmed by the extreme rapidity with which the disease ran through its course, and by its almost constant fatality, unlike anything which had ever been known in Leeds, I paid particular attention to the description given of puerperal fever, as distinguished from inflammation of the uterus and peritoneum. From a diligent consideration of the symptoms and circumstances of the disorder, I could have no doubt, that it approached the nearest to that which is described by Dr. Clarke, as "the low fever of childbed, connected with affection of the abdomen, which is sometimes epidemic:" and by others, as the puerperal fever, which has "a strong tendency to the typhoid type." For although it differed from them

* Modern Practice of Physic, p. 626.

in some respects, yet it resembled them in its general character, and differed far more widely from simple inflammation of the uterus and peritoneum.

I soon found by experience that purging gave great relief, though it did not cure; but I was fearful of carrying it to the extent which I afterwards found necessary; and still more so of employing the lancet, in a disease attended by such sudden and early sinking, and in which both these remedies had been so strongly condemned.

It has just been remarked, that the disease in question was very unlike any which had ever been known in Leeds. Wherein then did the difference between this and the more common forms of puerperal fever consist; and what was its distinguishing characteristic? I wish it may be understood, that I speak now only of what has occurred in my own practice, without any reference to the account given of the disease by authors; and, with this proviso, I must say, that I know no *essential* difference, but the greater severity of the disease; no distinguishing character, but that of its being *epidemic*. These are the only distinctions which would have been of any real value to me in practice; for I found that the remedies which were beneficial, and generally availing, in the cure of the incidental or sporadic puerperal fever, though proper in their kind, and useful to a certain extent, in alleviating symptoms, were totally inadequate to the cure of this severe epidemic.

Dr. Kirkland seems to suppose, that the genuine puerperal fever is never epidemic; "that the puerperal fever, which has been observed in hospitals, is owing to some cause peculiar to hospitals;"* and that, under such circumstances, it is to be considered as an adventitious disease happening to lying-in women.† It must be allowed, that the puerperal fever has occurred, as an epidemic, most frequently in hospitals; but if any proof were wanting, that it may be epidemical, independently of any cause peculiar to hospitals, that proof is abundantly supplied by the instances of this fever, which have occurred at Aberdeen and Leeds; where it was confined to no situation, rank, or circumstances; affecting alike the rich and the poor, the young and the old, the inhabitants of the town and of the country.

That the disease is most severe, when it prevails epidemically, and in proportion to its assuming that character, has been particularly noticed by Dr. Leake. His words are, "It will always be found most fatal when most epidemical, that is, during a distemperature of the air; and least of all so, when it happens in healthy seasons, from accidental causes only."‡ The two first cases related by Dr. Leake were successfully treated by him; but he

* Treatise on Childbed Fevers, p. 73.

† "Epidemic, or hospital fevers, or fevers which take their rise from diseases foreign to the puerperal state, are only adventitious diseases happening to lying-in women." Ib., p. 90.

‡ Observations on the Childbed Fever, p. 101.

candidly observes, that these cases occurred before the epidemic season. And we find that he was not equally successful afterwards; for of nineteen women, who had the disease in the epidemic season, thirteen died.

I am persuaded, that this circumstance is deserving of the greatest attention; and that whoever attempts to cure an epidemic puerperal fever by such means as are commonly sufficient for the sporadic disease, will find himself greatly disappointed in the result. And further, I believe, that we may apply what Dr. Kirkland says of puerperal fever in general, with peculiar propriety to the epidemic form of the disease, namely, that "we should be active in all our proceedings, for there is no disease in which the loss of time is of worse consequence."*

It is my intention, in the following pages, to relate in order what has occurred in my own practice; illustrating the subject by cases, and making, as I proceed, such observations as the cases may suggest. In conclusion, I shall add such general remarks on puerperal fever as result from the whole; and take some notice of what has been written on the subject by others.

It cannot be pleasant to any one to record his bad success; but without it a fair estimate of the comparative merits of different remedies cannot be formed. Dr. Gordon has given us the name, and place of abode, of all the patients whom he attended. This is certainly very satisfactory; yet, for obvious reason, his example cannot, in all circumstances, be followed. It is, however, much to be regretted, that, in a disorder which has so much divided the sentiments of practitioners, authors should not have put it in the power of their readers to form a correct judgment of the efficacy of the treatment which they recommend, by enumerating the instances of its failure and success.

CHAPTER II.

HISTORY AND SYMPTOMS OF THE DISEASE.

History.—For some years past the puerperal fever has prevailed epidemically in different parts of Yorkshire.

It appeared first at Barnsley, twenty miles south of Leeds, where it was very prevalent and fatal. It began there early in the year 1808, nearly two years before it became general in Leeds.

About two years before the fever which I am now to describe made its appearance, a puerperal fever was epidemic in this town, which was similar in its nature to that now under consideration; but it was more partial in its extent, affecting only one district of

* Treatise on Childbed Fevers, p. 116.

the town, and being confined chiefly to the poor. It was also less severe in its attack, and its result less fatal. Its prevalence likewise was of much shorter duration.

The disease which is the subject of the following pages commenced in the month of November, 1809, and continued, in different degrees of severity, and with some considerable intermissions, till Christmas, 1812; from which time, being myself confined by an indisposition which lasted throughout the year 1813, I saw no more of it.

During the period of its continuance it was not confined to the town and immediate vicinity of Leeds; but was more or less frequent both in the country and in towns at some distance. So that its cause and the means of its propagation, whatever they might be, were not peculiar to one place, nor did they seem to depend upon local situation or circumstances.

Though the puerperal fever has been described under many varieties, yet its leading features must be allowed to have a great similarity in most, if not all, of the descriptions given of it. But in none that I have seen is the resemblance more striking than in the epidemics of Aberdeen and Leeds; insomuch, that were I, in many instances, to adopt the very words of Dr. Gordon, I could not more aptly describe what came under my own observation.

"The puerperal fever, according to the account given of it by authors, is more frequent and fatal in large towns and in hospitals, than in the country and private practice. But that under consideration was not confined to the town of" Leeds, "but extended to the suburbs and contiguous country, where it proved as fatal as in the heart of the" town. "It was not peculiar to any particular constitution or temperament, but promiscuously seized women of all constitutions and temperaments; for the strong and the weak, the robust and the delicate, the old and the young, the married and the single, those who had easy and those who had difficult labours, were all equally and indiscriminately affected."*

In the following circumstance, however, they differed; viz., that the puerperal fever of Leeds did not "prevail principally among the lower classes of women;"† for, in the beginning, it affected chiefly those in the higher situations of life; and, in its progress, they were equally liable to its attack; though from the greater proportion of persons in the middle and lower ranks of life, such constituted the greater number of persons affected on the whole.

Many fell victims to the disorder, whose situation, circumstances, and precautions, might have been expected to exempt them from it, if any care could have availed to that end.

It has been observed by Dr. Gordon and others, that no connection could be traced between this disease and the sensible qualities of the air; and the fact, that, in this instance, it prevailed equally in cold and hot weather, in wet and dry seasons, in win-

* Gordon on the Puerperal Fever, *ante*, p. 31. † Ibidem.

ter and summer, seems to confirm the observation. Yet, I think, it cannot be doubted, that there is something in the constitution of the atmosphere, though not discoverable by its sensible qualities, which either gives rise to such epidemics, or favours their propagation. Although Dr. Gordon, in one place, says that the cause of the puerperal fever of which he treats was "altogether unconnected with a noxious constitution of the atmosphere;"* yet he elsewhere speaks of "the commencement," and "the cessation of the epidemic constitution;"† which latter expression I am unable to understand, but of something in the constitution of the atmosphere at least favourable to the disease, if not, in some sense, a cause of it.

I know not that anything in the state of the weather, either previous to the commencement of the epidemic at Leeds, or at the time of its appearance, can be supposed to have conduced to its rise; but it may be proper here to mention, that the preceding winter had been remarkable for great falls of snow, which had occasioned unusual floods. The whole months of August and September had been unsettled weather; and in the month of November (when the disease first appeared), of December, and the early part of January, the weather was mild and open, attended occasionally with thick mists, snow, and a good deal of rain.‡

Much stress has been laid upon attention to the prevailing epidemics, as likely to throw light on the nature and tendency of the puerperal fever; and consequently to afford an indication of the kind of remedies to be employed in its treatment. In towns so large as Leeds, there are never wanting cases of infectious fevers; but at the time alluded to no disease was so prevalent as to deserve the name of an epidemic, except erysipelatous inflammations, which prevailed during the whole period of the puerperal fever, and in many cases were of a very malignant kind; insomuch that I do not recollect ever to have seen worse cases of erysipelas than at that time.

This circumstance is the more worthy of notice, because it has been observed in other instances of puerperal fever. Dr. Gordon remarks, that "these two epidemics began in Aberdeen at the same time, and afterwards kept pace together; they both arrived at their *acmé* together, and they both ceased at the same time."§

And Dr. Clarke, in his description of the low fever of childbed, observes, that "if they" (inflammatory diseases) "occurred at all, they were principally of the erysipelatous kind."‖

The most common form of this epidemic, as I have already remarked, answered very nearly to the description given by Dr. Gordon; but it was subject to greater varieties, both in its manner

* Treatise on the Puerperal Fever, *ante*, p. 52. † Ibid., p. 67.

‡ This short account of the weather has some coincidence with Dr. Clarke's observations. See Practical Essays, p. 114.

§ Treatise on the Puerperal Fever, *ante*, p. 48. ‖ Clarke's Essays, p. 115.

of attack, its symptoms, and the period of its termination, than the epidemic of Aberdeen.

Some circumstances, which will be noticed more particularly hereafter, induce me to believe that it was also an epidemic of a more malignant character; by which I mean, that it was more severe in degree, more rapid in its progress, and required more powerful remedies for its cure.

It is somewhat remarkable, that I have scarcely known an instance, in my own practice, of this disease coming on after preternatural delivery, or even a particularly hard labour. I do not mean to imply that such cases were more exempt from it than others; but so it has happened; and the fact shows that it was independent of anything untoward in the labour. It has, on the contrary, most frequently occurred, within the compass of my experience, after the most easy and natural labours.

Symptoms. — Till the moment of the attack, which usually took place about forty-eight hours from the time of delivery, the patient was perfectly well; she was then seized with a rigor, or shivering fit, which was succeeded by a great degree of heat, often terminating in profuse perspiration, and severe pain in the abdomen. The pain had no complete intermission, sometimes no remission; but it was commonly much aggravated at intervals, so as to resemble the throes of labour.* It always left the abdomen extremely sore in the remissions, so that pressure or motion occasioned very great uneasiness.

The pulse became rapid very early in the disease, and was sometimes strong and full in the beginning; but was more frequently weak, or soon lost the strength which at first it possessed. Within a few hours of the attack it was generally found to beat from 110 to 150 strokes in a minute.

The head was often affected with pain, but more commonly with giddiness and a sense of confusion; sometimes accompanied with ringing of the ears.

After the heat which succeeded to the shivering had gone off, the face was usually pallid, and the countenance expressed much anxiety. The degree of heat was various; the skin was generally hot and dry; but sometimes it was moist, or covered with profuse perspiration; at others it was quite cool and pale. The tongue was white, somewhat furred, and occasionally dry in the middle; but most commonly it was moist, and not affected in any due proportion to the violence of the fever.

If the disease came on before the secretion of milk, that secretion was entirely prevented; if afterwards, it soon disappeared, and the breasts became flaccid. The lochia were variously affected; sometimes they suffered no alteration, at others they were dimi-

* In one case of a poor woman, the neighbours were so fully persuaded that a second child was left in the womb, that they came to request my assistance in the delivery.

nished or suppressed, but would often appear afresh during the continuance of the disease.

In bad cases vomiting, or a tendency to it, often came on early, and was sometimes one of the first symptoms; but, in general, it did not affect the patient till the disease was far advanced. The bowels were easily opened in the beginning of the disease; but if it had subsisted some hours, and had gained much ground, they usually required a long continuance of purgatives, before the constipation was completely overcome. Towards the end of the disease a spontaneous diarrhœa was a common symptom; and the evacuations were like those of the dysentery, except that there was no blood in them. The pains were frequently attended with a motion to stool.

A degree of fulness in the hypogastric region was often evident from the first attack; and not unfrequently the uterus could easily be perceived, forming a distinct tumour above the pubes. Pressure upon it gave exquisite pain. In about six or eight hours, if the patient was not relieved, the swelling began to extend itself to the whole of the abdomen, which was soon distended to a great size, and the enlargement of the uterus was lost in the general tumefaction. A diminution in the size of that viscus was a very favourable symptom. The soreness and swelling of the abdomen occasioned great shortness of breathing, and obliged the patient to lie constantly on her back. There was always some mitigation of the disease when the breathing became slower, or the patient was able to change her position and lie upon her side.

If the disorder was not checked great depression of strength and other appearances of sinking quickly supervened. The pulse was too rapid to be counted; the tongue sometimes, though not usually, became dry and brown, and the teeth were covered with sordes;* the cheeks were flushed; the countenance was wild and expressive of great distress; and the whole body was covered with a clammy sweat. At this period the violent pain of the abdomen often ceased; but its distention occasioned pains in the back, sides, and chest, sometimes accompanied with spasmodic paroxysms of dyspnœa. The patient became restless, and affected with vomiting, hiccough, delirium, and other symptoms which are usual harbingers of dissolution, though not peculiar to this fever; and the melancholy scene was usually closed in a few days from the commencement of the attack.

This was the most common form and course of the disease, when its violence was not abated by the remedies employed. But there was great variety in its appearances, which often proved a source of embarrassment; and none was so dangerous as when the true character of the disease was concealed under the mildness of its first attack; or when an insidious truce was gained by the use of remedies not sufficiently powerful to effect a cure. And

* Indeed, the disease seldom allowed time for these changes.

here it will be proper to notice some of the varieties which occurred, either in the mode of its attack or its concomitant symptoms.

Period of its Attack.—This took place under my own observation at all times from twenty hours after delivery to the completion of six days, and I have heard of its occurring after a week; but, in a large proportion of the cases, the disease made its appearance about or within the expiration of forty-eight hours. In one case, where the commencement of the disease was not clearly marked, I doubt whether it might not be dated from seven hours after delivery.* In another, it seemed to come on gradually from the time of delivery without any marked period of attack; in this case, the patient had experienced severe pain in the abdomen for many weeks before labour.† A patient, whom I visited in consultation after delivery, had been affected, as her surgeon informed me, with all the symptoms of puerperal fever a few days previous to labour.‡ He had recourse to bleeding and purging, which relieved the symptoms, and he hoped that the complaint had been cured. She had a good labour, and was pretty well, as I was informed, for some hours afterwards. I saw her in the evening of the day on which she had been delivered; she was then in a state of insensibility, the abdomen being much swelled and very hard. She died within twenty-four hours of her delivery.§

It has been observed, that the puerperal fever is the more dangerous in proportion to the earliness of its attack. I believe this to be true as a general rule, but I have seen many exceptions to it.

Rigor.—Though a shivering fit was most commonly the first symptom of the disease, yet some of the worst cases which I have

* See Case XXIV.

† See Case VII. "This disease may be sometimes foreseen in the time of pregnancy, by an uncommon degree of fever and unusual uterine pains." — *Denman on the Puerperal Fever*, p. 4, edition 2.

‡ "There are not wanting instances where it has been evidently formed before delivery."—*Ibidem*, p. 9.

§ It may be as proper in this place as in any other to mention, what, I think, is not unworthy of being recorded, viz., that I have met with two cases of this epidemic after abortion; the one at three months, the other at six. The former was that of a poor woman, who had no assistance or advice, till the distress occasioned by her cries prompted her neighbours to beg my attendance. From the nature of her pain I was at first induced to suspect that something remained in the uterus; but, after particular inquiry and examination, I was satisfied that the entire ovum had been expelled some days before. I found her labouring under the symptoms of an advanced state of puerperal fever — distention of the abdomen with excruciating pain and great soreness, a pulse at 130, vomiting, &c. She died in about twelve hours after I saw her, and before I could repeat my visit.

In the other case, I was under the necessity, on account of a too copious hemorrhage, to separate the placenta with the hand *in utero*; which was done with the greatest care, and without any peculiar difficulty. This was the only case of puerperal fever which occurred in my practice after preternatural or forcible delivery. It was cured by the means which proved successful in other cases, viz., copious bleeding and purging.

seen were throughout unattended with rigor; and, in others equally severe, there was no more than a slight chilliness,* or the rigor did not come on till the disease had subsided many hours. No doubt, the cases which began with shivering were in general the most alarming and the most rapid in their progress; yet, after the true method of cure was established, the severity of the attack was more than counterbalanced by the certainty which this symptom, in conjunction with others, afforded of the nature of the disease. For when the pain came on without rigor, it was more frequently mistaken for the common after-pain; and the loss of time thus occasioned was of greater importance than any difference in the violence of the attack. I have known a few instances where the pain did not immediately follow the shivering,† or was so slight as not to be noticed by the patient; but such instances were rare. In some cases the rigor returned several times, even in such as terminated favourably; and the patient was often affected with alternate chilliness and heat, when there was no regular shivering fit.

Pain.—This was a very deceitful symptom; and, when it was not preceded by rigor, occasioned great embarrassment by the irregular manner of its attack; and the consequent difficulty of distinguishing it from after-pains. When the disease commenced with a shivering fit, violent pain and extreme soreness of the abdomen generally accompanied, or immediately succeeded the shivering. But sometimes pain was the first symptom; and then it would often come on by paroxysms, and appear equivocal in its nature; having such long intervals as to induce the hope that it might not return, or that it might arise from some other cause than inflammation. I have several times known an interval of six or eight hours, or even more, after the first attack of pain.‡ And though it was much more acute and longer continued, in these cases, than after-pains usually are, yet there were two circumstances which tended to confound these two affections. The one was, that, during the epidemic seasons, lying-in women were unusually subject to after-pains, and those of a more violent kind than ordinary; so much so, that, in some few cases, they were not easily distinguishable from a slight attack of puerperal fever. The other, that when the pain came on in this irregular manner the pulse was not immediately affected, though it afterwards became as rapid as when the disease had commenced with rigor. In one or two cases, where the pulse beat no more than between seventy and eighty strokes in a minute for some hours after the

* "Sometimes there is no rigor; or, at least, so slight as not to be attended to by the patient."—"Nor is the violence of the subsequent disease to be judged of by the degree of the preceding rigor."—*Hulme on the Puerperal Fever*, v. 2.

† In one case, a shivering fit, and the only one which the patient had, seized her about twelve hours before the pain. See Case XXI.

‡ See Cases X., XVI., XVII.

first attack of pain, it rose thirty or forty in a minute within two hours after the pain returned.

The seat of the pain, in the beginning, was most commonly in the hypogastric region, just above the pubes; sometimes in one side, and in the right and left indiscriminately. It frequently shot into the back, hips, and thighs, and even to the extremities of the toes. The principal seat of complaint was occasionally in the groin, where the round ligament of the womb emerges. In one case, the patient described her pain as confined to the stomach;* it afterwards shot towards the navel and into the back; and, as the disease advanced, extended to the region of the uterus.

Affection of the Head.—The intellectual faculties were seldom disordered. The head was sometimes free from all complaint; but generally it was affected with pain, or, as I have before observed, perhaps more frequently with giddiness and a sense of confusion. This affection now and then, though rarely, produced a slight and temporary wandering of the mind; but the patient, when addressed, could always give a rational answer. I have known no instance of real delirium till near the approach of death; and often the mental faculties were clear to the last.†

The *tongue* was never incrusted with the dry brown fur of typhus, except the disease was of long continuance, or had been improperly treated. It was generally moist and soft; and though it was not unfrequently covered with a thick, white, or brownish fur, yet it was often but little altered from its natural appearance, to the last, even in bad cases.

The *blood* was almost invariably covered with a thick coat of size, and the crassamentum was remarkably firm. In one case of my own,‡ and another which my father saw in consultation, the blood was quite in a dissolved state.§ In the former it consisted entirely of serum and a few small floating coagula of a loose texture. This blood was taken very soon after the attack of the disease. Some blood which was drawn on the following day exhibited the usual appearances. In both these cases the patients died; and, in the former, one of the lower extremities became mortified before death.

The *termination* of the disease, whether by a favourable crisis or by death, was very uncertain in its period, as it depended on a variety of circumstances. If the patient was seen within a few hours of the attack, and the proper means were vigorously pursued, the disease was either put a stop to at once, or usually

* Sometimes "a violent pain will fix across the pit of the stomach."—*Hulme on the Puerperal Fever*, p. 2.

† The ninth case is an exception to what is here said respecting the affection of the sensorium; but that was an extraordinary case, and quite out of the common course.

‡ Case XI.

§ "I do not remember ever seeing the blood in a dissolved state."—*Hulme on the Puerperal Fever*, p. 12.

brought to a crisis within twenty-four hours. And, even if the delay was twelve hours, it was generally cured in two or three days; provided the vigour of the treatment was proportioned to the delay and the consequently increased violence of the disorder. If, by any means, it happened that the remedies were not, in the beginning, adequate to the urgency of the case, the disease was protracted to five, and from that to fourteen days; though only in one instance that I have known so long as the latter period, and seldom so much as a week.

When the termination was unfavourable, it was sometimes delayed to eight or ten days; and in one case, till six weeks after the attack,* by the use of remedies which alleviated the symptoms, and checked the disorder, though they proved insufficient for its cure. When the disease was not properly treated, or was beyond the reach of art,† it generally proved fatal in two or three days, sometimes in twenty-four hours, and once in less than eighteen from the attack.

CHAPTER III.

CASES AND METHOD OF CURE.

Cases.—It would be equally tedious and unnecessary, were it in my power, to detail all the cases of puerperal fever which came under my care during the epidemic season. It is my design, in this chapter, to give such an epitome of my practice and experience in the disease, as may serve to illustrate its character, to show the insufficiency of the means which had been usually recommended for its cure, and to elucidate that method of cure, which proved invariably successful whenever it was fairly tried.

In prosecuting this design, I may have to regret that I took no minutes of some very interesting cases; but the principal circumstances of them are deeply impressed upon my mind; and it is of the less consequence to detail the minutiæ, because I found that, however varied were the symptoms and mode of attack, the same method of treatment was necessary and successful in all the varieties of the disease.

Case I.‡—The first case which occurred in my practice was that

* The patient, in this case, was in an advanced stage of phthisis at the time of her delivery. See Case XV.

† In those cases to which I have alluded, where the blood was found in a dissolved state, it is doubtful whether any method of cure would have proved effectual; and perhaps they were the only cases which might be considered as in their nature incurable, if indeed *they* might be so considered.

‡ This case being given from memory is deficient in the detail of symptoms.

of a young married lady, who resided in an open and healthy situation at a little distance from the town. She was safely delivered of her first child, after an easy and natural labour, in the evening of the 9th of December, 1809; and remained quite well till the afternoon of the 11th, when she was seized with a rigor. I visited her soon afterwards, and found her in a state of perspiration — pulse at 120, and not full. She had so little pain in the abdomen, that, had I not been minute in my inquiries, she would not have noticed it; pressure on the hypogastric region did not excite much uneasiness.

Though the slight degree of pain in this case might have tended, under other circumstances, to mislead my judgment, I was not unsuspicious of the nature of the disease; my attention to it being particularly excited by the recent death, in childbed, of two ladies in the suburbs of Leeds.

My father had long been in the habit of treating cases of puerperal fever in a manner somewhat similar to that which Dr. Denman recommends. After freely evacuating the bowels, and occasionally drawing blood from the arm, he prescribed such a dose of some saline purgative to be taken every morning as might procure four or five stools in the course of the day; and endeavoured, in order to recruit the strength of the patient, to gain a respite at night by administering an opiate.

By regularly pursuing this plan, I have seen some bad cases of puerperal fever cured, in which the pulse was at one hundred and forty, or upwards, and the abdomen considerably enlarged. The same treatment has been alike successful, when, in the course of the disease, a spontaneous diarrhœa has arisen; with this difference only, that a smaller dose of purgative was usually sufficient, in proportion to the length of time and degree in which the diarrhœa had subsisted. Though sometimes the diarrhœa, being in a great measure the effect of irritation, was rather moderated than increased by a proper dose of some mild purgative.

I saw nothing in the case under consideration to forbid a similar treatment. Venesection did not appear to be indicated; but recourse was had to cooling purgatives, salines, and opiates, as the peculiar circumstances of the case seemed to require.

The treatment was, in the first instance, attended with all the success that I could wish; the uneasiness in the abdomen was removed, the pulse came down between thirty and forty strokes in a minute, and I had the best hopes of my patient's recovery.

But I had not yet learnt the intractable nature of an *epidemic* puerperal fever; for this remission, in accordance with a remark of Dr. Gordon, proved "only a respite, during which the disease is preparing strength to return again, in order to renew the conflict with redoubled vigour, when it will not be in the power of art to check its impetuosity."*

* Treatise on the Puerperal Fever, *ante*, p. 58.

After a few days the pain, which before had been trifling, returned with greater severity, and the abdomen became sore and tumefied. Purgatives and opiates were again employed, and the former with evident and repeated advantage.

My father frequently saw this patient with me; a physician was also requested to assist us with his advice; and, before the termination of the disorder, a second physician was consulted; but all was in vain. Notwithstanding the various checks which the complaint received, every remission was less complete than the preceding, and every fresh attack more severe. The pain and swelling of the abdomen increased; an obstinate diarrhœa came on, in which the stools were sometimes dysenteric, sometimes feculent. but watery, and generally accompanying the paroxysms of pain, which for a time was always diminished by them. The lochia were sometimes nearly suppressed; at others they appeared afresh. The faculties continued clear, and the tongue moist, till within a short time of the fatal termination of the disease, which happened on the tenth day.

Next to the obstinacy of the disorder, nothing was so remarkable is this case as the relief procured by purgatives, which was such as to give us the hope, more than once, of a favourable issue; and the use of them, I doubt not, prolonged the life of the patient many days. For, whenever through fear of the strength being exhausted, or from an idea that the diarrhœa constituted a part of the disorder, any attempt was made to restrain it, an increase of the pain invariably followed; on the contrary, when the purgatives were repeated, some abatement of pain was the consequence, sometimes even before they operated. Cinchona and cordials were prescribed towards the close of the disease; but without any advantage.

Case II. — The second case, still more clearly than the first, evinced the fatal character of the disease, by its more speedy termination; although, from the late period of its attack, a more fortunate result might have been expected. The patient appeared to be recovering as well as could be wished, till the fifth day after her delivery.

The exhibition of purgatives was attended, as in the former case, with manifest advantage. The pulse was much reduced in frequency; the enlargement of the abdomen was diminished; and, in short, all the symptoms were greatly alleviated. The disease, however, soon returned with increased violence, and baffled all further attempts to stop its progress. It terminated fatally in four days from the accession of the rigor, which, in this instance, was usually severe and long continued.

The want of success in these cases, and in all that we heard of in the practice of others, induced us to consider, beforehand, what plan of treatment should be adopted on a recurrence of the disease. The nature of the evacuations by stool, which, for the most part, bore a great resemblance to those of dysentery (the appearance of blood excepted); the evident symptoms of abdominal inflamma-

tion, which seemed, however, of a kind not likely to bear bloodletting; and the partial success observed in the former cases, determined us to adhere more closely to the plan already mentioned, of purging freely in the day, and procuring repose at night by an opiate. It was also judged proper to evacuate the bowels early in every case by a gentle laxative, as the means of prevention. Many weeks did not elapse before the undesired opportunity occurred of putting our intention in execution, which was done in the following case.:—

Case III.—Mrs. ————, residing in a village about three miles from Leeds, was brought to bed of her second child, at 4 o'clock in the morning of the 27th of December, 1809. Her labour was easy, and unattended with any particular circumstance. As her bowels were naturally irritable, and as she had had three evacuations on the preceding day, I did not in this case immediately prescribe any laxative. On the following evening I found her free from complaint, and learnt that her bowels had been properly open in the morning. I observed that her cheeks were flushed, but she was not sensible of any increased heat, nor was her pulse at all accelerated.

29th. I was called to visit her, at 9 o'clock in the morning, and was informed, that, about eleven the preceding evening, her after-pains, which before had been very trifling, became more frequent and severe; she grew hot and restless, and complained of pain in her head and back. She had got no sleep in the night; and at 4 o'clock in the morning had been attacked with a violent shivering fit, which was succeeded by a great degree of heat. She did not, during the time of my visit, complain of pain in the abdomen; but pressure on the hypogastric region, especially towards the left side, excited some uneasiness. The pulse was feeble, and beat at the rate of 146 strokes in a minute. The tongue was white, but not furred. She had had two loose stools in the night, had retched a few times, and still felt a disposition to vomit.

I prescribed a draught with magnes. sulphas and manna, āā ℥ss., of which half was to be taken immediately, and the remainder in half an hour. The secretion of milk had not taken place, and I requested that no attempt might be made to suckle the child.

My father accompanied me late in the evening to visit this patient; when we learnt that the pain in the abdomen had returned soon after my visit in the morning; and found that the abdomen had also become swelled. The opening draught had not been taken till nearly 1 o'clock; but had procured five evacuations, of which the three first were copious and feculent, the two last watery. The pain was much diminished by them, and the disposition to vomiting removed. A saline draught was directed to be taken every four hours, and twenty drops of tinct. opii were added to the first.

30th. Soon after taking the night-draught the patient became quite easy. She had frequent slumbers till 4 o'clock, and from

that time till seven she slept without interruption. When she awoke, the pain in the abdomen returned like after-pain; and gradually increased in strength and frequency. It was described as coming on at first about thrice in an hour; but she had three pains during my stay, which was not much more than a quarter of an hour. She had no evacuation after taking the opiate, till nearly 10 o'clock this morning, when she had a very copious and natural liquid stool, which, as well as the preceding one, contained a living worm. The motion appeared to be excited by a pain; and indeed the pains often produced a motion to stool, though an evacuation did not always follow. The swelling of the abdomen had not increased, but its sensibility upon pressure extended now to the scrobiculus cordis; and turning in bed was effected with difficulty. The head was affected with pain and vertigo; and the pulse had got up to 160. I ordered a repetition of the opening draught; and directed that the abdomen should be fomented with flannels wrung out of warm water, and afterwards gently rubbed with warm oil.

8½ P.M. The pains began to abate soon after taking the purging draught, and before its operation; at the time of my visit they were trifling and distant. Seven or eight stools had been procured in the course of the day, of a natural kind; some of the last were watery. The soreness of the abdomen was much diminished; the pulse was reduced to 142, and was also more full. The fomentation and gentle friction with oil had given sensible relief. The opiate and fomentation to be repeated.

31st. The patient had passed a very comfortable night, had slept the greatest part of it, and expressed herself as being particularly refreshed by her sleep. The pains were very slight, and the intervals between them long. The abdomen was much reduced in size, its sensibility was trifling, and turning in bed gave little uneasiness. The pulse was full and soft, and beat no more than one hundred strokes in a minute. The countenance was good. The tongue rather brown, but not furred. She had too small stools in the night, and a more copious one in the morning; and, as the bowels were easily acted upon, it was thought advisable to diminish the dose of the purgative. The draught was therefore ordered to be repeated with magnes. sulph. and manna, āā ʒiij. The fomentation was also again directed.

Notwithstanding the favourable appearances just described, which afforded a rational prospect of success in the treatment of this case, I was suddenly called, before many hours had elapsed, to witness a return of all the alarming symptoms. I arrived at the house of my patient at 2 o'clock, P.M., and found her complaining of great pain in the abdomen, which, as before, was aggravated at intervals. The fomentation had been applied soon after my visit in the morning: it felt very comfortable to her, and she fell asleep during its application. She had taken half of the opening

draught before any change in the symptoms, and soon afterwards she took the remainder in consequence of some increase of pain.*

Shortly after the return of the pain, a slight rigor, accompanied with vomiting, had come on, which was succeeded by a great degree of heat. In this state I found the patient, with a pulse at 160; the tongue considerably furred; and the abdomen more swelled. The discharge of lochia had continued in moderate quantity, but pale, from the commencement of the disease. There had been no evacuation from the bowels since morning; though a motion to stool was constantly excited by the pains. I directed that a small draught, with magnes. sulph. and manna, āā ℥ij., should be given at intervals of two or three hours, till stools were procured; and, in case it should be rejected by vomiting, that carbonate of magnesia and lemon-juice should be substituted in small and repeated doses.

Evening. Two of the opening draughts had been taken, which had procured two small natural evacuations by stool: but so painful and difficult had all motion of the body become, that it was necessary to receive them upon cloths. The vomiting had gradually abated; the heat was diminished; and the pain of the abdomen relieved. The tongue was cleaner; and the pulse at 142. I gave another opening draught; and desired that it might be repeated in half an hour. I also ordered a repetition of the fomentation; and directed that an opiate should be taken in case the pain should abate, and the evacuations be too frequent.†

January 1st. Three or four copious stools having been procured, half of the anodyne draught was given at 12 o'clock, which was soon rejected from the stomach with a large quantity of liquid. A dose of magnesia, with lemon-juice, settled upon the stomach; and the remainder of the opiate was given. The patient passed a restless night, with occasional fits of pain, which, however, on the whole, had much abated. About 8 A.M. the vomiting returned with some pain. Pulse 130. She had a small stool or two this morning. Ordered the opening draught to be repeated as often as should be necessary to keep the bowels in a lax state.

Evening. Since noon the pain had left the abdomen; and the soreness had much decreased. She complained of pain in her back, sides, and shoulders; and was much distressed by frequent paroxysms of laborious breathing, which appeared to be spasmodic. She felt a desire to sleep, but a ringing of the ears, or, as she expressed it, a noise like somebody singing, seemed to prevent it. She had four small stools since morning, and had remained free from vomiting. The tongue was much cleaner. Pulse between

* The purging draught had been ordered from the first to be taken in two doses with a short space interposed, on account of the tendency to vomiting.

† When nothing is said respecting the diet, it may be taken for granted, that, in correspondence with the medical treatment, it consisted of light nourishing liquids, as beef-tea, chicken-broth, plain gruel, tea, cocoa, and the like.

130 and 140, but not easy to be counted. She appeared anxious and restless, tossing about, and frequently thrown off the bedclothes. She drank greedily whatever was given to her, and earnestly requested to have some wine or other cordial.

The fatal issue of the disease was now but too apparent; and there was reason to believe that gangrene had already taken place; nothing therefore remained to be done but to alleviate symptoms. A little wine was ordered to be given now and then in barley water; and emollient clyster was directed; and a mixture prescribed with camphor and spt. æther. comp.

2d. The patient had passed a sleepless night. The abdomen remained free from pain, and was somewhat softer in the hypogastric region; but very hard at the scrobiculus cordis. She still complained of pain in the back, breast, and between the shoulders. Her breathing was short, and sometimes laborious. She rambled in her talk; but, when addressed, gave rational answers. The injection had been retained some time; and there had been very little evacuation from the bowels, though now and then there was a motion, attended with some pain like griping. The tongue was nearly clean. The pulse about 144. The camphor mixture was directed to be made with decoct. cinchonæ.

I saw my patient no more; but was informed that she died in the evening of this day.

If the disease in this case is dated from the first accession of pain and fever, the attack was thirty-one hours after delivery; if from the rigor, it was thirty-six hours; and the fatal termination on the fifth day.

This case, not less than the first, strikingly and equally demonstrates the good effects of purging, and the intractable nature of the epidemic; though in neither of them was the attack so severe, in respect to pain, as in the generality of cases. The latter, especially, illustrates a remark of Dr. Gordon, who informs us, that he often brought the disease to a remission on the third day, which would readily impose upon a practitioner unacquainted with the epidemic, and induce him to suppose that the danger was over. But the event would convince him of his mistake, if he desisted from further purging.

Case IV. — The circumstance most worthy of remark in the fourth case was the early and sudden transition from symptoms of active inflammation to those of debility and sinking. The patient was a robust woman, who was lying in of her first child. She was delivered on Sunday afternoon, at 4 o'clock: and on the following day she was directed to take, at intervals, a solution of sulphate of magnesia, as a means of prevention.

At 2 o'clock on Tuesday morning she was attacked with the disease: and I was called to visit her about five. The pain was more severe than in any of the former cases; and was accompanied with a full, strong pulse. The sulphate of magnesia had not operated. I prescribed a purging draught with sulphate of soda

and manna, āā ℥ss., in two ounces of infusion of senna. I also directed a cathartic injection to assist its operation.

A consultation with a physician took place in the forenoon; when eight or ten leeches, and afterwards a blister, were ordered to be applied to the abdomen.

At 3 P.M. the pulse had evidently begun to lose its strength; and other symptoms of debility had become manifest. A distention of the abdomen, which had previously taken place, now advanced with rapidity; an obstinate vomiting supervened; and the disease finished its career in thirty-five hours from its first seizure.

It will not be thought surprising, by those at least who consider the puerperal fever as a modification of typhus, or as having a strong and rapid tendency to it, that the result of this case tended to confirm our fears of having recourse to the lancet.

CASE V. — This case having run through its course with more rapidity than any which I saw or heard of, may, on that account, be thought of sufficient interest to be recorded.

The subject of it was a lady, who, with the appearance of being delicate, had a sound constitution, and enjoyed good health. Though young, she had borne many children; and had usually recovered well from her confinements. She had observed a strict and temperate, though not a lowering regimen, during her pregnancy; and in the last month had taken no fermented liquor; nor did she feel the want of it, being in the habit of using no malt liquor, and but little wine. Constant attention had been paid to the state of her bowels. These circumstances, combined with a state of perfect health at the time of labour, and with the situation of her abode, which was on elevated ground at some distance from the town, encouraged me to hope, that none could have a fairer prospect of escaping the prevailing epidemic.

She was safely delivered after an easy labour at half-past 3 A.M. on the 26th of January, 1810. At 9 o'clock on the same morning her pulse was at 72. She had some slight after-pains soon after delivery; but they did not long continue: and she was usually free from pain throughout the day. It was observed by her friends that she appeared remarkably well and cheerful. She passed a comfortable night, and slept four or five hours.

At 5 o'clock the following morning she awoke from sleep with pain in the region of the uterus, accompanied with chilliness,* which was succeeded by heat. The pain came on by paroxysms, like severe after-pain, shooting into the hips; but without any complete intermission. She was at first relieved by lying upon her face, or sitting up and leaning forward so as to relax the muscles of the abdomen.

Having been myself engaged during the night, my father first visited this patient about 9 A.M. He found already some degree of fulness in the abdomen; and a gentle pressure with the hand on

* See note, p. 86.

the hypogastric region manifested an exquisite sensibility in that part. The pulse beat 120 strokes in a minute. The tongue was nearly clean. A gentle laxative had been prescribed on the preceding day, in order to secure an early evacuation of the bowels, of which two doses had been taken without producing any operation. My father directed that a purging clyster should be immediately injected, and prescribed a draught with magnes. sulphas and manna, āā ℥ss.

Our previous experience of the fatal character of this epidemic, induced us to wish for a consultation in the earliest stage of the complaint, as well for our own satisfaction as that of the family; and the physician of the family was immediately called in. He visited the patient before she had taken the purging draught; and finding that, in the short interval which had elapsed, a disposition to vomiting had come on, he directed her to take a fourth part of the draught every fifteen minutes. The first dose was thrown up, but the others were retained.

At 1 P.M. the pulse was rather more than 130.

From the early tumefaction of the abdomen and other symptoms, there was reason to apprehend the utmost danger, and the assistance of another physician of great experience was requested.

We met at 3 P.M. The distention of the abdomen, as well as the frequency of the pulse, had evidently increased since the last visit at 1 o'clock. The tongue was little altered from its natural appearance; and the pain of the abdomen, though considerable, did not appear to be so violent as in some other cases. A warm fomentation which had been applied procured a little temporary relief. During our visit the purging draught had a good operation. The following medicines were prescribed: —

℞. Decoct. cinchonæ, ℥x.
Ammon. carbon., gr. viij. M
Fiat haustus 2dâ quâque horâ sumendus cum coch. puerile julepi infra præscr.

℞. Succ. limon. recent., ℥ij.
Spt. lavand. comp., gtt. xxx. M.

The patient was visited again at 8 P.M., when she appeared to be in a dying state. The vomiting had returned, and the medicines were rejected from the stomach. Her state being such as to preclude all hope, nothing further was attempted but to alleviate her distress by administering grateful cordials in small quantities, as she could take them. She died at half-past ten the same evening, her mental faculties remaining clear to the last.

Thus was this melancholy scene closed in forty-three hours from the period of delivery, and in little more than seventeen from the commencement of the disease. Yet were the symptoms by no means apparently severe, when compared with the majority of cases; for the cold fit did not amount to shivering, nor was the pain extraordinary — so different was this epidemic in its symp-

toms and progress, from what might have been expected in the case of a pure phlegmonous inflammation.

Case VI. — It is not to be expected that any one case should comprise all the symptoms of a disease. But I would offer the following as a tolerably fair specimen of the epidemic under consideration, when its progress was not interrupted, and as exhibiting in its circumstances, attack, symptoms, and termination, the most common character and appearance of the disease.

Mrs. W—— was brought to bed of her eighth child, on the 26th of January, 1810, at midnight. Her labour was natural, and rather quick; and was attended with a moderate and proper discharge. She was affected with after-pains for a few hours after delivery, which then left her, and she remained easy.

Being desirous to avoid whatever might prove an occasion of irritation to the abdominal viscera, or cause a determination of blood to them, we purposely abstained, in this case, from prescribing any purgative medicine. At 5 P.M., on the 28th, she was found to continue perfectly well. Her pulse was then at 72.

29th. I was called to visit her at 8 o'clock in the morning, and was at the same time informed that she had passed a very bad night. After suckling her child for some time, she had been seized about 1 o'clock (forty-nine hours after delivery) with a shivering fit, accompanied with severe pain in the abdomen; and to the circumstance of giving suck, *she* attributed her disorder. The pain had returned with great severity at short intervals throughout the night, leaving, during its remissions, extreme soreness in the abdomen. I found the pulse at 120; the tongue clean; and the abdomen very tender, but not enlarged. The skin was cool, and the face pallid. She complained of thirst. About 6 o'clock she had experienced some degree of nausea. I ordered a purging clyster to be injected immediately, and a table-spoonful of ol. ricini to be taken every two hours, no stool having been procured since the delivery.

Anxious to afford every assistance to my patients, and unwilling that the whole responsibility should rest upon myself in these truly alarming cases, I immediately requested a consultation. The physician who was first sent for being from home, another was called in; but some delay was necessarily incurred by this circumstance.

At 2½ P.M. I found the patient somewhat easier, and the pulse reduced to 110, though the oil had not yet operated. She had taken three doses of it. The clyster had not been well managed; but the little that had passed had brought away some hardened feces. Another was injected.

5 P.M. A fourth dose of the oil had been taken at 3 o'clock; but no stool had been procured, and the last injection was still retained. Some flatus had been expelled *per anum*. An enlargement of the abdomen was now evident; but at what period it commenced I cannot exactly say.

The physician who saw the patient in the morning, and now met me in consultation, had just witnessed with me the rapid progress of the disease, as related in the preceding case; and, as that was thought to have a stronger analogy to the puerperal fever described by authors as a species of low fever, than to a case of phlegmonous inflammation, it was judged proper to prescribe accordingly.

The purgative already taken was relied upon for evacuating the bowels, as they had not hitherto been found difficult to be acted upon in this fever if purgatives were given at the commencement of the disease; and the following medicines were prescribed: —

℞. Pulv. cinchon., ℥ss.
2dâ quâque horâ sumend. cum coch. iij. julep. infra præscr.
℞. Mistur. camphoræ, ℥vj.
Liq. ammon. acet., ℥ij. M.

I had indeed found nothing so beneficial as purging; but I could say nothing of my success; and therefore could not object to the trial of other and different means.

A 8 P.M. the physician who had first been sent for accompanied us to visit the patient. The swelling of the abdomen had increased, and the pulse was at 120. As but little opportunity had been afforded for the trial of the medicines so lately prescribed, it was agreed that they should be continued. An anodyne fotus, composed of twelve ounces of a decoction of poppy-heads, and four of spt. camphoræ, was directed to be applied to the abdomen.

30th. I visited the patient at seven in the morning. She had passed another very bad night. Since 12 o'clock the pain had become much more severe. She had vomited the medicine at 4 o'clock, in consequence of which it had not been repeated. The tongue was dry. As no evacuation by stool had been procured, another clyster was injected; and, in pursuance of the plan of treatment which had been adopted, I only ordered a draught, with decoct. cinchonæ and thirty drops of the tincture, till I should meet the physicians.

At 9½ A.M. we saw her together, and found her in no respect relieved. The vomiting continued, and the pulse was at the rate of 130. A saline mixture was directed to be given in a state of effervescence.

2 P.M. Everything had been rejected almost as soon as taken. The pain of the abdomen had increased, though its distention was not greater, and the cries of the patient were very distressing. Opiates were given, both in a liquid and solid form, but without any advantage.

8 P.M. She was becoming delirious, her pulse was not to be felt, and she died the same evening. I do not know the exact time of her death, but it must, I think, have been within forty-eight hours from the attack of the disease.

On a reference to the first and third cases, as well as to others that will follow, it may perhaps be thought that I am scarcely warranted in stating the foregoing one, as a specimen of the ordinary progress of the disease; at least so far as respects the period of its termination.* But it must be considered, that those cases were clearly brought to a remission about the third day by the use of purgatives; and though the majority of the fatal cases which happened in my own practice were longer than the sixth in arriving at their termination; yet many terminated as speedily, which I know by report, or to which I was called in consultation too late to render them any service.

Case VII. — Dr. Denman observes that there are instances of puerperal fever being formed before delivery. I have mentioned one such instance,† in which the patient was attacked with the symptoms of it a few days before labour, and died within twenty-four hours after her delivery. I have also alluded to the following case, in which there appeared a strong predisposition to the disease during the latter part of pregnancy.‡

For nearly three months before her confinement, but more especially during the last five or six weeks, Mrs. K——— suffered much from very unusual pains in the abdomen. She was seldom quite easy; and every day she had one or two paroxysms of severe pain, which continued several hours. They came on at different and uncertain times, and affected chiefly the hypogastric region, but sometimes the epigastric. They were often alleviated by rest in a horizontal posture, though not unfrequently they came on in bed; but when the pain was most subdued, it left the abdomen very sore. Laxatives, opiates, and bleeding, were the principal means tried for its relief, but with little success.

February 5th, 1810, in the evening, she was delivered of her first child, after a lingering, though not a severe labour, of three days. During the two first, the pains were slight, but distressing in consequence of the soreness of the abdomen. On the third day, the labour was more natural and less distressing. I frequently visited her, but only remained by her during the last two hours. On the morning of this day, the pulse was at 72; after delivery, at 100.

6th. She had passed the night without much sleep, having had frequent pains resembling after-pains, and, in the intervals, great soreness of the abdomen. The uterus was easily distinguished reaching nearly to the navel, and showed great tenderness when touched. She had much difficulty in turning herself in bed. She complained of thirst, but had not much heat. The tongue was rather white and furred. Pulse at 80. I forbad everything heating in diet, and ordered a draught to be taken immediately, containing rhubarb and tartarised soda; of each a dram.

2½ P.M. The pain and soreness of the abdomen had rather increased, and the draught not having operated a mild clyster was

* See Cases IV. and V. † See p. 85. ‡ Ibidem.

injected. Pulse at 98. I prescribed a saline draught with vin. antimon. gutt. x. to be taken every two hours.

6½ P.M. A very copious stool, containing much solid feces, had been procured, and the pain was greatly diminished. Pulse at 108.

10 P.M. The pain had become more severe again, shooting into the hips, thighs, and even to the toes; the soreness of the abdomen, and the difficulty of moving had also increased. As she had had but one small additional evacuation, I ordered another draught with magnes. sulphas and manna, āā ℥ss., to be taken immediately; and the saline draughts to be afterwards continued, with the addition of ten grains of pulv. ipecac. comp. to each of the two first.

7th. She had got no sleep in the night, except half an hour since 6 o'clock. Two pretty copious stools which she had in the night were of a dysenteric kind, and contained no feces. The fur of the tongue was partially cast off in the middle. The state of the abdomen remained throughout the day much the same as before. The intention of endeavouring to excite and keep up a gentle diarrhœa was still pursued; and the opening medicines were varied in their kind and dose, as the symptoms seemed to indicate. About noon a vomiting came on, which was removed before night; and, good evacuations by stool being also procured, the patient felt much relieved. A fresh discharge of lochia took place during the day. The pulse was at 130 both morning and evening. A saline draught with thirty drops of tinct. opii, was ordered to be taken at bedtime; and a saline mixture, at intervals, in a state of effervescence.

8th. She had passed a pretty comfortable night, and had slept a good deal. Pulse at 112. The purgatives to be continued.

4 P.M. Four or five small natural stools had been procured; and the pain, swelling, and soreness of the abdomen, had much abated. The tongue was clean in the middle. An habitual cough, which seemed, from the period of labour, to aggravate all the other symptoms, still continued very troublesome, and was attended with a large expectoration of frothy phlegm. Pulse at 120.

I was sent for between seven and eight o'clock in the evening, in consequence of a fresh attack of vomiting. She complained of soreness and a sense of fulness in the pudendum, which induced me to examine the parts; when I found a patch of erysipelatous inflammation on each of the *nates*, and an œdematous enlargement of the *labia pudendi*. A fetid ichor was discharged from the vagina. The urine was generally forced away by the cough, which might tend to increase the inflammation. The following medicines were prescribed: —

℞. Decoct. cinchon. ℥iss.
Ammon. carbon. gr. v.
Tinct. opii. gut. x.

M. fiat haustus statim sumendus, et, horis duabus elapsis, repetendus cum tinct. opii, gutt. v.

10½ P.M. The first draught had been taken, and the vomiting had ceased. The pulse was at 134; but it was probably quicker in consequence of the patient having just been moved. The draughts were ordered to be repeated every two hours, with three drops of tinct. opii in each; and a table-spoonful of wine to be given now and then. A cooling ointment was prescribed for the inflammation.

9th. She had slept some hours in the night, and all the symptoms were relieved. Pulse at 106. Tongue cleaner, and more moist.

Evening. In the afternoon the cough had become more troublesome, and was accompanied with a darting pain in the abdomen; the swelling and hardness of which had increased. The vomiting also had returned. An opening draught had procured two natural loose stools, and the vomiting was relieved, but the pain continued the same. The erysipelas had become more extensive, and the patient was hot and restless. Pulse at 120. Two grains of opium were ordered to be given with an interval of four hours, and the draughts to be continued, with the addition of a tea-spoonful of lemon-juice.

10th. A considerable remission of the symptoms had again taken place in the night. The skin had become cool, and the tongue cleaner. The pulse was soft, and beat no more than an 100 strokes in a minute. This truce, however, was not of long duration; the pain and vomiting soon returned, and the distention of the abdomen increased; and before night the pulse got up again to 120.

From this time the disease made a regular progress without any material remission. Cordials, anti-emetics, and opiates, were administered with little effect. The erysipelas continued to spread; and the vomiting, pain, and distention of the abdomen, grew worse and worse; till, on the evening of the twelfth, just seven days from the delivery, death put a final period to them. The tongue had become quite clean; and, if the patient was at all delirious, it was not until very near the fatal close of the disease.

We are informed, that, in the puerperal fever of Aberdeen, "a very frequent crisis of the disease was by an external erysipelas;"* and that "one of the most favourable symptoms is an erysipelas on the extremities, or abscesses on different parts of the body; for such are certain signs of a salutary crisis."† I never met with an instance of either critical erysipelas or abscess in the epidemic at Leeds; nor do I recollect any case, except the foregoing, in which erysipelas appeared at all. In this it was unfortunately not critical.

In the next case that occurred to me, the period of the attack was later than in any which I witnessed either before or after, and it was the first in which the patient recovered.

* Gordon on the Puerperal Fever, *ante*, p. 49. † Ibid., p. 54.

Case VIII. — Mrs. N————, residing at a solitary house in the country about three miles from Leeds, was brought to bed in the night of the 7th of February, 1810, after a short and easy labour. She was a middle-aged woman, and had borne many children. On the ninth I gave her a gentle laxative, which had the desired effect. On the morning of the 10th, I found her sitting up to suckle her child. She seemed unusually well; and so she remained till the end of six days.

14th. I was called up at 1 o'clock in the morning to visit her; and was informed that, having gone to bed quite well, she was seized, at 11 P.M., with a shivering fit, which was succeeded by a great degree of heat, and pain in her body (shooting also into her hips and thighs) resembling labour-pain, but continuing without any perfect intermission. She complained also of much pain and throbbing in her head. Though the heat had begun to abate before my arrival, the skin was still hot and dry; but soon afterwards a profuse perspiration succeeded. The tongue was furred and very white; and the pulse beat at the rate of 150. The breasts were flaccid: and I desired that the child might not be allowed to suck. The abdomen did not show any tenderness upon pressure. The lochia had returned afresh on the preceding morning; and in the evening she had had a natural and easy stool.

The want of success which had hitherto attended the treatment of the disease induced me immediately (though it was night) to consult with my father on the management of this case. We were satisfied that no remedy had done so much good as purging; yet it had not proved sufficient for the cure of the disease. We therefore thought it proper to add such means as might tend to allay the local irritation without much interfering with the operation of purgatives. With this intention, we ordered a draught with rhubarb and tartarised soda, of each a drachm, to be taken immediately; a small clyster with forty drops of tinct. opii to be injected; a large blister to be applied to the abdomen; and a saline draught to be taken every two hours.

2½ P.M. The pain had somewhat abated before the medicines arrived. After the injection of the opiate it had gone off entirely, and had not returned. A slight vomiting had come on after taking the purging draught; and probably a part of it had been rejected. A degree of chilliness, succeeded by heat, had returned about 1 P.M. Pulse at 126. I prescribed the following mixture:—

℞. Sod. tartariz; Mannæ, āā ℥ss.
Tinct. senn. ℥ij.
Aq. fervent. ℥ij.
Sumat tertiam partem alternis horis;

and ordered a domestic clyster to be injected. I took off the blister, which, by mistake, had been applied to the back.

9 P.M. Two doses of the mixture had been taken; and had procured three loose feculent stools. A degree of nausea had once been felt after taking some broth. Pulse at 134.

15th. 1½ P.M. The patient had passed a very comfortable night,

and had slept a good deal. She remained free from pain and soreness in the abdomen; and the secretion of milk seemed to be returning in the breasts. The tongue was cleaner. Pulse at 104. She had had one copious stool of solid feces in the night, but none since that time. The saline draughts were ordered to be taken every four hours, and the purging mixture in such doses as to keep open the bowels; also a clyster to be injected in the evening. A table-spoonful of wine in gruel was allowed to be given now and then.

16th. The injection had produced two plentiful stools, containing large lumps of solid feces. The patient complained of more pain in her head; and her tongue was furred. Pulse at 96. The medicines were ordered to be continued; another clyster to be injected in the evening; and the feet to be immersed in warm water.

17th. 4 P.M. Notwithstanding a pretty good night, she had not been so well this morning. The pain in her head continued; and she had several times experienced an acute shooting pain in the region of the uterus, which did not remain, but had produced some degree of soreness in the abdomen. She complained of thirst. The tongue was a good deal more furred, and the pulse at 104. Several loose evacuations had taken place in the preceding evening, but none after 9 o'clock.

Ordered the opening draught to be given immediately; and the clyster in the evening, if the draught should not operate before 9 o'clock. The patient having taken a dislike to the saline draughts, the carbonate of potass with lemon-juice, to be taken in a state of effervescence, was substituted in their place.

18th. The opening draught and injection had failed to operate. The abdomen was distended and hard, but not painful. Some degree of nausea had come on in the night; but had not produced vomiting. The skin was cool and pallid. The tongue was covered with a brown fur; and the pulse was at 112. A repetition of the clyster and opening medicine was directed.

6 P.M. A copious stool had been obtained, containing a good deal of mucus; and much flatus had been expelled *per anum*. The abdomen was soft, easy, and considerably reduced in size. Countenance good. Pulse 114.

19th. The patient had passed a very good night, and was in all respects better. The pain in the head and abdomen, and the enlargement of the latter, were quite gone. The fur of the tongue was coming off; and the pulse was at 98. A clyster had been injected; and had procured a proper evacuation.

About noon, she was seized with a cold fit, scarcely proceeding to a rigor, which was succeeded by great heat, a very frequent pulse, and pain in the head. A second clyster was injected, which operated, and gave sensible relief. I ordered an opening draught to be taken in the evening, and the clyster to be repeated if necessary.

20th. The draught and injection had both been given; and an

evacuation procured from each, containing lumps of hardened feces, which had the appearance of having remained in the bowels for some time, and had probably been the cause of the cold fit. The head was quite relieved; the fur was cast off from the tongue; and the pulse was reduced to 90. As there was some appearance of languor, a table-spoonful of wine was directed to be taken frequently in some nourishing liquid.

21st. No complaint, except soreness of the tongue and fauces, which were affected with aphthæ.

On the 22d, the patient having been rather longer than usual without a stool, was again attacked with chilliness succeeded by heat, but in a much less degree than before. She was relieved by an injection: but this attack occasioned her a restless night.

From this period she recovered without any relapse; but was some time in regaining her usual strength, on which account she took various tonic medicines.

Though the first onset of the disease in this case was pretty severe, yet the affection of the abdomen never became so alarming as in the generality of cases; which may be attributed, partly to the late period of the attack, and partly, perhaps, to the fortunate and rare circumstance of the disease being attended to very soon after its commencement. For, notwithstanding my urgent request, after every case of labour, to be sent for without delay on the accession of shivering or unusual pain, I was seldom called till some hours after the attack.

Dr. Denman has observed,* that lumps will be discharged in the stools, even after a diarrhœa has continued for a long time: and this case, as well as many others which I saw, confirms his remark.† For, though the bowels were freely evacuated on the day after delivery, and never afterwards became constipated; and though, after the attack of the disease, purgatives and clysters were given every day, yet a remarkable quantity of hardened feces was repeatedly discharged. Does not this circumstance indicate the propriety of not checking a diarrhœa; but, on the contrary, of early exciting one, and keeping it up through the whole course of the disease?

On a review of the last case, I am persuaded that, had we not been too fearful of exhausting the strength of the patient, but had purged her more briskly at first, the disease would much sooner have been brought to a close.

Soon after the foregoing, two other cases were successfully treated chiefly by purging. The one occurred in my own practice; the other was attended by my father in consultation with another surgeon. The latter was the worst case which I have known to be cured without bleeding; and, in that, blistering appeared to afford some advantage.

After these, three other of my patients, and one of my father's,

* Introd. to Midwifery, vol. 2, p. 466. Ed. 4. † See Case IX.

were seized with the disease, to all of whom it proved fatal. The subject of one of them was a small, delicate woman, who had, from her childhood, a weakly constitution, which had much stinted her growth; and in none that I attended did the disease assume so much the appearance of typhus.

I have now enumerated all the cases which had hitherto fallen under my care.* They were fourteen in number, (including two which my father attended,) of which eleven died, and three recovered; and they all occurred between December, 1809, and the middle of June, 1810.

I have particularly stated these numbers, that the reader may form a true estimate of my comparative success on the change of treatment; and also in order to correct some exaggerated reports of my bad success.† I was most anxious in this difficult and distressing conjuncture, to afford my patients every advantage, both by availing myself, as often as I could, of my father's long experience, and by frequently calling in the best medical assistance. I was, however, by no means singular in my misfortunes; for I have reason to believe, that no other practitioner was more successful than myself in his treatment of the disease. Until the period above mentioned, I heard of no case of recovery, except those which I have related; and though some might have happened without my knowledge, yet I must have heard of them had they been frequent.

Before I proceed to the next case, which, though but partially successful, I consider as the turning point in my practice — that which determined me to adopt the mode of treatment, by copious bleeding and purging; I wish to notice more particularly the reasons which deterred me from adopting it sooner.

I have already mentioned one, viz., that some of the latest writers on the subject had considered the puerperal fever as a species of low fever, or as having a strong and rapid tendency to the typhoid type; on which supposition large evacuations would be thought highly dangerous.‡

To this may be added, that the same opinion seemed to prevail with medical practitioners at the period of which I am speaking.

A third reason was, that a sudden and early depression of strength was remarked as a peculiar characteristic of the disease,

* I have before observed, that I saw many other cases, to which I was called in consultation after the disease was past remedy. But as these could not, with any propriety, be said to come under my treatment, I do not include them in this, or any subsequent enumeration.

In several of these, opium was largely given; but always without success, and generally without even temporary relief.

† It may be thought by some impertinent to mention, that, at the time when I had lost six or seven patients, it was reported that I had lost fifty; but I trust the candid reader will excuse the correction of this erroneous statement.

‡ It will appear from a variety of quotations given in the last chapter how very general has been the fear of bleeding in this complaint.

even in robust subjects, whose pulse was full and strong at the commencement of the attack.

And lastly, a circumstance occurred, which, if taken singly, ought not to have much weight; yet, when considered in conjunction with other reasons, certainly had some influence on my practice; viz., that, at the first appearance of the epidemic, a lady supposed to labour under the disease, who lost twelve or fourteen ounces of blood from the arm, died within thirty-six hours after delivery, and fourteen after the bleeding, without obtaining any relief.*

Case IX. — June 18th, 1810, I was sent for to Mrs. B———, a stout, middle-aged woman, living at a little distance from the town, who had borne several children, and was then in labour. The early part of the labour proceeded quickly; but the pains declining in strength, the latter part was slow. The placenta separated spontaneously, and was expelled by the natural efforts. But the uterus did not contract well afterwards, which occasioned too great an effusion of blood. However, by keeping up a compression with the hand on the fundus uteri for about an hour, the hemorrhage was considerably restrained; and I left my patient apparently doing well.

In about an hour I received an urgent call in consequence of a fainting; and found the uterus much distended with blood. I removed the coagula from the vagina; and, by gently stimulating the os uteri with two fingers of one hand, and compressing the fundus with the other, a good contraction was produced, and the hemorrhage ceased. The patient remained languid, but had no more fainting. Pulse 120.

19th. No complaint but languor arising from the loss of blood. Pulse the same.

20th. The strength had improved; but the pulse had rather increased in frequency. Ordered a gentle laxative.

21st. 11 A.M. The laxative had procured three good evacuations, two of which were loose. The pulse had come down to ninety-six, and was full and strong. I observed the tongue to be dry in the middle.

3 P.M. Not long after my visit in the morning, the patient had been affected with a slight chilliness, which was succeeded by heat, vomiting, and a continued, though not violent, pain in the abdomen. She complained of soreness when the abdomen was touched: and the uterus, somewhat enlarged, was distinctly to be felt above the pubes. The skin had now become cool. I directed

* It might have conduced to an earlier discovery of the true nature of this epidemic, had the opportunity been afforded, of examining the state of the abdomen in any of those who died of the disease; but the natural reluctance which is felt by surviving friends, to allow such an examination, is peculiarly strong in respect to those who die in childbed; so that I could not, in any instance, obtain permission to employ this mode of investigation, so peculiarly satisfactory when disease is connected with organic affection.

a purging clyster to be injected immediately, and a saline mixture to be taken every two hours in a state of effervescence.

At this time I had not seen Dr. Gordon's Treatise on the Puerperal Fever of Aberdeen; for it was not much known in Leeds. But I had read the short account of it contained in Thomas's Modern Practice of Physic: and the last case which had occurred to me, having exhibited evident marks of acute inflammation, I was strongly inclined to make trial of bleeding. This inclination was strengthened by reflecting on the small success which had hitherto attended all other means; and still more so by the consideration, that purging, the other principal remedy of Dr. Gordon, was the only one from which I had seen clear and decided advantage. Unfortunately the present case was not favourable to the trial, the patient's strength having been previously reduced by a profuse hemorrhage. No time, however, was to be lost. I determined, therefore, to repeat my visit soon, and to be guided by circumstances.

5 P.M. The clyster had been given an hour, and was still retained. The vomiting had not returned. The pulse was at 112; and as it was by no means a weak pulse, I determined to take a small quantity of blood from the arm, and to observe its effect. I took away seven ounces, and also applied a large blister to the abdomen.

At 8 P.M. My father visited the patient with me. She had parted with an astonishing quantity of feces mixed with mucus. The pain came on at intervals, like after-pains; and was very moderate in the remissions, when she lay quite still upon her back; but the least motion of the body occasioned great uneasiness. The blood exhibited a very thick inflammatory crust; and the crassamentum was remarkably firm. The pulse was at 130, and hard. Under these circumstances it was judged proper to repeat the bleeding to the same quantity.

10 P.M. The second quantity of blood was not covered with so thick a crust: but the crassamentum was still more firm than the former. It was like a piece of liver: I could scarcely pierce it with my finger. The pulse had come down to 120, and was more full. She was lying upon her side, which she had not been able to do before, and was quite easy when at rest. She had complained all the day of great thirst. The tongue was clean, but still dry in the middle. A saline draught was ordered to be taken every three hours; and, as she had had several more loose stools, thirty drops of tinct. opii were added to the first.

22d. Throughout this day, the pains were slight and distant, and their remissions almost complete; so that the patient could bear to take her nourishment sitting up in bed. The tongue was moist and clean. Some opening medicine being necessary, a dose of rhubarb and calomel was given, and the clyster repeated. By their joint operation, a surprising quantity of feces was again discharged in the evening. The pulse was below 100 in the morning and in

the evening at 116. As she had perspired a good deal, and appeared languid, the saline draughts were directed to be made with an ounce of decoct. cinchonæ. The anodyne was repeated.

23d. She had passed the night without any pain; notwithstanding which she had slept but little. Pulse at 110, and very strong. No more stools; clyster repeated.

Having augured favourably of this case from the gradual and complete cessation of pain, it was with no less surprise than regret, that, in the evening, I found an entire new train of symptoms. The patient having been affected throughout the day with an irresistible propensity to sleep, from which she got no refreshment, awoke in the evening with pain in her head, accompanied with giddiness and ringing in the ears. Her face was flushed; her pulse at 132, and strong. She had had three loose stools; and had parted with a large quantity of urine. Some leeches were ordered to be applied to the temples; but finding, on a second visit, that they had not been procured, I took three ounces of blood from the temporal artery. The saline draughts were directed to be made without decoct. cinchonæ, and a blister to be applied to the nape of the neck. Just before the bleeding, the pulse was at 120; after it at 112.

24th. I found the patient sitting up in bed to take some refreshment. She had slept several hours in the night. Her countenance was good. It was rather singular that the left side of the head, from which the blood had been taken, was easy, but the opposite side painful. The crassamentum, as before, was extremely firm. Pulse 126. I took three ounces of blood from the temporal artery of the right side, and the evacuation greatly diminished the pain.

In the evening she experienced a seizure somewhat similar to that of the preceding day. Having been visited by several friends, who had inconsiderately talked and read a good deal to her, she was suddenly affected with a sense of great confusion and noise in the head, accompanied with much heat and flushing of the face. Pulse 140. In consequence of the relief before experienced, she was very desirous to lose some more blood from the temples; and, therefore, though the pulse appeared less strong, I took an ounce and a half from the temporal artery.

The case having become more alarming by this relapse a consultation was requested; and a physician who had attended several of these melancholy cases with me was called in: my father also visited the patient with us. The pulse came down to 120, and was evidently fuller since the bleeding. The crassamentum was as firm as before. It was agreed, that the saline draughts should be continued; that a blister should be applied to the head; and the temples and forehead be frequently bathed with cold vinegar and water.

25th. 8 A.M. She had had no sleep in the night; but her head was rather more composed, and she was free from heat. Pulse 116. Some indications of a paralytic affection were now apparent.

She faltered in her speech: and her tongue, when put out, was drawn to one side. At noon the pulse got up to 140: she took little notice; and, though she sometimes spoke correctly, an answer to any question could scarcely be obtained from her. Her mind also appeared much agitated.

At 4 P.M. the physician met us. It was agreed that a little wine whey should be given frequently, and the following medicine was prescribed: —

℞. Spt. æther. comp., gutt. xxx.
Spt. ammon. comp., gutt. x.
Aq. puræ, ℥iss. M.
Fiat haustus tertiâ quâque horâ sumendus.

A draught with fifteen drops of tinct. opii was also directed to be taken at bed-time.

26th. The night had again been passed almost without sleep; but the head was free from pain, confusion, and the sense of ringing. Pulse 116.

2 P.M. After three hours comfortable sleep, the head was not so well. The bowels were open, and the stools natural. Pulse 120.

27th. I was not able to see the patient myself on this day; and I neglected to minute any account of its occurrences.

28th. She had had no sleep in the night, and was very restless, with some degree of delirium. We found her incessantly talking, but could procure no answer from her to any question that was proposed. She refused all medicine. Pulse 120.

In the course of the day the abdomen became tumid from flatus confined in the bowels. The tumefaction was unattended by pain or soreness; and entirely subsided as soon as evacuations were procured by an injection.

10 P.M. She was in all respects worse. Her urine came away involuntarily. She had some rattling in her breathing, and appeared to be sinking. Pulse 132. Thirty drops of spt. æther. sulph. were ordered to be given now and then as a grateful cordial.

29th. We were agreeably surprised to find our patient much better. During the night she had been able to retain her urine, and had made a large quantity with proper intervals. She was quite sensible, and more composed, and had regained the power of putting out her tongue, which before she had lost. The pulse was at 106, and the tongue continued clean. Ordered to take at regular intervals a draught of infus. rosæ, made with dococt. cinchonæ, and to have occasionally a little Madeira wine.

These favourable symptoms did not long continue. In the evening the pulse had got up to 120, and the heat had increased.

From this time the patient became gradually weaker; her pulse was accelerated more and more, and her urine was again discharged involuntarily. She lived two days in a state of great anxiety and increasing restlessness, and died on Sunday night, the 1st of July.

This case appears to me an instance of a remarkable metastasis of the puerperal fever; and had the disease been transferred to a less vital organ than the brain, a more happy crisis would probably have been the result. I have before mentioned, that at Aberdeen, the disease was not unfrequently transferred to the surface of the body, producing an erysipelas on the extremities, which proved a "certain sign of a salutary crisis." And the transition of inflammatory affections of various kinds from one part of the body to another, is a fact well known in the practice of physic. In the case just related, it is observable that, while the inflammation of the abdomen subsisted, the head was free from all complaint; and that as soon as the inflammation was completely removed from the abdomen, to which it never in any degree returned, the head became affected with symptoms of inflammation, accompanied with evident marks of compression of the brain.*

Whatever other conclusions may be drawn from this case, the entire removal of the abdominal affection, and the appearance of the blood, which was of a firmer texture than any I had ever seen, both tended to confirm me in the propriety of bleeding in the disease under consideration. I was anxious to be more particularly acquainted with Dr. Gordon's mode of practice; but before I could procure his treatise I was called to the following case of puerperal fever.

Case X. — Mrs. S—— was brought to bed on the 5th of July, 1810, about 9 o'clock in the morning. In her former labours she had been subject to a relaxation of the uterus after delivery, which usually occasioned a considerable flooding. Her discharge, at this time, was copious; but, being aware of the tendency to hemorrhage, I was able, by suitable means, to keep it within moderate bounds.

On the following day, at 3 o'clock in the afternoon, I was called to her in haste, on account of an excruciating pain which had suddenly seized the abdomen. It continued for half an hour without intermission; but before my arrival it had ceased. As the pain was not preceded by rigor, and the pulse was not accelerated, I could not conclude the case to be one of puerperal fever; and therefore satisfied myself with prescribing an opening medicine, and requesting to be sent for immediately if the pain should return.

Having heard no more from the patient, I visited her late in the evening; and then found that the pain had returned, but with a less degree of severity; and, having had regular remissions, it had been mistaken for the common after-pain, and had therefore created little alarm. The abdomen had become very tender, and the pulse frequent.

No doubt now remained on my mind of the nature of the disease; and though the attack was less distinctly marked than in

* Metastasis propriè dicitur, quando, aliò morbo quiescente, translata aliò materia novum morbum excitat.

most of the cases which I have seen, my later experience warrants me in concluding that the disease would soon have proved fatal had not vigorous means been employed to check its progress. As night was approaching, I feared to wait till the symptoms became more urgent; and, therefore, notwithstanding my reluctance to copious bleeding was not quite overcome, I immediately took from the arm a large basinful (about twenty ounces) of blood, and directed a continuation of the purgative. A cathartic clyster was also injected. The pain was diminished while the blood was flowing, and on the following morning it was nearly gone; the fever had also greatly subsided. The bowels had been freely evacuated, yet I thought it advisable to maintain the purging undiminished for another day, and then it was suffered gradually to abate. The patient recovered without further complaint.

Thus was an immediate stop put to the disease, which, had the bleeding been omitted, or deferred until morning, would, in all probability, have been irremediable. For, though the first attack was, in some respects, less alarming than in many other cases, yet its early period, the severity of the pain, the consequent soreness of the abdomen, and the rapid increase of the pulse, clearly point it out as a genuine, and not a very slight case of the prevailing epidemic. Perhaps the previous hemorrhage might, in some degree, have obviated its violence.

The next case that occurred was the first of three, which were all that proved unsuccessful in my practice, out of a great number, after the change of treatment adopted in the preceding case. And I trust I shall be able to show that the method of cure which we now employ had not a fair trial in any of them; and, consequently, that they cannot be justly considered as instances of its failure.

Case XI. — July 30th, 1810, I was called at midnight to Mrs. ——, in labour of her sixth child; but as she lived in the country, at the distance of two miles, and her labour was quick, the child was born before I could arrive at her house.

August 2d, at 9½ A.M. I was sent for to visit her; and from the nature of the message I had no doubt she was attacked with the puerperal fever. My father happened to be with me on the road, and we went immediately together.

Some sharp after-pains had been excited by several attempts during the night to suckle her child, but she had afterwards got some comfortable sleep. At 6 A.M. she had been seized with a violent and continued pain in the abdomen, which, as usual, was aggravated by fits. At nine she had a shivering fit, and immediately sent for me. We were with her by ten. The shivering had then ceased, and was not followed by much heat. Pulse 120. The tongue was clean and moist, yet she complained of thirst. The lochial discharge had increased. The uterus was somewhat enlarged, remarkably distinct, and showed much sensibility when touched. As the pain of the abdomen had nearly subsided, and

the degree of heat was moderate, we took no more than twelve ounces of blood from the arm, leaving a strict injunction that we should be informed, if the pain returned. A bolus, with twenty-five grains of jalap, and three of calomel, was ordered to be taken immediately.

9 P.M. Though the pain had returned soon after our visit in the morning, and had continued throughout the day, we were not informed of it until evening. We found the uterus so much enlarged as to reach the navel, and it was extremely sore upon pressure with the hand; but the severe pain had again abated. The inflammation had not extended to the cavity of the abdomen, which remained soft, except in the region of the uterus. The countenance was pale; the pulse at 134, and feeble. The blood in the two preceding cases having exhibited a thick inflammatory crust, and a remarkably firm crassamentum, we were not a little surprised to find that, in the present case, the crassamentum had not formed a cake as usual; but consisted only of a few small coagula, of a loose texture, floating in the serum. The state of the pulse and of the blood, taken in combination, deterred us from repeating the venesection; but fifteen leeches were ordered to be applied to the abdomen. As no more than two stools had been procured by the bolus, half a drachm of jalap was directed to be given immediately; and a saline draught, with thirty drops of tinct. opii, after three more evacuations should have taken place.

3d. 8 A.M. The pain had been removed by the application of the leeches, and the patient had remained free from it all night; but the abdomen was still very tender.

From some peculiar circumstances, it happened that I did not continue to visit this patient; in consequence of which, I kept no journal of the case after the second morning. My father attended her regularly with a physician who was called in. The attack of pain being soon renewed, some blood was again taken from the arm, which exhibited the usual signs of inflammation. The bleeding was too late, however, to be of any use; and the disorder proceeded as in the unfortunate cases already detailed, with this singular difference, that, before death, a mortification affected one of the lower extremities.

Whether the remarkable idiosyncrasy in this case, manifested by the appearance of the blood, and the subsequent mortification of one of the extremities, might not, under any treatment, have placed the disease beyond the reach of art, I will not pretend to determine. But there was cause sufficient, under more favourable circumstances, to account for the fatal event, in the loss of time after the return of the pain; which was of the greater importance, as the quantity of blood first drawn would have been inadequate in most cases to the cure of the disease. For it will appear, from some cases which follow,* that taking too small a quantity of blood, in the

* See Cases XVIII. and XIX.

first instance, is not of material consequence, provided the bleeding be repeated in a short time, or as soon as the pain returns.

From the period at which we are now arrived, I adopted Dr. Gordon's method of cure as the basis of my own; making such alterations in it as the necessity and circumstances of the case seemed to require. My own ideas of the disease had been gradually approximating to the view of it which that author inculcates; or, I might say, had been reverting to their former channel; for I had always been accustomed to employ purging, and sometimes also copious bleeding, in the treatment of the sporadic disease. Having now perused his treatise, the great similarity of the epidemic which he describes to that which I had seen, produced a full conviction, that his opinion of the nature of the disease was just, and his mode of practice preferable to every other. It will, therefore, be proper, before I proceed, to state what that practice was; which I will do as briefly as possible, and in his own words.

"The method which I found most successful was, by copious bleeding soon after the attack of the disease. But this did not answer the end unless it was performed early and in large quantity."* When I took away only ten or twelve ounces of blood from my patient, she always died; but when I had courage to take away twenty or twenty-four ounces, at one bleeding, in the beginning of the disease, (*i. e.*, within six or eight hours after the attack"†) the patient never failed to recover."‡ "After bleeding it was my practice to give some active purgative, on purpose to bring on a diarrhœa, which, when excited, I found necessary to continue through the whose course of the disease, till it was entirely conquered."§ —"And it is a matter of the utmost moment to prescribe such purgatives as will operate with all possible speed." —"I found that most dependence was to put in calomel and jalap; three grains of the former and two scruples of the latter were mixed with conserve of roses, and made into a bolus, which I always administered immediately after bleeding."‖ —After this a purging mixture "was given, in such proportions, as to produce five or six motions every day, without intermission, for the first three days of the disease: after which I diminished the dose, but still continued the medicine, till the disease totally ceased. Every night, I administered an opiate, in order to give a respite to nature, and strength to the patient, to enable her to bear the evacuations which she must necessarily undergo the ensuing day."

"In this manner I treated my patients, and the same method, if followed by others, will, I am confident, be attended with equal success."¶

With respect to the prevention of the disease, he says, "The purging bolus, which was so effectual in the cure, was equally effi-

* Gordon on the Puerperal Fever, *ante*, p. 55. † Ibid., p. 56.
‡ Ibid., p. 55. § Ibid., p. 58. ‖ Ibid., p. 58. ¶ Ibid., p. 59.

cacious as a preventive. This bolus was given the day after delivery, in the morning" — and "all who got it escaped, except"* one.

Now, although I found it necessary, in many instances, to make no inconsiderable deviation from the method of treatment just described, yet I very willingly acknowledge the greatest obligations to it. In Dr. Gordon's practice, it was completely successful; in mine, it was an excellent guide; and, if it did not always prove sufficient for the cure of the disease, I attribute its failure to the greatest violence of the epidemic at Leeds, and not to any unsuitableness in the means: but of this more will appear in its proper place.

Case XII.—Mrs. W————, a young woman of a delicate constitution, was delivered of her second child, after a lingering labour, on the 8th of August, 1810, at one o'clock in the afternoon. Being much exhausted with the fatigue of labour and the loss of sleep, she had a very imperfect contraction of the uterus; and lost a considerable quantity of blood. She became extremely faint; and the frequent administration of cordials scarcely prevented a complete syncope.

On the morning of the 10th, she took twenty-five grains of jalap and three of calomel, in a bolus, which procured ten stools.†

11th. I was called to visit her at 6 o'clock in the morning, and my father accompanied me. She had been seized, between one and two, with a violent rigor, which was immediately succeeded by a severe and continued pain in the abdomen. We found the body swelled, and excessively tender. The head was also affected with very violent pain and throbbing. The pulse was at 140. The lochial discharge had increased. I took from the arm, by a large orifice, sixteen ounces of blood, which occasioned so great a degree of faintness that I was then obliged to close the vein. Soon after the blood began to flow, the pain was sensibly abated; and, though constant before, had afterwards complete intermissions. It continued to come on by fits, like after-pain; but gradually diminished in strength and frequency. As the patient lived at a little distance from the town, I determined not to leave her till she was completely relieved, or till my presence was no longer useful.

At 8 A.M., as soon as the faintness had abated, I gave a bolus with half a drachm of jalap. At 9 o'clock, after an interval of ease which continued twenty minutes, and during which she was disposed to sleep, the pains became rather stronger, and appeared to be increasing in frequency. This alarmed the friends of the patient, and they requested to have a consultation. Two physicians were immediately sent for; but before their arrival the pain had again abated. The pulse had come down after the bleeding

* Gordon on the Puerperal Fever, *ante*, p. 63.

† As there was no difficulty in moving the bowels before the commencement of the disease, and as the operation of the bolus was often excessive, I never gave, as a preventive, the full dose advised by Dr. Gordon.

twenty strokes in a minute; but had now risen again to 140. The crassamentum was covered with an inflammatory crust, and was of a firm texture.

I stated to the physicians the plan upon which I was treating the case, and the relief which the patient had already obtained. With their consent the same plan was pursued; and soon after eleven o'clock I opened the orifice in the arm again, and took away four ounces more of blood, to complete the smaller quantity prescribed by Dr. Gordon; for I did not think it prudent, in this case, to take the larger without apparent necessity. A clyster was ordered to be injected immediately, a large blister to be applied to the abdomen, and a saline draught with five drops of vin. antimon. to be given alternately, about every two hours, with a solution of magnes. sulphas.

After the second bleeding the pain gradually abated; the patient fell asleep at 1 P.M., and awoke at two, quite easy; and from that time the pain returned no more. She continued to sleep frequently during the day, and was soon able to lie upon her side, which, before, she had not been able to do. She took half an ounce of magnes. sulphas in the course of the day, but no stools were procured; and the pulse kept up at the rate of 140. In the evening another clyster was injected, and a stronger opening mixture prescribed; after taking a dose or two of which, copious evacuations followed. The pulse began to subside soon after the operation of the purgatives. The diarrhœa was kept up for some days, and the patient recovered without any material occurrence, but what arose from debility.

The malignant nature of the epidemic, and the efficacy of its true remedy, are strikingly shown in this very instructive case. A strong purgative, which Dr. Gordon found so effectual as a preventive, and a great loss of blood, far more than would have sufficed for the cure of the disease, could not avert the blow; and I have scarcely known an instance, where the pain became so violent and unremitting, the pulse so rapid, and the abdomen so much swelled, in so short a time. Yet it is evident, that the means which failed to prevent, were suitable and effectual for the cure. No case could, therefore, more clearly demonstrate the genuine character of the disease; or be better calculated to give confidence in the treatment, and to allay the fears which an attack, under such circumstances, could not fail to suggest.

In the month of September, two of my patients, whom my father attended in labour, in consequence of my absence from home, were affected with the puerperal fever. The former of them was speedily and effectually relieved by copious bleeding and purging. The latter was less fortunate. Her case was the second of the three unsuccessful ones to which I have before alluded.* It will therefore be proper to give some account of it.

* Page 111.

Case XIII.—Mrs. ——— was brought to bed on the 12th of September, 1810, about eight o'clock in the morning. In the afternoon of the 14th, she was seized, in the usual manner, with the puerperal fever; but my father was not called to her until six hours after the attack. He immediately took away from the arm twenty-six ounces of blood, and prescribed a purging bolus. The bleeding afforded great relief.

He was called up in the night to visit her, about six hours after the bleeding, in consequence of an increase of the pain. He was very desirous to repeat the venesection; but no entreaties could prevail with the patient to suffer it. He was therefore obliged to rely on purging alone, which proved inadequate to overcome the violence of the disorder. Our remedies, such as salines, anti-emetics, blisters, &c., were tried in vain: the complaint proceeded with the usual symptoms, which it is needless to repeat; and the patient died on the third day from its commencement.

From the considerable abatement of pain obtained by the bleeding, and the good effect of repeating it in many similar cases, it may reasonably be concluded, that, had the patient submitted to a second operation, her life would have been saved.

This case furnishes a proof, that the larger quantity of blood prescribed by Dr. Gordon, will not always suffice for the cure of the puerperal fever. He says, "I found that twenty-four ounces of blood, taken away at one bleeding, within six or eight hours after the attack of the disease, together with a single purgative, never failed, at once, to cure the puerperal fever."* Now, in the present instance, twenty-six ounces were taken within six hours, and a purgative given, yet the disease proved fatal. Hence we are led to conclude, that the epidemic at Leeds was of a worse kind than that at Aberdeen; and we see also the impropriety of limiting the loss of blood, in all cases, to any precise quantity.

But I would observe, that this conclusion does not rest upon the single case just related, for it was not the only one in which Dr. Gordon's plan failed; and I am satisfied that it would have failed in many more of my own patients, had I not far exceeded the quantity of blood limited by that author.

Case XIV.—On Sunday evening, the 7th of October, 1810, a surgeon of this town called upon me to request my attendance on a poor woman, his patient, who had been attacked with the puerperal fever in the morning of that day. She had been delivered of her first child, after a hard labour, on the preceding Friday at nine in the morning; and, at seven on Sunday morning, she had had a shivering fit, which was followed by a great degree of heat, and severe pain in the abdomen. The surgeon was not sent for till half-past 2 P.M.; and, being then from home, he did not visit her till five. He opened a vein in the arm, but got no more than an ounce of blood; he also sent her a bolus with twelve grains of jalap and three of calomel; and ordered a clyster to be injected.

* Gordon on the Puerperal Fever, *ante*, p. 57.

At 7½ we saw her together; and the pulse, which before had been at 122, had risen in the space of about two hours to 138. The abdomen was excessively tender, and was swelled in the hypogastric region. The continued pain was not now acute; but had its regular exacerbations, which were severe. The patient lay still upon her back; her respiration was very frequent, and the least change of posture was effected with pain and difficulty. The tongue was white and rather dry.

As more than twelve hours had now elapsed since the period of the attack, I was fearful that even the larger quantity of blood advised by Dr. Gordon might not be sufficient; and therefore I took, by a large orifice, thirty ounces. The patient bore the evacuation well till near the end, when she became faint, and soon afterwards had a slight deliquium. The pain and sensibility of the abdomen were immediately diminished: and the former, as in the last case, was brought to have complete intermissions. Half a drachm of jalap (in addition to the former dose) was ordered to be given immediately, and the following infusion prescribed:—

℞ Fol. sennæ ℥ij.
Mannæ—Potass. tartar. ãã ℥vj.
Aq. ferventis, ℨiv. Macera et cola.
Sumat coch. ij. ampla, horis quatuor elapsis, et repetatur dosis alternis horis, donec aptè dejecerit alvus.

Monday, 7 A.M. We found the patient asleep, but she awoke during our visit. She had passed a comfortable night. The pain of the abdomen had gone off; but the soreness, on pressure or motion, was still considerable, and the breathing frequent. The whole of the infusion had been taken, and seven motions procured. Pulse about 120, but not easy to be counted. It is probable that a continuance of the purging alone would now have subdued the disorder; but the great soreness of the abdomen induced me to advise also the application of ten leeches. A saline mixture was ordered to be taken in a state of effervescence.

3½ P.M. The purging had continued, and eight leeches had been applied. The pulse, which was 116, had risen in strength and fulness; and the soreness of the abdomen had somewhat abated.

Tuesday, 7½ A.M. The patient had had several stools in the former part of the night; but had slept since 4 o'clock. The soreness of the body was much diminished, though not removed: and motion was more easily performed. The tongue was nearly clean. The pulse varied from 110 to 120. Ordered a repetition of the infusion every three hours.

5 P.M. All the symptoms had improved. Pulse at 92. Only two motions had taken place during the day. Ordered to take the infusion with such intervals as might procure a stool about once in four hours.

I now ceased to attend the patient; but learned that she had a

perfect and speedy recovery. The purging was kept up for a day or two longer, and then suffered gradually to decline.

The third and last of the fatal cases before mentioned,* comes next in order. The subject of it, I have already stated, was consumptive. And it is not to be wondered, that a disease so violent as the puerperal fever should have proved too much for the exhausted constitution of one, who was so soon to be the victim of a disease, not less formidable in its consequences, though less rapid in its progress. It is rather surprising, that the fatal event should have been so long delayed.

Case XV. — Mrs. H ——— being far advanced in a consumption, was seized with premature labour on the 17th of October, 1810. On the day after delivery she took a purging bolus, with twenty-five grains of jalap and three of calomel. This excited a diarrhœa in such a degree, as I judged it proper to restrain by the mistura cretæ with tinct. opii. She was attacked on the fourth day with the puerperal fever. But the pain being less violent than common, I was not informed of it till I accidentally called upon her in the evening; and she had then been some time ill. This circumstance greatly enhanced the danger: and the previous state of the patient's health, which was peculiarly unfavourable to both the principal remedies of the disease, rendered the case almost hopeless. I ventured, however, to take away about twelve ounces of blood; and prescribed ten grains of jalap, which was followed by small doses of sulphate of magnesia, frequently repeated.

A quantity of blood, nearly equal to the former, was drawn from the arm on the following day. A blister was applied to the abdomen. Purgatives also and opiates were given every day for some time; the latter being rendered necessary, in this case, by the peculiar irritability of the stomach and bowels.

The mitigation of the disease effected by these means prolonged the life of the patient to the end of six weeks — a period beyond which she could not long have survived had the puerperal fever never supervened.

This very unusual respite might have led me to doubt which of the two disorders should be considered as the cause of death, had not the continued enlargement of the abdomen convinced me, that the consequences of the abdominal inflammation were not entirely removed.

The last, the eleventh, and the thirteenth cases, I repeat, were the only fatal ones in my practice, after that in which I first had recourse to bleeding: and if the circumstances of each are duly weighed, and compared with the mode of treatment recommended in the sequel; I think it will be allowed, that no inference unfavourable to that mode can fairly be deduced from them.

Case XVI. — November 9th, 1810, about one o'clock in the

* Page 111.

morning, Mrs. H ——— was safely delivered of her sixth child. On the following morning she took the bolus, with twenty-five grains of jalap and three of calomel, which I regularly directed my patients to take on the day after delivery. About ten o'clock the same morning, she was suddenly attacked with a violent pain in the abdomen, which continued without intermission for twenty minutes. She was visited soon after the pain had ceased; and, her pulse being then little more than seventy, nothing more was done than to order a solution of magnes. sulphas* to be taken at intervals, with the intention of assisting the operation of the bolus.

She remained easy for some time; but at seven o'clock in the evening I found that pain and soreness in the abdomen were gradually coming on. The pulse was still no more than between 80 and 90.

9 P.M. The pain and soreness had greatly increased; and the pulse had got up to nearly 130. The head was slightly affected with pain, and much more so with giddiness and a sense of confusion; so that the patient scarcely knew what was passing around her. The necessity of treating the case as one of puerperal fever being now manifest, I took about thirty ounces of blood; and in addition to the purgatives already taken, prescribed another bolus with a scruple of jalap, and a continuation of the cathartic solution. The disease was immediately alleviated; and by maintaining a brisk purging for two or three days, it entirely ceased without the recurrence of any bad symptom.

This case is similar to the tenth; but more strongly shows, that the disease may prove severe, though not preceded by rigor, nor accompanied, on its first accession, by continued pain, or a quick pulse. The rapid increase of the pain and soreness, and the remarkable acceleration of the pulse, in the short interval of two hours, sufficiently characterise the nature and violence of the disease.

Case XVII. — Mrs. ——— is a lady of a remarkably delicate constitution. In her former lyings-in she had not been able to suckle her children; and the mere attempt to do it, in one instance, so much affected the nervous system, as, for a short period, nearly to destroy vision. She was some time in recovering from the consequences of this attempt: and at all times evacuations and reduction of every kind had a great effect upon her.

She was brought to bed on the 29th of November; and unfortunately a considerable hemorrhage succeeded her labour, which occasioned a great degree of faintness. Under these circumstances I had peculiar fears for the safety of this patient, in case she should be attacked with the puerperal fever, being fully persuaded that she could not bear the evacuations, which, in other cases, were necessary for its cure. But, notwithstanding the great discharge

* This solution was in the proportion of one ounce of magnes. sulphas to eight ounces of water; and, to avoid repetition, I shall, in future, call it *the cathartic solution*.

after labour, and the effect of the purging bolus given on the following day, she was attacked, on the 2d of December, about noon in the manner described in the last case.

In the evening, I found that the pain had not returned in any considerable degree: but the abdomen was becoming tender, and slight pains came on now and then. I directed a purging injection; and desired that the cathartic solution, which had been ordered at the first visit, but of which little had been taken, might be continued every two hours during the night, or until proper evacuations had been procured.

In the morning, I was sorry to find that the injection only had been given; and that all the symptoms were increasing. I desired that three table-spoonfuls of the solution might be given immediately, and repeated in three hours, with a scruple of jalap in each dose. I directed also a repetition of the injection.

At noon, my father visited the patient with me. The pain was still increasing: the abdomen had become very sore, and the pulse frequent: in short, the disease was rapidly advancing; and we were satisfied that nothing could save her life, unless bleeding and purging might do it. We therefore agreed, that eight ounces only of blood should be taken from the arm, on the supposition that, in this case, more could not safely be lost.

Finding, after I had drawn this quantity, that the patient was not faint; and believing that her life depended upon taking, at this time, such a quantity as would cure the disease (for I apprehended that a repetition of the bleeding would not be practicable); I suffered the blood to flow till some degree of faintness was perceived, which did not happen before I had taken fourteen ounces.

The faintness was considerable, and continued for two hours in a degree but just removed from syncope, which was scarcely prevented by the frequent exhibition of some nutritious liquid in small quantities. During this period, the pain was quite removed; but returned in some measure when the faintness had ceased. A scruple of jalap, with the addition of three grains of calomel, was continued at intervals of three hours; and it was not until the purgatives began to operate, about 8 o'clock in the evening, that complete relief was obtained. From that time the pulse immediately declined in frequency. The patient had a comfortable night; and her recovery proceeded without interruption.

The remarks made on the 12th Case are peculiarly applicable to the preceding one; and they both afford convincing evidence that the means which are necessary for the cure of the disease will not always prevent it. The progress of the disease in this case, was, indeed, slower than usual; so that a lapse of twenty-four hours between the first attack and the bleeding did not prove fatal; but this may, with much probability, be attributed to the evacuations previous to its commencement. For those evacuations were not only very copious, but, if estimated by the ability of the patient to sustain them, as well as by their actual quantity, they may be considered as larger than in any other case.

In this and many other instances I have observed that the pain has not been completely subdued, nor the pulse much reduced, until the purgatives had produced a good operation; which shows the importance of exciting a purging as early as possible, and, therefore, of giving such medicines and in such doses as are likely to insure this effect.

The subjects of the two following cases were my patients; but the former of them was delivered by another surgeon, in consequence of my absence; and it happened that they were both chiefly attended by my father, after the commencement of the puerperal fever.

Case XVIII. — Mrs. A——— got her bed, after a quick and easy labour, in the evening of the 9th of January, 1811. She took the purging bolus on the 11th, and remained quite well until early in the morning of the 12th, when she was attacked with the symptoms of puerperal fever. My father visited her at 9 o'clock. Her pulse was then about 120. He bled her prettly largely in the arm, directed a purging clyster to be injected, and prescribed the cathartic solution, of which three table-spoonfuls were to be taken every two hours.

2 P.M. Finding that the pain was not removed, he repeated the venesection; and again, under similar circumstances, at six in the evening; taking away in the whole thirty-six ounces of blood. The last evacuation gave complete relief. The solution operated freely, and was directed to be continued in such doses as should keep the bowels in a loose state.

13th. The pulse was reduced to 84, and the abdomen was easy. The solution was continued at proper intervals, and the patient recovered without any relapse.

Case XIX. — Mrs. D———, a woman of a weakly constitution and a strumous habit, was delivered on the 7th of February, 1811, late in the evening; and her labour was succeeded by a larger discharge than was desirable. She got the purging bolus on the morning of the 9th, which had a smart operation.

On the 11th, early in the morning, she was seized with a shivering fit, followed by pain and soreness in the abdomen, and a very frequent pulse. My father saw her about 9 A.M., and took away sixteen ounces of blood from the arm. The delicate constitution of the patient, and the previous hemorrhage, deterred him from taking more. He directed the injection of a purging clyster, and a repetition of the purging bolus, with *thirty* grains of jalap. He also prescribed the cathartic solution to be taken every two hours.

2 P.M. The pain not having subsided, the bleeding was repeated; but, as she soon complained of a noise in her ears, and seemed disposed to faint, the orifice was closed after about five ounces of blood had been drawn.

In the evening, the pain still continued; and there was every reason to fear that the quantity of blood already drawn would not prove sufficient to cure the disease. My father, therefore, deter-

mined, notwithstanding the weak state of the patient, to open the vein a third time, and to take away as much blood as she could well bear to lose. He got about a pound more, making in the whole thirty-seven ounces. The last evacuation, with the application of a blister to the abdomen, and a good operation of the purgatives, succeeded in removing the pain.

12th. The pulse had come down to 80; and no complaint of any consequence remained, but a troublesome cough, for which an anodyne mixture was prescribed. The bowels were kept open by the solution, and the patient had a good recovery.

If the quantity of blood necessary to cure the disease could, by any means, be known beforehand, it would, undoubtedly, be advisable to take the requisite quantity at first; for a smaller loss of blood would, in that case, suffice, and the patient would then be more able to bear it. But it is important to know, and it appears evident from the two last cases, that bloodletting may, with good effect, be repeatedly performed, provided it be done within a short time. The 13th Case had shown, that the larger quantity of blood which Dr. Gordon has prescribed as a certain cure, will not always be sufficient; and these tended further to prove the necessity of bleeding very copiously, and to indicate the expediency of doing it early, and, so far as may be practicable, at one operation.

It was observed, in the second chapter, that the puerperal epidemic at Leeds had some considerable intermissions. The longest of these was from the autumn of 1811 to the summer of 1812. I cannot exactly ascertain at what time it ceased: but no case of it occurred in my own practice, except a few which my father or I attended in consultation with others, from the 10th of July, 1811, to the beginning of June, 1812. About that time it again made its appearance, and with no less violence than at its first commencement; if such a conclusion may be drawn from the nature and degree of the remedies which seemed requisite for its cure.

Case XX.—June 4th, 1812, about noon, Mrs. ————, who was young and of a good constitution, was delivered of her first child, after a natural labour of sixteen hours. On the following day the purging bolus was prescribed; but I have since learned that it was not taken. She had scarcely any after-pain: and the secretion of milk took place at the usual period; but was rather scanty.

She remained well till the 9th at noon, five complete days; when she was seized with a severe pain in the abdomen, resembling labour-pain. We were immediately sent for; but, my father and I being absent from home, one of our pupils saw her. The pain having abated, and the pulse being no more than eighty-six in a minute, he only requested that we might be informed if the pain should return.

No message was received; but my father visited her at 4 P.M. The pain had returned a short time before; and was so acute as to cause her to cry out. The abdomen was exquisitely sensible

between the paroxysms of pain; and the pulse had risen, in the space of four hours, to 134 (forty-eight in a minute), though the pain had been absent nearly the whole of the time. The head was not affected either with pain or confusion. He immediately took away from the arm thirty ounces of blood. As the bowels were in an open state, two evacuations having taken place in the morning, in consequence of a laxative prescribed on the preceding day, instead of the usual purging bolus, he ordered the cathartic solution, with a grain of antim. tartar. in eight ounces, of which three table-spoonfuls were to be taken every two hours.

10 P.M. The pains had continued at intervals till 7 o'clock. Since that time they had nearly ceased. But the soreness of the abdomen had not abated, although three loose stools had been procured; and as the pulse was full, and beat at the rate of 120, it was thought advisable to take away ten ounces more of blood.

The pain returned soon after the bleeding, though in a much slighter degree than at first. The patient also complained much of sickness, which I attributed more to the antimonial than to the loss of blood. Between ten and one o'clock, she had two more stools; and the sickness increasing, the contents of the stomach were also evacuated. For a while after the vomiting she was comfortable and easy; but, the pain having returned, I had proposed at two o'clock to open a vein a third time; however, during the necessary preparations, the pain ceased, and she fell asleep. I sat by her an hour, and then, finding that the pulse had come down to 108, I left her asleep. The solution was directed to be continued without the antimonial.

10th. My father called at the house at 6 A.M; but, learning that she was asleep, he did not see her.

10 A.M. She had frequent evacuations, and remained free from exacerbations of pain: but the soreness of the abdomen was still considerable; and the pulse, which was at 106, being full, it was judged most prudent to repeat the venesection, and eleven ounces of blood were again drawn.

Evening. The pain had not returned: and the tenderness of the abdomen had gradually decreased. Pulse 100; bowels open.

11th. She had passed a good night; the soreness had quite gone off: and the pulse was at ninety-eight. The secretion of milk, and the discharge of lochia, both of which had been small before the attack of the disease, had returned afresh: and leave was given to have the breasts gently drawn.

There was now every reason to hope that the disease was subdued, and that nothing remained to be done, but to keep the bowels in an open state, and to avoid the occasions of any fresh irritation. We were, therefore, not a little disappointed, to be informed, about 4 P.M., that the pain had returned with much severity. On inquiry, this relapse appeared to have been occasioned by too much exertion in suckling the child. The patient had fatigued herself by

sitting up some time in bed, attempting to give the breast, and the pain immediately succeeded. The pulse had got up to 118. Fifteen ounces of blood were again taken from the arm; and, no stool having been procured for five hours, the solution was ordered to be repeated every two hours.

10 P.M. The pains had been entirely removed since the bleeding. But the soreness still continuing, we were desirous of applying some leeches to the abdomen. The lateness of the hour, however, made me prefer the application of cupping-glasses; but I found the laxity of the integuments so great an impediment to this operation, that little blood was obtained. A warm fomentation was applied to the abdomen, which was very comfortable to the patient, and disposed her to sleep. The pulse was at 126. One evacuation only had been procured; and the solution was ordered to be continued. I remained with her till one o'clock, and then left her asleep.

12th. Visited early. The stools had been frequent; had disturbed her rest; and she seemed rather exhausted. Pulse 110.

9 A.M. She had slept an hour and a half, and was much refreshed. Pulse 100. The soreness had abated. The solution was directed to be taken in such quantity as might procure a stool about once in four hours.

In the afternoon, the soreness not having gone off so completely as might be wished, ten leeches were applied to the abdomen, which afforded great relief.

From this time, till the 15th, nothing particular occurred. The solution was given as occasion required, and a saline draught in the intervals; both of which the patient always found refreshing to her: and she continued gradually recovering.

On the 15th, at noon, there was a return of slight pains in the abdomen, accompanied with increased heat in the skin, and a quick pulse. At 2 P.M. I found the pulse nearly at 130; but the pain had gone off, and no soreness of the abdomen remained. The frequency of the pulse subsided as the heat declined; and in half an hour it had come down to 110. I did not apprehend any serious consequence from this slight attack; but, at the request of the patient, eight leeches were applied to the abdomen.

Her recovery was afterwards regularly progressive; but she was some time in regaining her strength. The progress of amendment was retarded by an attempt to regain her milk and to suckle her child. But, after a trial of some weeks, the attempt was then relinquished in consequence of its debilitating effect on the system.

We have here another instance of the necessity of *very copious* bleeding in some cases of puerperal fever. Thirty ounces of blood were taken away within four hours of the commencement of the disease; and a purging was early excited, which was maintained through its whole course; yet it did not appear to be subdued, until fifty-one ounces of blood had been lost. On account of the return of the pain, fifteen ounces more were taken; besides a small

quantity by cupping, and the application of leeches; making in the whole nearly seventy ounces. Should any one doubt whether the cure might not have been effected by a smaller loss of blood, at least it must be allowed, that large bleeding was proved to be safe; and it will scarcely be denied, that the inconvenience of a temporary debility is not to be put in competition with risking the loss of life.

Case XXI.—August 3d, 1812, at one o'clock in the morning, the wife of J. W——— of Hunslet, a woman of rather delicate appearance, was delivered by a midwife of her twelfth child, after an easy labour of about an hour. Her discharge, both at the time of labour and afterwards, was said to be copious, but not excessive. On the following morning, she had a shivering fit, which was not, however, succeeded by pain; and she remained quite well throughout the day. The after-pains were slight.

5th. At four o'clock in the morning, she was suddenly seized, without any previous chilliness, with a violent pain in the body, resembling labour-pain, but of much longer duration. It increased progressively during the day; and in the intervals, which were not longer than a quarter of an hour, the abdomen was sore.

I first saw her between four and five in the afternoon; and found her crying out in pain like a woman in labour. The remissions were now very short. There was little heat in the skin; and the countenance was pale. The tongue was clean and moist; the pulse about 112, and hard. The head was no way disordered. The abdomen was not swelled, nor the uterus distinctly to be felt. Pressure on the hypogastrium excited pain; but not in that great degree which is common in this complaint; and motion of the body was effected with tolerable ease. The child had sucked several times on the preceding day, but only once on this day; and that had greatly aggravated the pain. The breasts were now quite flaccid. The patient had taken some opening medicine, which had produced one loose evacuation in the morning.

The symptoms, in this case, were not the most alarming, considering that thirteen hours had elapsed since the commencement of the disease. But the pain was violent, and the loss of time was more than a counterbalance to the apparent mildness of the other symptoms. I was, therefore, satisfied that large bleeding, in the first instance, was necessary; especially as night was approaching, and the patient lived at some distance from me. I first took away twenty-five ounces of blood, without producing any degree of faintness; when I closed the orifice for a few moments, till another basin was procured, and then drew nine ounces more. She was now disposed to faint; and the pain was much diminished. I put my finger on the orifice, and waited a while. The faintness soon went off, and the pain returned; I therefore took away six ounces more, making in the whole forty ounces. The patient becoming again very faint, I tied up the arm. She soon recovered, and remained easy. Pulse 88. A clyster was injected as soon as it

could be prepared, which in ten minutes produced a very copious evacuation of solid feces. At 6 P.M. I gave a bolus with half a drachm of jalap and four grains of calomel; and left directions that three table-spoonfuls of the cathartic solution should be taken every two hours, till the bowels should be well opened, beginning two hours after taking the bolus.

10½ P.M. The pain had returned soon after I left her, and with as much severity as before the bleeding. She had had three small, watery stools, which did not appear to be the effect of the purgatives. The heat of the skin was now considerable; and was attended with much restlessness. The pulse was at 120, and still hard. The tongue was rather white, and the abdomen was much more tender; particularly in the region of the uterus, which had become enlarged, and easily distinguishable. This increase of all the symptoms since my former visit seemed not only to justify the quantity of blood then taken, but to require a further evacuation. I tied up the arm, and took eight ounces from the same orifice; when the patient growing faint, I desisted. The pain was much alleviated by this second bleeding; and the pulse came down to 84. I ordered the solution to be taken every hour.

6th. 8 A.M. She had remained nearly free from pain all the night. The soreness had greatly abated; the uterus was diminished in size; and she had slept several hours. The skin was moist, and of a natural heat; the pulse at 100. She had taken above two ounces of magnes. sulphas, besides the purging bolus; and had had many small evacuations, which, however, contained but little feces. The boluses were therefore prescribed, with fifteen grains of jalap and two of calomel in each, to be taken with an interval of two hours; and the solution was ordered to be afterwards continued.

6 P.M. Both the boluses had been taken, and the remainder of the third ounce of magnes. sulphas, which had procured a great number of natural stools. The patient continued free from pain. The soreness of the abdomen was quite gone; and the uterus was scarcely to be felt.

6th. She had slept the greatest part of the night; and the pulse was at 84. The bowels were kept open, and she continued convalescent.

CASE XXII. — August 17th, 1812, the wife of J. N———, a small, delicate woman, was brought to bed of her first child. Her labour was quick and easy, and her discharge moderate. On the following day, she took the purging bolus, which procured only two stools.

20th. At five in the morning she had a slight shivering, which was succeeded by some degree of heat. But she was pretty well after it till 2 o'clock in the afternoon; when she was affected with a severe pain just above the right groin, which gradually increased during the remainder of the day. I was sent for in the evening;

but, not being able to visit her immediately, I ordered a bolus with half a drachm of jalap and three grains of calomel.

I saw her between 9 and 10 o'clock, and the pain had then abated; but the part affected was endued with great sensibility. The skin was hot; and the pulse at 100. I ordered three table-spoonfuls of the cathartic solution to be taken every four hours, till the bowels should be sufficiently opened.

21st. I received a message early in the morning, informing me that the patient was better, in consequence of which I did not see her till the afternoon. I found the pain trifling; but the soreness still continued, and the pulse remained the same. She had vomited on the preceding evening. But the solution had been retained, and several loose stools procured. I directed the solution to be continued; and a draught with twenty drops of tinct. opii to be taken at bed-time.

22d. I was called up to visit her at five in the morning; and was informed that she had a very bad night. The severe pain had returned at 12 o'clock, soon after taking the anodyne draught; and had continued with intervals during the night. The pulse was 102, and hard; the countenance pale and anxious; the skin hot; and the tongue dry, with much thirst. She complained of pain in her head, attended with giddiness (especially on sitting up) and a sense of confusion. She had had several small, watery stools in the night. I took away twenty-four ounces of blood from the arm, when she became faint. She received very sensible relief from the evacuation, and the pulse came down to 72. This sudden depression of the pulse, as in some other cases, appeared to be a temporary effect of the faintness. I gave the bolus with fifteen grains of jalap and two of calomel; and ordered a repetition of it in two hours; directing that the solution might be given once in the interval, and continued after the second bolus.

Between 10 and 11 A.M. I found that she had continued pretty easy. She was then in a sound sleep. The blood was cupped, and exhibited a thick coat of size. She had taken the purgatives as prescribed, which had procured two copious evacuations of solid feces.

5 P.M. She had remained easy till 3 o'clock; and was then seized with a violent pain, as before. I repeated the bleeding to the quantity of twelve ounces: and the pulse, which had again become frequent, was reduced to 88. Two or three evacuations had taken place since 10 o'clock; but only one dose of the solution had been given since that time. I ordered it to be repeated every hour.

11 P.M. An ounce of magnes. sulphas had been taken since 5 o'clock; and five stools procured in the last six hours. The pain had been considerable for an hour after the last bleeding; but it then ceased, except some slight pains coming on at intervals. Pulse at 116. I desired that the solution might be given, when-

ever she had been three hours without an evacuation; and a saline draught in its stead, when the solution was not required.

The complaint, in this instance, was long protracted; but though I kept a regular journal of it, a detail of its minute variations would, perhaps, be more tedious than useful. Before the disease was completely subdued, which did not take place till the completion of fourteen days from the attack, there were four distinct paroxysms of fever; three of which were accompanied with a renewal of pain in the abdomen. They all took place after a cessation of the purging for some hours; and two of them after the exhibition of opiates; and were immediately relieved by reproducing the diarrhœa. The tongue did not become perfectly moist till the 29th or 30th. But its dryness was always the worst when the bowels were most confined. It was particularly dry and brown on the 28th, when, in consequence of passing the whole night and part of the day without a stool, the patient had a paroxysm of fever and pain. The last attack was on the 1st of September; it began with a slight shivering, which continued an hour; and was succeeded by increased heat, with a quick pulse and dry tongue.

This was one of those insidious cases, which prove embarrassing and dangerous from the difficulty of ascertaining the true nature of the disease in its first stage. The loss of time thus incurred occasioned the necessity of a long course of purging; though the symptoms were at first by no means urgent, and the abstraction of blood (thirty-six ounces) was as great as, in the present instance, could safely be ventured upon. The efficacy of purging, the inutility of opiates, and the danger of restraining a diarrhœa, or of suffering it to cease even for a short time, until the disease is quite removed, are well marked in this case.

Case XXIII. — In the evening of September the 12th, 1812, the surgeon with whom I had attended the 14th Case requested me to visit Mrs. H. with him, who was then labouring under the puerperal fever. He gave me the following account of her: — She was brought to bed of her seventh child two days before, about nine in the morning. During these two days she had a copious discharge of the lochia; but, in other respects, remained quite well till the morning of the 12th; when she was seized, about eight o'clock, with a violent pain in the hypogastric region, which she supposed to be in the bowels. This attack continued about half an hour; then ceased for an equal time; and so returned at intervals. But, throughout the day, the paroxysms became more severe, and the intervals shorter. The surgeon had accidentally called upon her at noon; and supposing, from the patient's account of herself, that the pain was in the bowels, he only ordered a bolus with fifteen grains of jalap and three of calomel. The pulse was then at 90.

4 P.M. He was informed that the pain had increased; and he

repeated the bolus with a scruple of jalap. At 5 o'clock he saw her, and took from the arm nearly fourteen ounces of blood. She then became faint, probably in consequence of being bled in an upright posture; and he thought it right to desist.

8 P.M. We saw her together. She looked pale, and her face was covered with a profuse perspiration. She was crying out through pain, which had very short remissions, and left the abdomen extremely sore. Her head was affected with pain, mental confusion, and a considerable degree of vertigo. The tongue was rather white; and the pulse had got up, since noon, from 90 to 156. The blood which had been drawn had no crust on its surface; but the crassamentum was very firm. I opened another vein in the arm, and took away rather more than twenty-five ounces of blood. It was my wish to have taken thirty ounces. But a great degree of faintness coming on, I relinquished my intention. The pulse came down to 90 soon after the bleeding; and the pain was much diminished. The purgatives had not operated, nor had any stool been procured since the labour. An injection had been ordered before, which, having been mismanaged, had produced no effect. Another bolus, with half a drachm of jalap and four grains of calomel, was directed to be taken immediately.

11 P.M. The pulse had got up to 134; but the pain had not increased; and, though it still came on at intervals, was short in duration and slight in degree. Since taking the third bolus, she had taken a dose of infusion of senna. We gave a second dose, and ordered three table-spoonfuls of the cathartic solution to be given every two hours.

13th. 8 A.M. She had passed a pretty good night, though without much sleep. The pain had gradually decreased; and had not returned at all during the last hour. She had taken six drachms of magnes. sulphas in addition to the other purgatives; but two evacuations only had been produced; which, however, were very large, and attended with very sensible relief. The pulse was at 124. The solution was ordered to be continued.

8½ P.M. She had remained nearly free from pain; and the soreness of the abdomen was much diminished. Three evacuations had taken place since morning; the two last of which were quite liquid. Pulse 100. Tongue still white. The secretion of milk had increased in the course of the day; and the breasts had become so full as to require their being drawn, which had occasioned no uneasiness. The skin was cool and moist. The solution was directed to be continued in such quantity as might procure a stool about every four hours.

14th. I was prevented seeing the patient in the morning; but in the evening I found all going on well. The evacuations had been numerous without much medicine. The pain and soreness had entirely gone off; and the pulse was at 88.

After this time my visits were discontinued; and, indeed, they were unnecessary, for the patient had no further complaint.

Case XXIV. — November 7th, 1812, early in the morning, Mr. ——— called to request my attendance on a poor woman at Armley, whom he had attended in labour, and whom he now supposed to be affected with the puerperal fever. She was a stout, young woman, unmarried; and had got her bed at 9 o'clock in the evening of the 5th; her labour having been natural, but lingering. She had had a pretty good night after her delivery, till 4 o'clock, when she awoke in pain, which did not continue long at that time, but frequently returned during the day. When Mr. ——— called to see her, he found the abdomen tender, and the pulse at 90. He prescribed the cathartic solution for her, which was not sent for until midnight, and then he was informed, that she had much pain and other alarming symptoms.

We arrived at the house at 10 o'clock, and learned that about five the preceding evening the pain had suddenly become much more severe and constant than before. It had not been preceded by a complete rigor; but the patient had felt cold and disposed to shiver; and had afterwards perspired a good deal. She had also a great sense of confusion in her head, which came on about the same time, and continued throughout the night. It occasioned her to talk incoherently; but when addressed, she could always give a rational answer. The pain had somewhat abated when we arrived; but the soreness and sensibility of the abdomen were extreme; and the slightest motion of her body was performed with great difficulty. The uterus was evidently enlarged; and pressure upon it was particularly painful. There was no general swelling of the abdomen. The pulse was very hard; but was not so much accelerated as is usual in this disease. It was only at 92.

It was difficult to determine with certainty whether this attack should be dated from 4 o'clock in the morning, or five in the afternoon, of the sixth. On the former supposition, the disease had subsisted thirty hours; and even on the latter, seventeen. In either case the loss of time was considerable, and likely to prove of dangerous consequence, unless the disease could be checked by a loss of blood proportioned to the urgency of the case; and, happily, both the constitution of the patient and the state of the pulse were favourable to a large evacuation. Accordingly we took away from the arm, by a very large orifice, fifty-two ounces of blood, no degree of faintness being felt till after the vein was closed. While the blood was flowing she became gradually easier, and was afterwards almost free from pain; the soreness was also diminished. The solution had been taken regularly during the night, but without effect. We therefore gave her a bolus, with half a drachm of jalap, and five grains of calomel, and ordered the solution to be repeated every hour. The pulse, after bleeding, was at the rate of 140.

I could not visit this patient again till the 10th; but her surgeon favoured me with regular accounts of her progress.

In the evening the pulse was at 120. The tongue was white,

and she complained of great thirst; but the pain was inconsiderable. The bowels not being sufficiently open, the purging bolus was repeated, a clyster injected, and the solution ordered to be continued.

On the following day the evacuations were natural and plentiful; all the symptoms were alleviated, and the secretion of milk had commenced.

10th. I found her perfectly free from all affection of the abdomen, and the pulse was at 92; but the tongue was still a good deal furred. Having been too much purged during the night, she was exhausted, and expressed a great desire for some solid food. She was allowed to have bread-pudding, and a table-spoonful of wine in gruel occasionally, when languid. The purgatives were discontinued, and a saline draught given in a state of effervescence.

11th. She was much better in all respects. The tongue was cleaner, and the pulse more calm. I saw her no more, but was informed that she continued to do well.

Case XXV.—November 9th, 1812, Mrs. C——— was delivered of her seventh child, at half-past nine in the evening. Her labour was natural and quick, though rather more severe than usual, in consequence of a Fontanelle-presentation.

On the following evening, at half-past five, she was attacked with pain in the abdomen, which, she said, was very different from after-pain, and which continued without intermission for half an hour. I saw her soon afterwards, and finding the pulse at 76, and the abdomen free from pain and soreness, I only prescribed the usual purging bolus, to be taken early in the morning; desiring, also, to be informed if the pain should return.

I was called to her again at 10 P.M. The pain had continued to come on at intervals. But since 9 o'clock it had been constant and more acute than before. The abdomen was also extremely sore, and the patient moved herself in bed with great difficulty. She had been alternately chilly and hot, with a gentle perspiration. Her head was free from all morbid affection. The breasts were flaccid, and the lochia had nearly ceased. The pulse beat ninety strokes in a minute, and was hard. I immediately gave the purging bolus, and then took away from the arm, by a large orifice, thirty-three ounces of blood. The blood flowed very quickly, but no faintness ensued, and the pain and soreness were nearly removed. I ordered a second bolus, with a scruple of jalap and three grains of calomel, to be given in two hours, and afterwards three table-spoonfuls of the cathartic solution every two hours.

11th. A large evacuation having taken place before the expiration of two hours, the second bolus had not been given; but the solution had been regularly continued. She had had two more liquid stools during the night; but I thought them insufficient, and

therefore ordered half a drachm of jalap, and four grains of calomel, to be taken before I saw her.

10 A.M. I visited her, and found that she had passed a restless night; having had a good deal of pain at intervals, though of a kind much less acute than before. The general sensibility of the abdomen was greatly diminished; yet even a slight pressure on the uterus, which was somewhat enlarged and distinctly perceivable in the right hypogastrium, occasioned great pain.

I thought it advisable that she should lose more blood, and, therefore, took away from the same orifice twenty ounces, which she bore without experiencing any degree of faintness. The soreness and pain immediately declined. I directed a purging injection to be given; and the solution to be repeated every hour.

3 P.M. She had continued much easier since the second bleeding, and had slept comfortably for an hour. The pains still came on at irregular intervals, but were slight. She had had three liquid feculent stools. The solution was ordered to be taken every two hours, or, if a stool should intervene, in two hours after the last evacuation.

9 P.M. Three more evacuations had taken place, without the necessity of taking more than one dose of the solution. Slight pains still returned occasionally; and the sensibility of the uterus upon pressure, though abated, was still considerable. Pulse 110. Tongue quite clean. The solution to be continued according to the last direction.

12th. 9 A.M. She had passed a comfortable night, and slept many hours. She had taken little of the solution, but enough to produce three evacuations. The uterus remained rather tender. But the pain had returned only twice during the night, and that in a slight degree. Pulse 90.

9 P.M. Soon after my visit in the morning an attack of pain came on, which continued with little intermission for two hours, affecting the *left* side of the hypogastrium. On a careful examination of the abdomen, I found that the tumour which I had before felt on the right side, was now situated on the left, but much diminished in size. It appeared that the patient had been lying some time on her left side, and that the enlarged uterus had consequently changed its situation.* The bowels were quite open. I therefore ordered a saline draught to be taken every three hours, and a dose of the solution occasionally, whenever she should have been four hours without an evacuation.

13th. She had been entirely free from pain during the night; and from this time the pain never returned in any degree. The bowels were kept gently open, and the patient had a good recovery.

* "If the disease be confined to the *uterus*, the seat of the pain seems to be changed when she alters her position."—*Denman's Introd. to Midwifery*, Vol. II. p. 464, Ed. 4.

Case XXVI. — On Sunday, November 29th, 1812, my father attended, for me, Mrs. R——— in labour, in consequence of my confinement by indisposition. She got to bed between 11 and 12 o'clock at night, and the purging bolus was prescribed on the following day. When visited on Tuesday she was quite well; but was attacked with the puerperal fever at 7 o'clock in the evening of that day. As she resided in the country my father was not informed of her indisposition till Wednesday noon, when he immediately visited her. He found the uterus considerably enlarged, and the abdominal parietes being unusually thin, it was remarkably distinguishable. It was also extremely tender, so that a slight touch with the finger only occasioned great pain. But pressure on any other part of the abdomen, which was quite soft and free from distention, excited no uneasiness. One bleeding, to the quantity of twenty-four ounces, followed by brisk purging, gave entire relief. The tenderness, and, in some degree, the bulk of the uterus, were immediately diminished by the bleeding. The purging was continued a few days, and nothing occurred to impede the recovery of the patient.

The circumstance, in this case, most worthy of observation, was the distinct manner in which the seat of the disease was pointed out. Its origin was evidently in the uterus; and its progress being soon arrested, it proceeded no further. Had the disease proved fatal, its original seat could not have been so clearly ascertained, even by dissection; for, before its termination, it must have extended to other parts, especially to the peritoneum.

To the foregoing cases others might be added; but I fear that the patience of the reader may already be exhausted. Enough, I trust, has been said, to fulfil the design proposed in this chapter, viz., to illustrate the character of the disease under consideration; to show the insufficiency of the means which had been usually recommended for its cure; and to elucidate that method of cure which proved invariably successful whenever it was fairly tried.

I shall now conclude the chapter, by giving a connected view of the method of cure, which may be deduced from the foregoing history of the disease.

Method of Cure. — Many practical remarks having already been made in the course of this chapter, by which the method of cure has been, in a great measure, anticipated, it will be unnecessary to say much on this part of the subject.

In every case of *accouchement*, it was my practice to give a purgative on the day succeeding the delivery; which, if it did not prevent the disease, afforded some advantage in its cure. My usual dose was twenty-five grains of jalap and three of calomel; and its effect, though in general moderate, was sometimes so violent, that I was unwilling to put my patients indiscriminately to the inconvenience of a stronger dose.

Dr. Gordon prescribed the same dose as a preventive, which he

gave after the commencement of the disease; yet it must be obvious, that its operation would be much greater in the former than in the latter case. I was the more reluctant to exhibit so large a dose, before the necessity for it was apparent; because I did not feel confident of its possessing the efficacy which that author ascribes to it;* since, some of the worst cases in my practice occurred after an excessive operation of the purgative.

I have no doubt, however, that the disease was more easily subdued, when the previous evacuations had been large; and, therefore, feel no hesitation in recommending copious purging, either if the disease should be very prevalent, or, on any other account, an attack of it is apprehended. But, as the operation of purgatives is peculiarly uncertain in the puerperal state, this might be effected, without the hazard of inducing a hypercatharsis, by giving the smaller dose in the first instance, and afterwards some aperient mixture, in divided doses, according to the exigency of the case.

When the disease has actually commenced, the plan on which it must be treated is well described in my abstract from Dr. Gordon's treatise, to which I refer the reader;† and I would further recommend a perusal of the whole chapter of which that abstract forms a part. The method of cure consists in large evacuations by bleeding and purging. Although other remedies may sometimes be useful auxiliaries, these are indispensable; and they alone will generally be found sufficient, if they are employed in a proper and seasonable manner.

A peculiar excellence of the treatise to which I have so often referred, is, that it prescribes the quantity of blood necessary to be taken, and the period of the disease when it must be taken, in order to effect a cure with any degree of certainty.‡ These are important points; and have been so much neglected by former writers, as to make their directions on this head of little practical utility. For the cautions and limitations with which the recommendation of this remedy has been clogged, have a tendency either to prevent its use altogether, or to render it inefficient. But though I have found great advantage from the rules laid down by Dr. Gordon; yet it is incumbent upon me to say, that they were not always infallible, either as to the quantity of blood which was necessary for the cure, or the time within which it should be taken. He concludes one part of his observations with these words: "Thus, I found, that twenty-four ounces of blood, taken away at one bleeding, within six or eight hours after the attack of the disease, together with a single purgative, never failed, at once, to cure the puerperal fever."§ Now, it has appeared in the 13th Case, that twenty-six ounces of blood, taken within six hours of the attack,

* See page 115. † See page 113.

‡ "I have both limited the quantity of blood necessary to be taken away, and fixed the time when the taking away of that quantity will certainly cure."—*Gordon on the Puerperal Fever.* Preface, p. 30, *ante.*

§ Ibid., p. 57.

with the exhibition of strong purgatives, failed to cure the disease; and in several others, though the recovery of the patients happily prevented a similar proof of inefficiency; yet I had good reason to conclude, that a loss of no more than twenty-four ounces would have proved unsuccessful. Thus, in the 20th Case, thirty ounces of blood were taken within four hours of the attack, and a purging soon excited: yet the pain returned, and was not removed until fifty-one ounces had been lost; and even then the pain was renewed by a very slight cause, and required a further loss of blood.

In the 25th Case thirty-three ounces were taken within five hours; yet, on the following day, the disease was found to be but imperfectly subdued. If it be supposed that, after the first bleeding, purging alone might have completed the cure in these cases, it is at least evident, that the disease was not removed *at once;* and I cannot believe that a repetition of the bleeding was improper, or that it could safely have been omitted.

When a period of twelve hours or more had elapsed, the disease seemed to require still larger bleeding. In the 21st Case, after a lapse of thirteen hours, the taking away of forty ounces at once did not prove effectual without an additional loss of blood, although the symptoms were not, at the time of the first bleeding, particularly urgent; and in some others which I have not related, after the evacuation of thirty ounces or more, it was necessary to repeat the bleeding to the quantity, in the whole, of fifty or sixty ounces.

Of the time of bleeding, Dr. Gordon further says: "If called to a case within twelve hours after the attack, I insisted on bleeding the patient, and promised for its success; but if at a later period, viz., from twelve to twenty-four hours after the attack, I thought it incumbent on me to propose it as the only effectual remedy, but I neither insisted on it, nor promised for its success."*

I apprehend that no precise limit can be fixed, as the latest period of the disorder, when bleeding may be successfully used; for that must depend on the rapidity of its progress, and will therefore vary in different cases. The disease will often prove fatal in forty-eight hours; sometimes in twenty-four; and I have recorded one instance of its fatal termination in less than eighteen hours. Now it is evident, that, in all these cases, the loss of time must have been of the utmost importance; and it is not perhaps saying too much, that a delay of ten or twelve hours in the first case, and of four or five in the last, might have been irretrievable. On the other hand, I have known bleeding successful in a few cases, in which a delay of more than twenty-four hours had been incurred. In the 24th Case, it is probable that the disease had commenced thirty hours before the bleeding; and in the 22d, thirty-nine hours, even if the attack be reckoned only from the accession of pain; but

* Treatise on the Puerperal Fever, *ante*, p. 60.

forty-eight, if it be reckoned, as in my own opinion it ought to be, from the shivering. I saw two other cases, which were also treated with success, after a loss of about twenty-eight hours. In these the disease had made greater progress before the bleeding than in the two former; the abdomen was more affected, and the pulse more weak and frequent; and they were cured with much difficulty.

While, therefore, we are fully aware of the danger of delay, and avoid it by all means in our power; yet, since we cannot ascertain the period when bleeding would be unavailable, we should not too soon be discouraged from the trial of it; but may venture to recommend its use, till there is reason to believe that effusion, suppuration, or gangrene, has taken place.

In conformity with these ideas, I took great pains to instruct the nurse, or some intelligent female attendant, in the symptoms of the puerperal fever; and laid a strict injunction on her to send for me, on the first appearance of those symptoms, by day, or by night.

When I was called at an early period I seldom took away less than twenty-four ounces of blood at first; unless some peculiar delicacy of constitution (as in the 17th Case), or an excess of the previous evacuations, forbad it; and, if the delay was protracted to eight or ten hours, or the symptoms were unusually severe, a larger quantity, to the extent of thirty, forty, and in one instance more than fifty ounces, in proportion to the urgency of the symptoms, and the loss of time.

If the pain and soreness of the abdomen are not removed, or very materially alleviated in six hours, the bleeding ought to be repeated; nor should a considerable degree of faintness, or even a deliquium, make us suppose that further bleeding is either unsafe or unnecessary. In short, I know not from any experience of my own, that scarcely any other limit should be put to the quantity of blood, than the removal, or considerable diminution of the pain; provided all that is requisite be drawn within twelve hours of the first evacuation.

If the disease is clearly ascertained, no other consideration is of much importance. The state of the pulse affords little information, either as to the propriety of bleeding, or the quantity of blood proper to be taken away; and if we are deterred, either by the apparent weakness of the patient, by the feebleness and frequency of the pulse, or by any other symptom, from bleeding copiously, we shall generally fail to cure the disease.

Immediately after the bleeding, the most speedy and effectual means should be adopted for opening the bowels. I usually gave half a drachm of jalap, and three or four grains of calomel, in a bolus; and directed that, after a short interval, three table-spoonfuls of the cathartic solution should be taken every hour or two till copious evacuations should be procured. This method seldom failed quickly to excite a diarrhœa; and the solution, which is a

good febrifuge, was afterwards continued in such quantity as might produce an evacuation once in three or four hours.* The purging was maintained for two or three days, or longer, if necessary; and when the symptoms had entirely subsided, it was suffered gradually to decrease. If the bowels were costive, an injection was often attended with good effect; as it quickly evacuated the contents of the large intestines, and expedited the operation of the purgatives.

I entirely coincide in opinion with Dr. Gordon, when he says, that "purging is to be early excited, and to be continued without intermission, till there be a complete termination of the disease."† But I can scarcely reconcile this advice with the account of his practice, as before quoted: "Every night I administered an opiate, in order to give a respite to nature, and strength to the patient, to enable her to bear the evacuations which she must necessarily undergo the ensuing day."‡

I frequently tried opiates in this epidemic, but, I think, never with advantage. The respite which they afforded was but an insidious truce; and rather tended to prolong the disease. There was, perhaps, no case in which they were more likely to be serviceable than the 22d, where the patient was delicate, and the disease long protracted; yet I never prescribed them in that case without manifest disadvantage. Their apparent utility was perfectly striking in the 3d Case, before I had adopted the practice of bleeding. But the termination of the disease leads me to conclude, that the benefit arose from the purging alone; that the comfortable repose procured by the opiates was deceitful; and that the interruption occasioned thereby to the purging was injurious. It became my practice, therefore, to continue the purging, literally *without intermission*, and without the interposition of opiates; and to this, in conjunction with more copious bleeding, I attribute the more speedy termination of the disease. For, instead of its being brought to a close, as Dr. Gordon says it generally happens, on the fifth day, in a very large proportion of my cases it was completely removed within two days.§ Indeed I recollect

* Dr. Armstrong recommends calomel as a purgative, in the dose of a scruple or half a drachm; but he observes, "It is merely as an aperient that I consider it serviceable in any acute disease; and I have been led to prefer it to any other, only because it is more certain and effectual in its operation."[a] Having found no want of efficacy in the purgatives which I used (for the proof of which I may refer, not only to my general success, but especially to the expedition with which the disease was usually cured), I feel no sufficient inducement to change them for one which is sometimes attended with unpleasant consequences, without an equivalent benefit. I am disposed, however, to believe, that a larger proportion of calomel than I have commonly prescribed might be employed with advantage.

† Treatise on the Puerperal Fever, *ante*, p. 58. ‡ Ibid., p. 58.

§ Dr. Armstrong also says, that the patients treated as he recommends, "were usually convalescent on the fourth or fifth day."[b]

[a] Facts and Observations, &c., *post*. [b] Ibidem.

no case, except the 20th, in which the disease was not subdued within two or three days, when the proper means were early employed.*

If an opportunity be afforded of using the appropriate remedies at the commencement of the disease, bleeding and purging alone will soon overcome it; and no other means will be found requisite. But circumstances may occur, in all its stages, in which purging or emollient injections will prove beneficial. Fomentations of warm water, if properly applied, are soothing; and I have never seen them do harm. Blisters are inconvenient, and will seldom be necessary. But I have sometimes thought them useful, and never detrimental, except the disease be advanced to the last stage; when they can only add to the general irritation, without any prospect of advantage. A saline draught, taken in a state of effervescence, is refreshing to the patient; and, as it coincides with the intention of the principal remedies, may be given, when there is opportunity, between the exhibition of the purgatives.

If these means should fail to cure the disease, from being employed either too late or in an improper manner, grateful cordials may be given in its latter stages to alleviate the distressing feelings of the patient; but cordials or tonics can afford no other advantage. The mischief which has taken place in the cavity of the abdomen, whether by extravasation, suppuration, or gangrene, renders the disease incurable; except, in the two former cases, by some extraordinary effort of nature, of which Dr. Gordon has related three instances, where the confined fluid made its way by a direct outlet; in two at the umbilicus, and in the third by the urethra.

Purging, however, is proper in every stage of the disease, unless gangrene has actually taken place; and should be excited, if possible, when bleeding has become inadmissible. For even if some degree of effusion should be suspected, the morbid fluid may possibly be absorbed; and nothing is more likely to promote its absorption, and to carry it off through the medium of the circulation, than a discharge from the intestines.

* I have already expressed my belief, that the epidemic at Leeds was more violent than at Aberdeen; and perhaps the same observation may be applicable to the fever of which Dr. Armstrong treats. He remarks, "This complaint, when not arrested by art, ran its course in about five days, and in one case, in a much shorter time."[a] It is probably to this case he alludes, when he says, "In one robustly-formed young woman, the whole term occupied from the commencement to the fatal close of the fever, did not exceed forty-eight hours."[b] Now it was by no means uncommon for the fever at Leeds to finish its course in forty-eight hours; and, in many cases, it proved fatal in a much shorter period. If, then, my opinion be correct, that the fever under consideration was more malignant than those to which I have just alluded; and if, notwithstanding, its cure was more quickly effected, may I not fairly conclude, that something in my method of treatment conduced to this end.

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[a] Facts and Observations, &c., *post*. [b] Ibid.

This is the method which was employed for the cure of the epidemic puerperal fever at Leeds, with uniform and complete success, whenever it was fairly tried. It is possible that epidemics of this fever may differ in their nature; but it is evident that those of Aberdeen and Leeds were similar;* and in every case analogous to them a similar mode of treatment may be confidently recommended.

I wish the reader to judge for himself of the efficacy of that which has just been described; and, with this view, I have already given some account of all the unsuccessful cases which came under our care. It has been stated, that, before the plan of bleeding was adopted, of fourteen patients who were attacked with the disease, only three recovered; and I have now to add, that after the 9th case (the 15th in my practice,) in consequence of which I determined to use bleeding in addition to purging, of thirty-three patients whom we attended, only three died; the last twenty-six having recovered in uninterrupted succession.†

I need not repeat what has been said of the three fatal cases to which I beg leave to refer the reader.‡ But, I trust, it has appeared, that the want of success in them did not indicate either the impropriety or the insufficiency of the treatment which I finally adopted, and which I now recommend.§

CHAPTER IV.

GENERAL REMARKS ON PUERPERAL FEVER.

It is an observation of Dr. Clarke, when speaking of the puerperal fever, that "practical men have persuaded themselves, that the form of disease, which respectively they may have most frequently met with, is the only one."‖ Now, though I can claim no exemption from a bias so common and so natural, and may possibly fall into this error, yet it is a question too important to be passed over in silence, whether the various forms under which

* To which may now be added the epidemic of Sunderland.

† Copious bleeding was used in all these cases excepting one, which was rather slight, and was cured by purging alone.

‡ See Cases XI., XIII., XV.

§ Since my return to Leeds, in September, 1814, I have seen four cases of puerperal fever, which have all terminated favourably. If these be added to the above statement of my success; and if it be thought allowable to omit the case of the consumptive patient (in which it is not easy to decide, whether or not the puerperal fever alone would have proved fatal), the proportion of unsuccessful cases will be two in thirty-six; and of this number, the last thirty afforded no instance of failure in the treatment.

‖ Practical Essays, p. 54.

the disease has been described are founded on an essential difference in its nature. For, as it has been supposed that the puerperal fever assumes a great variety of modifications, which require a corresponding variety in its treatment, it will prove but little interesting to know, that a certain cure has been found for a particular epidemic of the disease; unless it can also be made to appear, that a similar treatment is applicable to the puerperal fever in general.

The distinction which first claims attention, because it is supposed to be the most obvious and the most important, is that between inflammation of the uterus, or peritoneum, and the puerperal fever more strictly so called; the two former diseases having been considered as truly inflammatory, and the latter as a species of low fever.

After reading the preceding account of the puerperal fever at Leeds, I think no one will venture to deny, that the disease was highly inflammatory; for the cure consisted in copious bleeding and purging, and all other means were ineffectual. But perhaps those who maintain that puerperal fever is always a modification of typhus, may be disposed to doubt, whether the disease in question was a genuine puerperal fever, or whether it might not approach nearer to inflammation of the uterus and peritoneum. On this point I might rest satisfied with referring to the history and symptoms of the disease, as already detailed; leaving it with the reader to compare them with other descriptions of the puerperal fever; and confidently relying on their general coincidence. But it may be further remarked, that its prevalence as an epidemic seems (according to the judgment of authors) to determine its real denomination. For it is stated to be a distinguishing characteristic of inflammations of the uterus and peritoneum, that they never prevail epidemically; and, as I am not aware that this opinion has ever been disputed, a single quotation in confirmation of it may suffice. I will take it from Dr. Thomas's work, in preference to any other, because that work comprises an epitome of "Modern Practice."* In treating of inflammation of the uterus, he says, "It never prevails as an epidemic, like puerperal fever, for which it has probably often been mistaken."† He speaks to the same effect of the peritonitis in the puerperal state: "The disease has by some authors been called puerperal fever; but this seems improper, as it neither is attended with contagion, nor ever prevails epidemically."‡ If these observations are correct, it will appear that the disease which I have described was a genuine puerperal fever; and it has been abundantly proved to be an inflammatory disease; consequently it must be allowed, that the puerperal fever, in some instances at least, so far resembles inflammation of the

* See also Clarke's Practical Essays, p. 97.
† Modern Practice of Physic, p. 617. ‡ Ibid., p. 620.

uterus and peritoneum, as to require a similar treatment — similar in its kind, though more prompt and vigorous in its execution.

It still remains to be considered, and a most important consideration it is, whether the puerperal fever is essentially the same disease under all the different appearances which it assumes. That is, whether it is so modified by accidental and concomitant circumstances, as to vary only in the degree of its violence, the rapidity of its progress, and the fatality of its result: or whether it is, in fact, a disease radically different, or even diametrically opposite, according to the circumstances and occasion of its rise and progress.

That such contradictory opinions of it have been maintained, admits of easy proof. One author, who believes that the puerperal fever is always of the same nature, having the same variation in its early symptoms, as occurs in the plague or the common infectious fever, observes: "That in all the histories which have been given of this disease, from the days of Hippocrates to the present time, no other difference (than a variety in the degree and violence of the symptoms) can be discovered. If, then, it be allowed, that the disease is, in its symptoms and other respects, pretty nearly the same in every instance in which it occurs, one material step will have been gained towards facilitating the explanation of what its true nature consists in; and, in order to simplify this matter still further, I will venture to assert, that it is, in reality, no other than the common infectious fever, complicated with a more or less extensive inflammation of the *peritoneum*."*

Another says, that "the puerperal fever is always inflammatory at the beginning; and becomes putrid only in its progress."† And, "That this putrescency is only the effect, or consequence, of previous inflammation neglected, or improperly treated."‡

Now, if the disease were really so different as in these passages it is described to be, varieties so opposite ought not to be treated of under the same name. But, while I acknowledge that my own experience may possibly give an undue bias to my judgment, I must still venture to express my conviction, that the latter quotation furnishes the true solution of the difficulty; and that it "accounts for the many mistakes of physicians, with respect to its nature, who have taken the effects, or consequence, for the cause, and confounded the different stages of the disease."§

I will proceed to offer some of the reasons which tend to confirm me in this opinion of the puerperal fever.

The very definition of the disease, viz., fever in childbed, accompanied with *pain* and *extreme soreness* in the abdomen, which, I believe, accords with every description that has been given of it, implies the existence of inflammation; nor does any one deny its

* Walsh on the Puerperal Fever, p. 13.
† Gordon on the Puerperal Fever, *ante*, p. 66.
‡ Ibidem, p. 47. § Ibidem, p. 48.

existence.* And what is it that destroys the life of the patient, but the effects of inflammation — extravasation, suppuration, or gangrene? These are the constant and most fatal consequences of the disease. Did I wish to describe the symptoms of inflammation, I could not employ stronger language than is furnished by an author, just quoted, who maintains that puerperal fever is always a form of typhus. "The pain, after a few hours continuance, became so severe, that the generality of the patients lay on the back, and could not bear the weight of even the sheets; and in the woman who was attacked so soon after delivery, it was such as to deprive her of the power of distinct articulation; so that she lay uttering a hideous interrupted cry, but totally incapable of answering any question."†

But this author, and others of his sentiments, allow, that the disease, at its commencement, approaches, in some instances at least, to the type of an inflammatory fever; yet they suppose that the speedy change of its symptoms to those of putrescence, forbids the use of the lancet, even in its first stage. And when I recollect the early and rapid transition of the disease from inflammatory action to a state of sinking, it does not surprise me, that so many writers have drawn the character of the disease from its last stage, rather than the first. We are told that, "after a few days continuance, the fever often acquires a putrid tendency;"‡ but I have given instances of a change in the symptoms taking place in a few hours. So short indeed is generally the duration of the first stage; so soon is it succeeded by symptoms of debility, that this period has been comparatively overlooked, and thus the only time of determining the real nature of the disease, and of treating it successfully, has been lost. Here, in my opinion, has been the true source of error.§

It would not be difficult to show, that those practitioners who imagine the puerperal fever to be a modification of typhus, consider the inflammatory affection of the abdomen as symptomatic —

* "When I find a quick pulse and febrile heat accompanying an inactivity in the breasts, at the time the milk should come, or even a quick pulse with pain resembling after-pains, I am always apprehensive of danger; for these symptoms and inflammation are inseparable," &c.—*Kirkland on Childbed Fevers*, p. 79.

† Walsh on the Puerperal Fever, p. 7.

‡ Thomas's Modern Practice of Physic, p. 625, Ed. 3.

§ Dr. Armstrong has marked the character of the disease in its first and second stages more distinctly than any other author; which I consider as a particular excellence of his work. But I doubt whether he has not, in some respects, too strictly defined the limits of the first stage. If, for instance, a practitioner, inexperienced in the disease, should be led by the frequency or weakness of the pulse, to conclude that the disease had advanced into its second stage, he might commit a fatal error. I refer the reader to my 3d, 8th, 12th, and 23d Cases; in which the pulse ranged from 140 to 160, in the first stage. I have also frequently found "swimming of the head and confusion of thought" very early in the disease; and sometimes a dry, brown tongue and sordes of the teeth attend the first stage, if that be supposed to continue till gangrene, suppuration, or effusion has taken place.

not the cause, but the effect of the fever; which latter opinion, indeed, seems almost a necessary consequence of the former.* Now, were this the case, it might reasonably be expected, that a typhus fever existing in the puerperal state would generally, if not always, produce inflammation of the abdomen. But Dr. Gordon informs us, that he has attended "an immense number of pregnant women affected with fevers occasioned by infection; and the result has been, abortion in the early part, and labour in the latter part of pregnancy. Which events, so far from proving fatal, for the most part brought the disease to an immediate termination, the flooding of abortion and the lochia of childbed proving critical."†

Dr. Kirkland also relates an interesting case of a young woman, who, after delivery, was put into a bed from which her sister, labouring under a slow nervous fever, had just been removed. She took the fever; "soon became delirious; and died on the twelfth day from her delivery: but she had neither diarrhœa, pain, soreness, or swelling in any part of the abdomen."‡

The bad success attending the treatment of the disease as a low fever, affords no slight presumption that its nature has been mistaken.§ Perhaps there are few accounts of puerperal fever, in which the symptoms of inflammation were less distinctly marked, or those of putridity more evident, than in "the low fever of childbed" described by Dr. Clarke.‖ Accordingly, he recommends the bark in large doses, with such other means "as have a tendency to support the strength and diminish the irritability." But he gives us no reason to suppose that his success was great; nor does he adduce any instance in which the disease, when actually formed, was cured by this treatment.

It is material to my present argument to observe, that the puerperal fevers of Aberdeen and Leeds, which were in the end so unequivocally proved to be inflammatory, were nevertheless supposed by some to be the low fever of childbed; and were treated

* "The inflammation of the intestines and *omentum* found after death, are to be considered rather as the effects than the causes of this fever." — *Whitehead's Notes on the Report of M. Doulcet's Memoir, &c.*, p. 26. See also *Clarke's Practical Essays*, p. 155.

† Gordon on the Puerperal Fever, *ante*, p. 52.

‡ Treatise on Childbed Fevers, p. 85, *et seq.*

§ "Were I inclined, I might here also avail myself of the great candour of those authors who have treated puerperal fever as a putrid and typhoid distemper, their impartial and disastrous reports forcibly demonstrating that cordials and stimulants answer no good purpose."—*Dr. Armstrong's Facts and Observations, &c.*, post.

‖ Evidences of inflammation were, however, not wanting in this epidemic; for though Dr. Clarke says that there was not much sign of inflammation in the appearance of the viscera on dissection, there was usually a large quantity of fluid in the abdomen; and the surfaces of the viscera and of the peritoneum were covered with a crust resembling coagulable lymph. The quantity, solid and fluid, was often prodigious in a very short time.

I know not what, but inflammation, could produce these appearances.

as such. Hence the conclusion is strengthened, that they were in fact the same disease which so many writers have considered as a putrid fever; and that the puerperal fever is always essentially the same disease, "inflammatory at its beginning, and putrid only in its progress."

It is not, however, to be denied, that there is a vast difference in the puerperal fever at different times, and in different situations and the circumstances. In some cases it appears like a phlegmonous inflammation. Its progress is comparatively slow, and it will admit of bleeding for some days after its commencement. In others, it destroys with more rapidity and certainty than the plague. But all its varieties, so far as I can judge from my experience and reading, may be reduced to two denominations, the *sporadic* and *epidemic* puerperal fever; in which I include inflammation of the uterus and peritoneum. However nosologists may think proper to describe the disease according to its seat, &c., I am persuaded that no other distinction is of any real practical importance. Nor is this of any further consequence, than that the epidemic disease requires more prompt attention, and more vigorous treatment. The means of cure are precisely the same in both; but in the latter their measures is greater and less limited; and the period within which they must be employed, is far more circumscribed.*

It may be asked, if the puerperal fever is always to be regarded as an inflammatory disease, how does it happen, that such extreme fear and caution have prevailed respecting the use of the lancet; and that, with those who have most strongly recommended bleeding, it has been attended with so little success? The question has, in effect, already been answered; and the truth is, it has seldom been fairly tried. Either the quantity of blood taken away has been too small, or the time when it was taken too late to be of any use; and thus the principal remedy of the disease has been brought into disrepute.

A few quotations, showing the manner in which bleeding has been spoken of, may serve to illustrate this remark: —

"Though this disorder is of the inflammatory kind, it seldom will bear to be treated as such; for which reason, unless the pains are

* Fevers may occur in childbed of a very different character from what has now been described, and from what is commonly called puerperal fever; and in such, a different treatment will be requisite; for instance, the puerperal fever of Derbyshire, as described by Dr. Butter. He tells us, that "venesection is never to be used in this fever, except it be complicated with inflammatory symptoms."[a] "The puerperal fever," he says, "is one of those disorders that seldom or never prove fatal till they have degenerated into a more complicated malady."[b]

These sentiments are so inapplicable to other accounts of puerperal fever, and his treatment so inadequate to the cure of that fatal disorder, that, in my opinion, though the disease was a fever in childbed, it ought not to be called *the puerperal fever*.

[a] Butter on Puerperal Fevers, p. 26. [b] Ibid., p. 33.

very great, we should not bleed, at least for the first eighteen or twenty hours."*

"When there is much pain, hardness, and swelling in the belly, bleeding may be necessary. If the hemorrhage has been violent at the time of delivery, bleeding is improper."†

Manning thinks he "may safely affirm from experience, that for one who will be benefited by large bleeding, a much greater number will be injured, and that even almost irretrievably." That, indeed, "he is so sensible of this fact, that for several years he has seldom advised bleeding, except in women of plethoric constitutions, and in whom the signs of inflammation rose high: nor that even in such patients ought it to be repeated without great caution, and the existence of strong indications."‡

"After the most careful observation, the event has so often proved to me, that large bleedings weaken the sick, without proportionably lessening the disease, that I have for a long time never taken away blood in any quantity."§

"I had very early my doubts regarding the propriety of bleeding in general, in this disease; and am still of opinion that it is not the most natural, safe, or effectual remedy in this case.‖ In general, however, it will be found necessary to take away some blood in the beginning; and we must be guided, as to the quantity, by the strength of the patient, and by the violence of the symptoms."¶

"If the pain of the hypogastric region should be accompanied with violent stitches in the sides, or over the pit of the stomach, and a pulse that resists the finger pretty strongly, then bleeding would be highly necessary. The first quantity should rarely exceed eight ounces; and in about six or eight hours afterwards, if the pulse still preserve its strength, and the pain continue, the arm should be tied up again, and a second quantity drawn from the same orifice.** If I must err — let it be rather in point of bleeding too little, than of bleeding too much, and in making up the deficiency by evacuations by stools."††

* Cooper's Compendium of Midwifery, p. 219.

† Millar on the Puerperal Fever, quoted from Hulme's Treatise, p. 142-3.

‡ Ibid., p. 145.

§ Denman's Essays on the Puerperal Fever, and on Puerperal Convulsions, p. 23. 1768.

‖ Denman's Essays on the Puerperal Fever, p. 18. Ed. 2.

¶ Ibid., p. 19. Perhaps I should apologise for quoting opinions of this author which he has long since relinquished. But they would, no doubt, have their influence on the treatment of the puerperal fever, so long as they remained uncontradicted. His later sentiments so exactly coincide with my own, that I am glad to avail myself of their sanction.

"I am now convinced," he says, "by manifold experience, that my reasoning was fallacious, and my fears groundless; and that what I had considered as proofs of the insufficiency or impropriety of bleeding in the inflammatory puerperal fever, ought in reality to have been attributed to the neglect of performing it in an effectual manner, at the very beginning of the disease."—*Introd. to Midwifery*, vol. ii., p. 480.

** Hulme on the Puerperal Fever, p. 74. †† Ibid., p. 77.

"When the patient is young and plethoric, the pulse full, the thirst great, the skin dry, and the urine high coloured, she may lose eight or ten ounces of blood, in the beginning, with great safety and advantage; and a smaller quantity may afterwards be repeatedly taken away, in proportion to the violence of the symptoms."*

"In the beginning, an inflamed *uterus* must be treated like other local inflammations, which are cured by dispersion. But the misfortune is, that neither bleeding or purging can be used in their full force in childbed fevers."†

"It is of the utmost importance, in the cure of this disease, to distinguish between the *true inflammatory* and the *putrid puerperal fever*. In the former, a prudent use of the lancet will doubtless be of use; whilst in the latter, it will generally be attended with the most fatal consequences. The latter, likewise, is that which most frequently occurs."‡

Levret observes, aphorism 995, that he had "never seen one woman escape after bleeding."§

"Venesection is seldom proper, and still more rarely necessary; and, if at all admissible, it must be at a very early period of the disease, in strong, robust patients, where the puerperal fever appears as a *sporadic disease*," &c.‖

Dr. Clarke says he has found, by experience, "that the treatment which is proper in inflammation of the uterus or peritoneum, or both, connected with an inflammatory state of the system, is exceedingly detrimental in the epidemic disease," &c.

"In the first place, let me caution practitioners not to be misled by the tumefaction of the abdomen so as to employ the lancet with the expectation of curing a supposed inflammation. Bleeding from the system has always been attended with manifest disadvantage, although it has been tried in patients who have been apparently strong and plethoric before."¶

Such are the sentiments and directions of many authors of celebrity respecting the use of the lancet in the puerperal fever. The caution and timidity of those who are most favourable to bleeding are very remarkable; for Dr. Leake, who repeatedly and particularly recommends "*early and copious bleeding*, and the *antiphlogistic method* — in preference to everything which he has hitherto seen tried in the cure of that fatal disease,"** mentions ten ounces as the largest quantity which he took away at one time.

If the plan which I have advised be well founded — and of that its success is the proper criterion — it is evident how inconsistent with the nature, or inadequate to the exigency of the case, the opinions and directions above quoted must be. And we may

* Leake on the Childbed Fever, p. 33.
† Kirkland on Childbed Fevers, p. 94.
‡ Whitehead's Notes on the Report of M. Doulcet's Memoir, p. 33.
§ Ibid., p. 27.
‖ Walsh on the Puerperal Fever, p. 40.
¶ Practical Essays, p. 158, *et seq.*
** Practical Observations, p. 147.

justly conclude, from the language of these quotations, that in the practice of none of these authors had bleeding a fair trial.

I would particularly call the attention of the reader to one circumstance, viz., that the *epidemic*, called by some the putrid puerperal fever, in which bleeding is represented as peculiarly hazardous, or totally inadmissible, was the species of disease which, in my practice, required much larger bleeding than the *sporadic*, or, as it has been called, the true inflammatory puerperal fever.

I cannot dismiss this part of the subject without adverting to an argument against bleeding which appears specious, and has been urged with some confidence. It has been affirmed "that those women who have lost much blood at the time of delivery, are more liable to this disease than others, and that it is much more fatal to them."* Whether the former part of this quotation be true, or not, I will not determine; but the latter is clearly contrary to my experience. "It is allowed," however, "that these fevers sometimes arise even after large uterine effusions;" hence it is asked, "Ought we then to expect to cure a disorder by bleeding, which bleeding would not prevent? It is a maxim in physic, that whatever remedy will cure, will prevent a disorder."†

The same argument is urged by another author. "It is an axiom in physic," says he, "that a remedy which cures any disorder, will always prove a prophylactic against it; and therefore, if bleeding were the proper cure in the puerperal fever, the disease ought to have been prevented by a large evacuation of blood, when that happened previous to its seizure."‡

I am not able to answer this reasoning in the way which Dr. Gordon has answered it; who says, "For my part, I found, that large uterine effusions invariably prevented the epidemic puerperal fever, which I have described;"§ but my practice affords an answer equally satisfactory. Without questioning the propriety of adopting axioms in physic, or arguing the fallacy to which the one now mentioned may be liable in its application; I am ready to allow, and indeed have already shown, that a patient may lose a much larger quantity of blood in labour than would have been necessary to cure the disease, without preventing the attack; nevertheless, bleeding was found, even under these circumstances, a suitable and effectual remedy.

I have related two cases‖ in which this happened to women of constitutions remarkably delicate, and unfavourable to evacuations; yet such are the cases in which the puerperal fever has been considered as the most dangerous, and bleeding as peculiarly improper. We may therefore regard them as, of all others, the most decisive test, of the nature of the disease, and of its appropriate remedy.

The seat of the disease has been the subject of various opinions;

* Denman on the Puerperal Fever, p. 18. Ed. 2.
† White on the Management of Pregnant and Lying-in Women, p. 217.
‡ Manning on Female Diseases, p. 371.
§ Gordon on the Puerperal Fever, p. 66. ‖ Cases XII., XVII.

and some importance may seem to be attached to the question, since it is supposed to involve the true character of the disease.

"It is remarkable in the accounts of this disease," says one, "that when it has appeared in its inflammatory character, the uterus has been found affected with inflammation: and when it has assumed its putrid form, the uterus was in its natural state; from which we may justly conclude, that the *inflammatory puerperal fever* is generally, if not constantly, owing to an inflammation of the uterus; but when it appears as a putrid disease, it is owing to very different causes."*

Another says, "the fever brought on by an *inflammation* of the *uterus* has often been confounded with the childbed fever; but those diseases are very essentially different:" yet this author adds, "they both require the same method of treatment."† A distinguishing mark which he proposes respecting these two diseases, is, that, in the former, "the head is affected with pain, and a *delirium* usually attends the fever. But, on the contrary, in the childbed fever, the head is seldom disordered, nor does a *delirium* usually attend."‡ It is remarkable, however, that in thirteen cases of childbed fever which he relates, eleven were attended with pain in the head, most of them to a violent degree, and four with delirium; one only, out of the thirteen, being free from both.§

Drs. Denman and Kirkland consider the puerperal fever as originating most commonly in the uterus. Drs. Hulme and Leake found the omentum and intestines chiefly affected, but especially the former. Dr. Gordon says, that the peritoneum and all its productions are "equally and indiscriminately affected." In two of his three dissections, not only did the peritoneal covering of the uterus partake of the general inflammation, but its substance was enlarged; and the right ovarium (that in which impregnation had taken place) was found in a state of suppuration. In the third case, the disease had been almost subdued by the evacuations employed; and the appearance of inflammation was consequently slight; but the same ovarium was enlarged, and was approaching to a state of suppuration.

In one of the earliest accounts which we have of an epidemic puerperal fever, the uterus is said to have been affected with inflammation in common with the stomach and intestines, and the ovaria to have frequently suppurated.‖

It is not in my power to throw any light on this subject from actual dissection; nor, indeed, does an examination of the body

* Whitehead's Notes on the Report of M. Doulcet's Memoir, p. 23.

† Leake on the Childbed Fever, p. 78. ‡ Ibidem.

§ Fourteen cases are related; but in one of them (the 13th) the symptoms are so briefly noticed, that no conclusion can be drawn respecting those which he mentions as characteristic.

‖ "L'estomac, les intestins, et la matrice bien examinés, paroissoient avoir été enflammés, etc. Dans plusieurs de ces femmes, les ovaires paroissoient avoir été en suppuration."—*Hist. de l'Acad. Royale des Sc.*, l'an 1746, p. 160.

after death show decidedly which was the part first attacked by the disease. For, wherever the inflammation begins, it rapidly extends to all the contents of the abdomen; so that, when it has proved fatal, no peculiar appearance may be found, which shall certainly distinguish the part primarily affected. But in the epidemic puerperal fever at Leeds, it was more clearly demonstrated, than it could have been by dissection, that the disease generally originated in the uterus. For that viscus was often considerably enlarged, and showed an exquisite sensibility upon pressure; while the rest of the abdomen remained perfectly free from pain or soreness. And although the pain was not always referred, in the beginning, to the region of the uterus; but, in one instance, to the pit of the stomach, and in others to different parts of the abdomen; yet this affords no proof, that the inflammation did not originate in the uterus; for sympathetic affections of the same kind are well known to exist in the strangulated hernia, where there can be no dispute about the original seat of the disorder.*

Upon the whole, then, we may conclude, from what has now been remarked, and from various well authenticated dissections, that a genuine puerperal fever may arise from an inflammation of the uterus, as well as from inflammation in other parts of the abdomen; and that a variety in the part which is primarily affected does not essentially affect the character of the fever.

It is a question on which the best writers are still divided in sentiment, whether the puerperal fever be an infectious disease, or not. I have hitherto said nothing on this point, because I feel much difficulty in coming to any satisfactory decision upon it. It might be expected, that those practitioners who consider the puerperal fever as a modification of the common infectious or jail fever, should, on the same grounds, believe it to be infectious. But if the disease were of this nature, I see no reason why it should not frequently communicate a putrid fever to persons not in the puerperal state, which I have never known to happen.† The arguments that have been urged to prove that the disease is not a fever of that description, if they have any weight, will equally show that it is not infectious; or, if so, that the infection is of a different kind.

No one supposes the sporadic puerperal fever to be contagious;‡

* "He continued all day to complain of much uneasiness at his stomach. — Knowing that he was subject to a hernia, I inquired if it was now prolapsed. He seemed at first not to have thought about it; but, upon my examination, he acknowledged that it had been down all the day, though he had no pain in the tumour." Case of Strangulated Hernia.—*Hey's Surgery*, p. 111. Ed. 3.

† I am aware that there are instances in which fevers have been attributed to infection taken from women labouring under the puerperal fever. In the Royal Infirmary at Edinburgh, two of the attendants on the puerperal women are said to have been seized with the common synochus. But the paucity of such instances seems more to confirm, than the exception to invalidate my argument.

‡ When this sentence was written, I had not seen the work of Dr. Armstrong, who says, "The peritonitic fever, when completely formed, is in kind, though not in degree, as contagious as the epidemic."—*Facts and Observations, &c.*, post.

and in proportion as the disease becomes epidemical, it is the more difficult to judge of its nature in this respect; for as epidemic diseases are in some measure connected with the state of the atmosphere, all are alike exposed to the predisposing cause at least.

The opposite opinions of practical men, on this subject, would lead us to believe, that the puerperal fever is not always contagious; and that, when it is so, it has that property in very different degrees.

Dr. Hulme says, "The puerperal fever is not an infectious disease, any more than the iliac passion, a pleurisy, a *nephritis*, or an inflammation in any other part of the body."* And other authors speak of this point with great doubt.

Dr. Gordon, on the contrary, represents the disease as highly infectious; and informs us, that the channels by which it was propagated were very evident.

It has been my aim in this treatise to advance nothing from theory; or which was not clearly deducible from facts and actual experience: and having known many circumstances from which opposite conclusions might be drawn on the present question, I am unable to form a decided opinion upon it. If the puerperal fever of Leeds was infectious, which by many it was thought to be, it was so in a very inferior degree to that of Aberdeen; for I have known instances of free communication, by the intervention of others, between women in labour or childbed, and those affected with the disease, without any bad consequence. And, on the contrary, in many cases of puerperal fever, no channel whatever was discoverable whereby the disease could have been conveyed.

It was my custom, however, to use such precautions in my attendance on patients, as to render it impossible for me to convey infection to them; and those who would take the same trouble might practice safely, were the disease as infectious as Dr. Gordon represents it to be. It was an invariable rule with me never to attend a patient in childbed in any article of clothing which had been in the presence of one affected with the puerperal fever; nor without washing repeatedly such parts of my person as could have been exposed to infection. This trouble I took for the satisfaction of my own mind, and the safety of my patients, though not convinced that it was necessary. But in so important a matter, I wished for perfect security under any supposition.

If there be any circumstances under which the method of cure now recommended may prove unsuccessful, it will be thought most likely to happen when the disease shall prevail as an epidemic in hospitals. I have had no experience of it under such circumstances; and therefore it would be presuming too much to speak on this subject with confidence. It must remain for the decision of future observation, whether the treatment which has succeeded so well in private practice will not be equally suitable and efficacious

* Treatise on the Puerperal Fever, p. 164.

in that of hospitals. The experience of Dr. Leake, however, so far as it goes, tends to prove the affirmative. But it is not asking too much, that the trial should be made, unless any other plan promised greater, or at least equal success. And let not the fear of bleeding which has hitherto prevailed prevent its use in full quantity and in proper time; for on these two points its efficacy entirely depends.

It will scarcely be denied, that small has been the success of all other means, unless we except the plan of treatment by repeated emetics, as recommended by M. Doulcet. The efficacy attributed to this plan in the Hotel-Dieu is certainly extraordinary; and I am at a loss to assign a sufficient cause, why it should be condemned by almost every author who has since written on this subject.

Perhaps it has never been fairly put to the test in this country; at least I am ignorant that this has been the case. For those authors who condemn the practice do not inform us under what circumstances or to what extent they have tried it; and the only one* who has written in its favour, though his treatment was attended with "uninterrupted success," had probably seen little of the disease in this epidemic form; since his treatise was published soon after the commencement of the epidemic described by Dr. Clarke. And this circumstance is important in estimating the value of any remedy; for the sporadic disease may be cured by means quite inadequate to the cure of the epidemic.

It is highly probable, however, that the success of this method of cure, as practised in the Hotel-Dieu, has been unintentionally overrated. For, since its efficacy "consists wholly in its early application, namely, in the very moment when the disease first commences,"† it must necessarily happen, that the remedy would be administered in many cases of febrile affection, which would not have terminated in the puerperal fever. And thus the plan of treatment would obtain a degree of credit which it did not deserve.

But should we grant all the efficacy which is claimed for this plan, yet the circumstance that it must be adopted at "the first moment of attack" would confine its application, in a great measure, to the practice of hospitals. It is needless to say, how impossible it is, in private practice, to insure this advantage. For, as I have already observed, notwithstanding the strictest injunctions left with my patients, or their attendants, during the prevalence of the late epidemic, to give me the earliest information of the appearance of those symptoms which usually characterised the disease, my directions were seldom complied with; so that I had rarely the opportunity of seeing the patient till the disease had existed some hours.

The method of cure, therefore, by bleeding and purging, has a decided advantage over that by emetics, even on the supposition

* Dr. Walsh.

† Report of M. Doulcet's Memoir, translated by Dr. Whitehead, p. 12

that they are equal in all other respects, except the period of the disease at which they will respectively prove efficacious.

Of the latter I have no experience, and can therefore say nothing: the former I can recommend, even with greater confidence than if it had been employed with invariable success from the commencement of the epidemic. For the want of success, prior to the combined use of these remedies, served more clearly to evince the nature and mortality of the disease; to demonstrate the inefficacy of other methods of cure; and, therefore, more fully to establish the superiority of that which was finally adopted.

APPENDIX.

I should feel reluctant to increase the size of this Treatise, by multiplying the number of cases, did I not hope that those which have lately come under my notice* possessed sufficient variety to give them some interest, and to throw some additional light on the subject in question. At least it may tend to confirm the practice already inculcated, when we find the same treatment attended with equal success, at some distance of time, and in various cases and circumstances.

Case XXVII. — October 12th, 1814, I was requested to visit the wife of J. B., aged 27, who had been ten days labouring under the puerperal fever. The surgeon, at whose request I attended, favoured me with the following account of her case: —

She was delivered by a midwife of her fifth child, in the morning of the 1st of October; and was attacked in the morning of the 3d with a violent pain and throbbing in her head, accompanied with thirst, an increase of after-pain, and a pulse at 120. As the chief complaint seemed to reside in the head, the state of the abdomen was not examined. Three table-spoonfuls of the cathartic solution were directed to be taken every two hours.

4th. The contents of the bowels had been freely evacuated, and the after-pains were diminished. But the pain in the head continued violent, and the frequency of the pulse was somewhat increased. Ordered a saline mixture to be taken in a state of effervescence.

5th. She was much worse; the headache more violent, and the abdomen, which was now examined for the first time, considerably tumefied, and very tender when touched. Pulse at 140, or upwards. She had had no evacuation on the preceding day.

* See note, p. 139.

Somewhat more than twenty ounces of blood were drawn from the arm, and a purgative mixture prescribed.

Evening. The mixture had operated freely, and the patient was somewhat relieved. But she still complained much of her head; and the soreness of the abdomen was little abated. The bleeding was repeated to the quantity of sixteen ounces. She seemed greatly relieved by the evacuation, and the frequency of the pulse was considerably diminished. The saline mixture repeated.

6th. The symptoms having become more unfavourable during the night, the venesection was a third time repeated. But it did not procure that sensible relief which had been experienced on the preceding evening.

Noon. The pain of the abdomen had abated; but the pulse had become more frequent. An evacuation by stool had taken place every three or four hours.

℞. Antimon. tartar., gr. $\frac{1}{6}$.
Hydrarg. submur.,
Pulv. digital., āā gr. j.
Confec. ros. canin., q. s. M.
Fiat pilula alternis horis sumenda.

7th. Somewhat easier. Pulse 150. No stool during the night. The purging mixture repeated. The pills were regularly continued for two days.

8th, 9th, and 10th. She gradually amended, and the frequency of the pulse decreased; the bowels being kept in a lax state, and the saline mixture continued every three hours.

11th and 12th. The pulse became more frequent, and the patient appeared more sunk. The abdomen remained much tumefied, but manifested little sensibility on pressure. She still complained chiefly of the pain in her head.

13th. I accompanied the surgeon, in the evening, to visit this patient. She appeared very low, and her pulse was frequent and feeble. Her tongue was dry and brown, and her teeth were encrusted with sordes. Her head was yet affected with pain, but she made little complaint of her body. It was, however, enlarged, and, though not very tender, was not insensible to pressure. The symptoms of active inflammation having given place to those of a typhoid character, the purgatives had been omitted, and the evacuations had consequently decreased. I recommended such a repetition of the purgative as might procure an evacuation about once in four hours, and a continuation of the saline mixture in a state of effervescence. The strength of the patient was supported by a light but nutritious diet, such as broth, jellies, chocolate and milk.

This plan was regularly pursued for four days; and the patient was then convalescent. She gradually, though slowly, recovered her strength; and is now in perfect health.

This case much resembles the 22d, and contains various points of instruction, which may illustrate what has before been advanced.

It evinces the necessity of circumspection, when after-pains are accompanied with a frequent pulse, and other symptoms of fever.* It affords an additional proof, that there are cases in which bleeding may safely be practised at a later period than some would advise.† It shows, too, that bleeding, when too long deferred, will not, though copious, immediately subdue the disease.

With reference to the epidemic which I have described, though strenuously insisting on the importance of bleeding *early*, yet I have ventured to recommend the use of the lancet, till there is reason to believe that effusion, suppuration, or gangrene has taken place. For the duration of the first stage was usually short; and the last stage so quickly succeeded, as to leave no intermediate space, indicative of a distinct treatment. But if either bleeding or purging has been too long delayed, or too sparingly used, and the disease be arrested, but imperfectly overcome, the first stage may be protracted beyond the limits of active inflammation. This state, when it happens, might more properly be termed *the middle stage* of puerperal fever; in which bleeding will seldom, if ever, be proper, as the symptoms have often a typhoid tendency: but purging is still the appropriate remedy. The middle stage may also occur when bleeding has been entirely neglected, if the progress of the disease be not very rapid.

No general directions for the treatment of any disease can be so exactly defined as not to leave much to the judgment and discretion of the practitioner; for all rules may have their exceptions. Thus, I have found bleeding admissible in the puerperal fever when the disease had continued forty-eight hours; when the abdomen was considerably tumefied; or when the pulse was near 160; each of which circumstances might be considered, and often justly considered, as an objection to that remedy in the epidemic disease. I conceive it to be a principal advantage of cases, faithfully related, that they enable the reader to judge more correctly of the application of the method of treatment proposed, and of the circumstances in which a deviation from it may be required or admitted.

Case XXVIII. — On Thursday evening, November 17th, 1814, Mr. ——— requested my attendance, in consultation, on a patient who had symptoms of an incipient puerperal fever under very unfavourable circumstances. She was a woman of a delicate frame and constitution, thirty-three years of age, and lying-in of her sixth child. She had been brought to bed on the preceding Tuesday, at ten o'clock in the evening. A sudden alteration having taken place in her labour, the child was born before the arrival of the surgeon; and the placenta was too hastily extracted by a female attendant. A very copious effusion of blood immediately followed, which occasioned repeated faintings; so that, for three hours, the life

* See note, p. 142.

† "I have never dared to recommend it when the disease had continued longer than thirty hours."—*Armstrong's Facts and Observations, &c.*, post.

of the patient seemed to be in great and immediate danger. By the application to the loins and abdomen of cloths wet with cold water, and the frequent exhibition of brandy, the hemorrhage was restrained, and the strength of the patient recruited.* She remained free from all complaint but that of weakness, till eleven o'clock in the morning of Thursday; when, her breasts being uneasy from distention, she attempted to suckle her child. During this attempt she was seized with pain in the hypogastric region, towards the left groin. Mr. ——— visited her in the evening; and finding that she had a continued pain in the abdomen, with a pulse at 140, he desired a consultation on the case, which was rendered the more dangerous and perplexing by the excessive discharge after labour.

We saw her between nine and ten o'clock. The face and lips were pale; the countenance ghastly, and expressive of anxiety; the skin cool; the tongue rather white, but moist and not furred; the pulse above 150, but not weak. She complained of pain in her head, accompanied with ringing of the ears, and with giddiness on the slightest motion. She lay upon her back; and could not, without much pain, turn upon either side. The pain, which had now removed to the right groin, was constant, but aggravated by fits. The abdomen showed great sensibility in the hypogastric region. The breathing was frequent. She found relief by drawing up her legs so as to relax the abdominal muscles. The lochia had continued unaltered during the day; but were now somewhat diminished. The breasts were flaccid. Several times she had experienced a sense of nausea, and once she had vomited. The disease had not been ushered in by a rigor; but some degree of chilliness had been perceived about six o'clock in the evening.

The symptoms precluded all doubt as to the nature of the complaint: and such was my persuasion of the necessity of large evacuations for its cure, in which Mr. ——— concurred, that, notwithstanding the unfavourable state of the patient, we took away from the arm twenty-four ounces of blood. The evacuation gave immediate relief; and the countenance was evidently improved. The pulse was reduced to 114, and not diminished in strength. The blood was quite florid, and so thin, that it appeared, while flowing, like water tinged with blood. The bowels had not been moved since the delivery; but soon after the bleeding, a small quantity of liquid feces was discharged. She still felt a strong motion to stool; and having usually a propensity to diarrhœa, her friends were very unwilling that she should take any purgative. But we could not place much confidence in these circumstances; and therefore administered a bolus with half a drachm of jalap and

* The surgeon judged it proper also, as I have since learnt, to plug the vagina with soft linen. So sudden and profuse, indeed, was the discharge, that, had not some respite been obtained by this means for the administration of cordials, it would, in all probability, very soon have proved fatal.

five grains of calomel; and directed two drachms of magnes. sulphas. to be given every two hours.

18th. 7 A.M. She had passed a comfortable night, having been free from pain in the abdomen, and having frequently slept. The pain of the head had also much abated. The uterus was now easily distinguishable (which had not been the case on the preceding evening), and was endued with great sensibility. The tongue was dry in the middle. Pulse about 120, but rather variable. The blood contained a large proportion of serum. The crassamentum had no crust on its surface; but its texture was firm. Two large evacuations, in which scybala appeared, had been procured by the bolus: but no other medicine had been taken. We gave two drachms of magnes. sulphas; and ordered a stronger purgative to be given in two hours afterwards.

8 P.M. Four evacuations had taken place in the course of the day, which were feculent, but liquid, and not large in quantity. The soreness of the abdomen was somewhat diminished. The tongue was clean and moist; the pulse still at 120. She complained much of a sense of beating in her head, and of noise in her ears; and, though she had a disposition to sleep, was afraid to indulge it, because she awoke in a state of alarm and agitation. Ordered the sulphate of magnesia to be repeated whenever she should have been three hours without an evacuation.

19th. The sulphate of magnesia was continued at intervals, but not quite so regularly as we could have wished; yet so as to procure four evacuations in twenty-four hours. As the abdomen remained free from pain, the enlargement of the uterus was subsiding, and the pulse was little more than 100, a table-spoonful of wine, diluted with gruel or water, was allowed to be given occasionally, on account of the distressing sensations in the head, which we now attributed more to the loss of blood than to fever.

20th. She had enjoyed some comfortable repose; and the sensations of her head were alleviated.

Evening. We found the abdomen distended, but without any increase of soreness; and as the bowels had not been moved during the greater part of the day, we supposed the enlargement to arise from the detention of flatus. The injection of a clyster, and a repetition of the magnes. sulphas. were advised. A cordial mixture* was also prescribed on account of the throbbing and noise in the head; which had become more troublesome.

21st. Two evacuations had been obtained without the assistance of the injection; and the fulness of the abdomen had nearly subsided. In the evening it was entirely gone. Pulse 140.

22d. She had got much refreshing sleep; and the morbid sensa-

* R. Spt. ammon. comp.,
—— lavand. comp. āā ℥ij.
Aq. menth. pip. ℥v.
Syrupi, ℥ss. M.
Capiat coch. j. vel ij. ampl. p. r. n.

tions in her head were, in a great measure, removed. The abdomen was quite free from complaint.

From this time she had no further symptom of inflammation or fever. A proper attention was paid to the state of her bowels; and such diet and medicine prescribed as might tend to reëstablish her health.

There are no cases of puerperal fever in which it is more important to establish the practice of bleeding, than those which occur after excessive uterine discharges; for in none has its propriety been so much disputed, nor with greater appearance of reason. I have related several of this description, of which the last is not the least remarkable; the previous state of the patient having been unfriendly to large evacuations, and the hemorrhage after labour as copious as could well be sustained consistently with the preservation of life. If, then, venesection be found, in such cases, not only a safe, but an effectual remedy, its necessity will be the less disputed in other and more favourable circumstances.

I may here notice a distinction which Dr. Armstrong suggests, respecting the occasions when puerperal fever is most likely to succeed uterine hemorrhage. He says, "Mr. Ferguson, of Bishopwearmouth, who has been in a most extensive practice of midwifery for nearly forty years, has hardly ever seen puerperal fever succeed uterine effusions merely arising from a defect of contractility in the uterus; but has often seen it follow those hemorrhages which arose from an injury sustained by that organ. This is an important fact; and perhaps may, in part, explain the existing discrepancies of authors, some of whom assert that floodings occasion, and others that they prevent, the disease."* The fact here stated does not accord with my experience; for in all my cases of this kind, six in number, the fever occurred after floodings occasioned by a defect of contractility in the uterus.†

If there was any exception to this statement, it was the case of abortion at six months, mentioned in the note, p. 85. I see no reason why the 28th Case should be excepted; for though the separation of the placenta was too hasty, it could not properly be "called a forcible separation."

I have before mentioned an observation of Dr. Denman, that the puerperal fever may be formed before delivery;‡ and when any tendency of this kind is suspected, the case will require more than ordinary vigilance in the medical attendant. For if the period which usually elapses before a regular attack of the disease be neglected, the most vigorous efforts of art may not have power to retrieve the effects of this delay. But, should the life of the patient be saved, the least to be expected, is a protracted, if not a compli-

* Facts and Observations, &c., *post*.

† See Cases IX., X., XII., XVII., XIX., and XXVIII.

‡ See Notes, p. 85. Also Case VII., p. 99.

cated disorder; which, I believe, will rarely be seen, but through previous neglect. Such was the following case; and though its peculiar circumstances led me to deviate, in some respects, from my ordinary method of cure; yet an account of its progress and treatment may not be the less useful, as exhibiting some variety in the disease.

Case XXIX.—The wife of M. R., aged 28, was brought to bed of her third child, on the 3d of December, 1814. Her former labours had been lingering: and this continued from Wednesday morning until Saturday evening. I had seen her during labour in consultation with Mr. ———; and judged from the acute, yet ineffectual nature of her pains, attended with a frequent pulse, that there was some irregular contraction of the uterus, probably connected with an inflammatory diathesis. I therefore advised that some blood should be drawn from the arm, if, after the injection of a clyster and a sufficient trial of opiates, the labour should not become more natural. It terminated favourably, however, without recourse being had to bloodletting.

I heard no more of the patient until Monday morning, when, accidentally meeting Mr.———, he informed me that she had much pain in the abdomen, with a very frequent pulse, and desired me to visit her. He had taken away some blood, and was intending to send her the cathartic solution. Though she had just had two loose evacuations, I advised the addition of a scruple of jalap and five grains of calomel to the first dose. I called upon her about eleven o'clock, when I received the following account of her complaint.

From the termination of her labour, the abdomen had remained sore; and she had never been quite free from pain, though she had made no complaint when the surgeon visited her on Sunday. In the afternoon of that day, she had been seized with a headache; and about six in the evening, on putting her child to the breast, the pain of the abdomen had suddenly and considerably increased. Soon after this increase of pain, she had experienced a slight shivering fit, which had continued about a quarter of an hour; and was followed by a great degree of heat and perspiration. The pain of the head and abdomen had been severe throughout the night; and the latter without any remission. At 5 o'clock on Monday morning she had been attacked with a second rigor, much more violent than the former, which had continued half an hour, and had terminated in the same manner. I saw her about 11 o'clock: the heat was not great at that time; but she complained of much thirst. The tongue was rather white, but moist and not furred. The headache was severe, and accompanied with a sense of throbbing. The uterus was distinctly to be felt as high as the navel; and showed exquisite tenderness on the slightest touch, while the rest of the abdomen was a little affected by pressure. She could lie upon her side, though a supine position was most easy. But every change of posture was attended with much pain, and effected with difficulty. A troublesome cough added greatly to her distress.

The lochia were nearly suppressed. The urine felt hot, but was discharged without pain. The blood drawn from the arm, which I found to be nearly twenty ounces, had afforded little relief. The pulse was at 132, and not small or weak. I tied up the arm again, and took a second quantity of blood, making in the whole full thirty-eight ounces. I desired, that the solution might be repeated every hour, though she had had a third evacuation before taking the bolus.

5½ P.M. The purgatives had produced six evacuations, not indeed very copious, but of a more feculent kind than before; yet, though the pain was somewhat alleviated, the other symptoms had rather increased. The soreness of the hypogastrium was no less in degree, and extended now to the whole of the abdomen, which was more generally tumefied, so that the uterus could not easily be distinguished. The pain in the head was nearly the same. The lochia had entirely ceased; and the breasts were quite flaccid and small. Pulse upwards of 140, but not weak. The patient had fainted on being raised up after the second bleeding. We opened the vein a third time, and took away fifteen ounces of blood. The solution was directed to be continued.

10 P.M. She had five more evacuations since our last visit; but I was disappointed to find that there was no amendment in the symptoms. The stools were more mucous, and less feculent. Pulse at 138, not quite regular, and weaker than before. On this account, though the pain was little abated, I did not venture to take away more blood. There was a circumscribed crimson flush on the left cheek. The solution was ordered to be continued so as to procure a stool about once in two hours.

6th. 7½ A.M. She had had some short slumbers during the night. Nine evacuations had taken place since 10 P.M., which contained but little feces. The pain had begun to intermit, and to come on by fits like after-pain. The soreness and tumefaction of the abdomen were diminished; but the former was still considerable. She could turn herself in bed with more ease. The lochia had returned in a very small quantity, and of a pale colour. The head was much better, and was now affected more with lightness than pain. Thirst abated. Tongue moist, but rather white. Pulse 120. During the night she had once or twice felt a disposition to vomit, but without retching. Besides the purging bolus, she had taken two ounces and three drachms of magnes. sulphas. Ordered to continue the latter.

5½ P.M. She had frequently slept a little during the day; and was in all respects relieved. The pain in the abdomen, which returned about thrice in an hour, was less severe, and its intermissions were nearly complete. The fulness and sensibility of the abdomen had also continued to abate. The head was not quite easy; but the pain was now like a common headache. Thirst much diminished. Pulse at 110, more full, and quite regular. She had had nine more evacuations, which were of a dark green-

ish colour, and contained no feces; but consisted chiefly of a ragged mucus. Ordered an injection of broth or gruel, and such a repetition of the solution as might procure an evacuation about once in two or three hours.

7th. 9½ A.M. She had not slept much, though at times disposed to sleep, having been disturbed by the crying of the child. The pain both in her head and body had somewhat increased. The uterus still reached to the navel, and was more easily distinguished than on the preceding day. But whether this was owing to an actual increase in its bulk, or to a diminution of its general distention, I could not certainly determine. She had perspired in the night without any previous chilliness. Pulse 110. She had not been able to retain the injection. Had had nine evacuations, which were slightly feculent. Ordered a repetition of the injection, a fomentation of warm water to the abdomen, and an addition of a grain of antim. tartar. to six ounces of the solution, of which a fourth part to be given every two hours, until vomiting should be excited.

5½ P.M. The fomentation had afforded great relief. A third of the solution had been given at once, which very soon produced vomiting. This also seemed to be attended with a beneficial effect. Both the head and abdomen were more easy than at any time since the attack. The uterus, however, was little diminished in size, though the rest of the abdomen seemed free from disease. Pulse 124. Tongue quite clean. She had had five or six stools, which contained some currants taken in the morning, though not much feculent matter. A second dose of the solution had been taken an hour without effect. Ordered the remainder to be given after another hour, with the intention of producing vomiting again, and the fomentation to be repeated. As the stools had been very numerous for three successive days, and there could be little doubt that the contents of the intestinal canal had been completely evacuated, I did not wish the solution to be continued during the night, but (though contrary to my usual practice) thought it proper to direct a small injection with forty drops of tinct. opii.

8th. 10 A.M. The anodyne clyster had been retained three hours, during the whole of which time she had enjoyed a comfortable sleep. She had also slept much during the remainder of the night. She had had four evacuations, more feculent than the former. The pain in the head and body was still more abated, though in both it returned by fits. The uterus was somewhat reduced in bulk, but was not free from soreness. The urine (the first which could be kept separate from the stools) had deposited a brownish sediment. There had been no more appearance of lochia since the slight one before noticed, nor was there any tendency to secretion in the breasts. The tongue remained quite clean. Pulse 112. Ordered the solution with antim. tartar., to be repeated once in three hours. A small quantity of light pudding was allowed.

6½ P.M. She awoke from a short sleep, about one o'clock, in a

state of perspiration, and since that time the pain had been worse both in her head and body; that in the latter being aggravated three or four times in an hour. Her face was flushed. Pulse 126. By a mistake of the nurse, one fourth-of the solution had been given at two doses, instead of a fourth at each dose. She had had four small loose stools of a good kind and natural colour. We gave her a full dose of the solution, and ordered it to be repeated at 9 o'clock; in the mean time to have the fomentation applied, and at ten to repeat the anodyne injection.

9th. 10 A.M. She had passed a comfortable night, with much sleep. She had retained the injection, having had no motion from the time of our visit till six o'clock this morning. Between that time and ten, she had had three copious feculent stools. She was more easy than at any previous time. The uterus still did not appear to be reduced much in size, but was less tender, and motion of the body excited much less uneasiness. Pulse 114. Ordered to take a dose of the solution with antim. tartar., whenever she had been three hours without an evacuation.

5½ P.M. She had taken the solution several times, and had parted with three more stools of a natural appearance, but not so copious as those in the morning. She had experienced only one or two slight fits of pain, which did not continue more than a minute. The uterus nearly the same in bulk, but far less impatient of pressure. Countenance good. No thirst. Pulse 120. The solution to be continued as before. The anodyne clyster and the fomentation to be repeated.

10th. She had three evacuations last night between the time of our visit and ten o'clock. The injection was then given, and she slept the greater part of the night, having had no motion till after six o'clock this morning. She awoke, as was usual, in a state of gentle perspiration. A lateritious sediment was observable in the urine. Pulse 110. She remained free from pain. No variation in the other symptoms. To continue the same plan.

11th. I found her much worse. The headache, and some degree of pain in the abdomen, had returned in the course of the preceding day. About six o'clock in the evening, after getting up to have her bed made, she was seized with a violent shivering fit, which continued, though with some remissions, for an hour. A great degree of heat followed the rigor, and afterwards a very profuse perspiration. Her headache increased to a violent degree, accompanied with a sense of beating and noise; and continued in this state throughout the night. The sensibility of the abdomen was much diminished. She was somewhat flushed in the face; the tongue was furred; and the pulse upwards of 140. She had had nine feculent evacuations during the last twenty-four hours. The cathartic solution, with half a grain of antim. tartar. in each dose, was ordered to be given every hour till vomiting should be excited. The opiate clyster to be omitted.

Evening. The second dose of the solution had operated freely

by vomiting. But the pain in the head, though somewhat abated, was still considerable. Three or four evacuations had taken place since morning. Pulse 140. Ordered the hair to be cut off; and the head, forehead, and temples, to be frequently washed with cold vinegar and water; a blister to be applied to the nape of the neck; and a saline mixture to be given, in a state of effervescence, every two hours, except when it should be necessary to give a dose of the solution.

12th. She had found sensible relief from the cold washing; and the head remained much easier. She had felt disposed to sleep; but the blister seemed to prevent it. Had had about nine stools. Pulse 122. Abdomen easy.

Evening. Continued to improve. Had had two evacuations, which were almost black, but somewhat resembling the appearance produced by taking chalybeates. Pulse 110.

13th. She had passed a good night; and was very comfortable in her feelings. She was quite free from pain both in her head and body; except that, in sitting up, she experienced some degree of soreness in the right hypogastrium, where the pain had been chiefly felt. The urine was high coloured, and clear. Tongue rather cleaner. Skin moist. Pulse varied from 110 to 118. She had had four more dark-coloured evacuations, which appeared to be a mixture of pus and blood with feculent matter. They had a strong and peculiar fetor, such as I have never perceived but from the contents of some abscesses. Ordered to continue the saline mixture, and occasionally, the solution.

14th. Little variation in the symptoms. The uterus was so far diminished as to reach only half way between the pubes and navel. Tongue growing cleaner. Pulse 112. She had had five evacuations of the same kind, though not quite so dark-coloured, in the last twenty-four hours. The medicines were directed to be continued.

Evening., I was desired to visit her on account of a fresh accession of fever. About 1 o'clock she had been seized with a shivering fit, which, though not so violent as the last, continued as long. It was succeeded, as before, by great heat, profuse perspiration, and violent pain in the head, accompanied with a sense of beating and noise. When I saw her, between 6 and 7 P.M., the heat and perspiration had nearly gone off, and the pain in the head was less violent. No pain in the abdomen. Pulse 150. She had had three loose stools, not so dark as the last, but still fetid. Ordered an emetic with a scruple of ipecacuanha and a grain of antim. tartar.

15th. The emetic had operated well; and the patient had felt much relieved by it; but the pain in the head was not quite removed. Tongue cleaner. Pulse 128. Five evacuations, more natural in appearance. Ordered to omit the opening medicine, and to continue the saline.

16th. *Evening.* She was quite easy both in her head and body,

and her feelings comfortable. Tongue quite clean. Pulse 108. A slight appearance of the lochia had taken place to-day — only two small evacuations since yesterday morning. The medicine to be continued with longer intervals.

17th. The evacuations were now more solid and of a natural appearance.

From this time she had no further complaint.*

Though the recital of this case may seem tedious, it will not, perhaps, be thought unimportant, as illustrating the efficacy of the treatment proposed in this work, when the disease had advanced to the verge of a state in which it would have been incurable. It strikingly shows, that, when bleeding has been carried to the utmost limit of prudence, evacuations by purging may still be continued to a considerable extent. I have not experience sufficient in cases of "puerperal fever with diarrhœa," such as described by Dr. Channing,† to enable me to decide on the justice of that writer's remarks, as to the propriety of restraining an excessive diarrhœa; yet I cannot but doubt, whether, even in his successful case, the purging would not sooner have been moderated by laxatives, than by opiates and astringents; and also, whether the cure might not be attributed to the copious evacuations, the blister and emetics, rather than to the medicines which were given to restrain the diarrhœa. He alludes to a case of "puerperal fever with diarrhœa," related by Mr. White; and adds, "With this exception, scarce an author has been met with, who has given us cases, in which this was a leading and very pressing symptom." But, though he quotes Dr. Gordon's treatise, he does not notice the remarkable case of Janet Wier, in which a diarrhœa, excited by art, was carried on by nature to a successful issue, in spite of all endeavours to restrain it; "for a diarrhœa continued without intermission for seventeen successive days, and was extremely violent, being at the rate of twenty or thirty stools every day." And even then "it did not entirely cease; for it continued, though in moderation, for the space of six weeks; and, having completely carried off the disease, it then ceased spontaneously."‡ I would further observe, that in the case I have just related, a spontaneous diarrhœa had commenced; for three evacuations had taken place, in rapid succession, before the exhibition of any purgative. It must, however, be submitted to the test of future observation, whether or not "puerperal fever with diarrhœa" requires a treatment essentially different from other forms of the disease.

Influenced by frequent experience of the inutility of opiates in

* It is observable, in the preceding cases, that the first attack of severe pain in the abdomen took place on suckling the child. This circumstance happened so frequently, that it became our rule, while the epidemic was rife, to forbid the drawing of the breasts till the usual period of the attack had passed over, or till the painful distention of the breasts required some degree of depletion.

† See London Med. and Phys. Journal, for Dec. 1814, p. 461.

‡ Gordon on the Puerperal Fever, *ante*, p. 59.

the puerperal fever, I have lately discarded them from my practice. In the last case, however, I thought it proper to depart from my general rule; and the deviation was attended with apparent advantage. But let it be observed, that a diarrhœa had previously subsisted for three days, nearly at the rate, on an average, of sixteen evacuations in a day; and that the opiate was administered in small doses, and in the form of injection, so that it did not long suppress the alvine excretions.

The unusual length of time during which the bulk of the uterus remained undiminished, and the subsequent appearance of a puriform discharge in the stools, were indications of a considerable progress having been made by the disease before its course was arrested. From what part the matter had issued, it is impossible to say; but it may not be irrelevant to remark, that the enlargement of the uterus continued with little abatement, after the peritoneum appeared free from inflammation; and that it quickly diminished in size soon after the commencement of the purulent discharge.

The good effect of vomiting, unintentionally excited in one of the worst of my own cases,* and the recommendation of it by Mr. Gregson,† induced me to make repeated trials of it in an advanced stage of this case, when the fever returned after very copious evacuations by bleeding and purging; and I had reason to be satisfied of its utility under those circumstances.

Case XXX.—This was a well-marked case of the disease, and the last which I have seen. As there was nothing remarkable in its progress, a brief account of it may suffice.

Mrs. B., a young lady in good health, was brought to bed of her second child, after a short labour, on the 27th of December, 1814. The attack of the disease commenced, within twelve hours after delivery, with a slight rigor, which was succeeded by most of the usual symptoms — increased heat, pain and throbbing in the head‡ (without vertigo), severe remittent pain and extreme soreness in the abdomen, thirst, pulse and respiration very frequent, with an inability of lying upon the side. Although the patient resided at no great distance from my house, I was not informed of her illness until twenty hours had elapsed after its commencement, the pain in the abdomen having been mistaken for the common after-pain. I took away twenty-four ounces of blood from the arm, and prescribed a draught with half a drachm of jalap and six grains of calomel. I also directed two drachms of the sulphate of magnesia to be given every two hours.

* See Case XX., p. 122.

† See Armstrong's Facts and Observations, &c., *post*.

‡ The symptom of pain in the head was either more constant, and to a greater degree, in the cases which I have lately seen, than at the commencement of the epidemic; or my attention to it was less excited at that time. Perhaps I may have spoken of it rather too slightly in the enumeration of symptoms (page 38); though, no doubt, all morbid affection of the head has sometimes been wanting in cases otherwise severe.

I first saw the patient at six o'clock in the evening, and repeated my visit at ten. The purgatives were then beginning to operate; and the headache was greatly abated. But as the pain of the abdomen was little diminished, I was afraid of incurring the risk which might attend the omission of bleeding again until morning; and therefore I took from the same orifice an additional quantity of eighteen ounces. During the night, an evacuation by stool, accompanied with vomiting, afforded great relief; and the patient slept nearly five hours afterwards without intermission.

On the following morning, the purgatives having procured five evacuations, I found the symptoms greatly alleviated; and, before the close of the day, all appearance of danger was over.

Since the limits of bleeding in the puerperal fever, as I have before attempted to show, cannot be exactly defined, it become desirable to ascertain whether a deficiency, or an excess, of that evacuation, is more compatible with the safety of the patient; as such knowledge must have an important influence in practice. A slight attention to many of the preceding cases may satisfy the reader that far greater danger will commonly ensue from too small than too copious bleeding. Had I been called to the last patient more early in the day, so that time had been allowed to observe the effect of the purgatives, a second bleeding might, perhaps, have been spared; but, under existing circumstances, I had no hesitation what course to pursue.

I have employed bloodletting in this disease, to a greater extent than any other practitioner with whose writings I am acquainted; and have hazarded the opinion, that the quantity of blood is scarcely to be limited but by "the removal or considerable diminution of the pain;" but let it be remembered, as a necessary appendage to this opinion, that the period for bleeding is confined to an *early*, though not a very definite stage of the disease.

FACTS AND OBSERVATIONS

RELATIVE TO THE

FEVER COMMONLY CALLED PUERPERAL.

BY JOHN ARMSTRONG, M.D.

PREFACE.

Under the common term puerperal fever are comprehended, in the following work, both the ordinary peritoneal inflammation and the low malignant fever of lying-in women, and these are considered as modifications of the same disease. Though the reasons advanced for this nosological arrangement should not be thought perfectly conclusive by some readers, the practice recommended will nevertheless remain unaffected, as it will, I trust, be fully proved that the same method of cure is alike applicable to the peritoneal inflammation and the low malignant fever.

There still exists great discrepancy of opinion among writers of celebrity respecting the nature and treatment of the fever usually denominated puerperal; and it was the conviction that this difference has given rise to much doubt and indecision, on points of vital importance, which first induced me to attempt to establish, or rather to illustrate, something like general principles, upon which the practitioner may act at the bedside of the patient with some degree of certainty and promptitude.

Observations and dissections have equally led me to believe, that fever, of whatever kind, is generally connected with local inflammation, and that, for the most part, the local inflammation ought to constitute one of the principal considerations in forming a rational and correct plan of treatment. And as, by thus viewing fever through the medium of morbid anatomy, I have been enabled to correct many prejudices and errors of my education, and to render my general practice far more simple and satisfactory, I now, with the hope of being in some measure useful to others, offer this small treatise to the world, as the first of an intended series of practical illustrations of fever, drawn from clinical facts and anatomical investigations.

To have retained the manuscript some time longer, and carefully revised every page before publication, would have given me great satisfaction, but the facts in my possession seemed so very important, that I felt it an imperious duty to lay them before the profession with as little loss of time as possible; perhaps I may be permitted to hope, that this consideration will lead the reader to make sufficient allowance for inaccuracies in the composition.

As every essay of this kind must receive considerable advantage from the liberal and enlightened remarks of criticism, I shall pay the strictest attention to public animadversion, and shall also consider myself favoured by any professional gentleman who may transmit to me observations calculated to improve the work.

Anxious to collect all the evidence in my power on this interesting subject, I have applied to those practitioners in the neighbourhood who have had opportunities of treating puerperal fever, and it gives me great pleasure here to offer them my best acknowledgments for their valuable communications. The results of my own practice, thus strengthened by the evidence of my friends, will, I hope, be abundantly sufficient to confirm the treatment recommended in these pages.

Before concluding this preface, I wish particularly to observe, that, in conjunction with very copious, and sometimes repeated, bloodletting, I have given as large and frequent doses of purgative medicines, especially of calomel, in acute inflammations of the stomach, liver, and bowels, as in puerperal fever, and with the same successful results.

Should this little dissertation prove the mean of checking the ravages of puerperal fever, its utility must be attributed to the advantages which I have derived from the labours of my predecessors, to the progressive state of medical science, and particularly to the occasions which have presented themselves in the course of my practice. The principal lights, if such they may be deemed, have thus been conveyed to me, and I only claim the humble office of reflecting them upon the important subject which occupies the following pages.

J. A.

FACTS AND OBSERVATIONS, ETC.

"Febres puerperarum similes sunt aliis febribus, et similem medendi rationem postulant. Principio epsæ convenit venam incidere."—Gulielm. Heberden, *Commentar. de Morb. Hist. et Curat.*, p. 339.

The following facts and observations, offered with great deference to the faculty, relate to an interesting disease which not long since appeared among lying-in-women in some parts of Sunderland and the vicinity, though at the same time the remarks are

intended to bear more or less upon the general phenomena and treatment of the fever usually denominated puerperal.

The complaint, which so recently excited alarm, generally occurred about twenty-four or thirty hours, and seldom later than four days, after delivery. It did not seem to depend upon difficulty of labour, for in most of the women in whom it occurred parturition was remarkably easy, and the placenta was cast off after a proper interval, and without more than usual pain: nor was the lochial discharge, before the attack, in any way apparently affected. The disease was ushered in by very slight shiverings, or rigors, by oppression at the præcordia, by vomiting, retching, or nausea, and by considerable anxiety of mind. When the shiverings or rigors abated, which were often very short, the skin became universally hot and dry, and the thirst urgent. The tongue was much paler than usual, and appeared as if it had been recently rubbed or dusted with a very fine whitish powder; in some few instances, however, the tongue was tolerably clean and moist about the edges, and this was more especially the case when vomiting frequently occurred. The matter thrown up consisted of the ingesta, mixed with mucus, and yellow or greenish bile. The pulse was seldom less than 120 in the minute, and rather full, tense, and vibrating, or very small, sharp, or somewhat wiry.

The countenance at this period assumed an inexpressible anxiety, the lips were pale and parched, and there was a kind of livid stripe under each eye, but the cheeks were flushed with a circumscribed redness, like that which is observed in the true hectic. The respiration soon became hurried, and the patient often sighed heavily, was restless, and turned from one part of the bed to another, or lay upon her back, and constantly moved her head from side to side, or suddenly lifted up her hands, and threw them down again with some force upon the bed-clothes. Commonly a little before, or at the very commencement of the shiverings or rigors, there was in the lower part of the belly more or less pain; occasionally it was very acute, shooting in the direction of Poupart's ligament, and through to the back and loins. In some instances the pain was deep and obtuse, and more confined to one particular part; but in every case it was aggravated by pressure in and about the hypogastric region. However limited in its extent at first, it afterwards gradually spread over the surface of the abdomen; which became tender to the touch, tumid, and tense.

In three cases only I witnessed that extraordinary enlargement of the abdomen so particularly noticed by Dr. John Clarke, in his dissertation on the low epidemic of lying-in-women;* but I find that it was a symptom of far more frequent occurrence to Mr. Gregson, a surgeon, of Sunderland, who has had a very extensive

* Practical Essays on the Management of Pregnancy and Labour, and on the Inflammatory and Febrile Diseases of Lying-in Women. By John Clarke, M.D Second edition, London, 1806. Consult page 116.

field for observation. Some substances, resembling hard bands or chords, passed completely across the abdomen, and could be distinctly traced beneath the muscles by moderate pressure of the fingers. These last appearances, as far as I know, have not been noticed by any practical writer, though in the cases which fell under Mr. Gregson's care, some of which I saw, the appearances above described were very often found. The secretion of the milk was nearly suspended soon after the attack, the breasts became flaccid, and the mother, so lately all solicitude about her child, now seldom inquired after it,* and indeed seemed almost insensible to those things which before most deeply interested her feelings. The lochial discharge either disappeared, or only issued in small quantity, and was very dark and uncommonly offensive. The urine was scanty and high coloured, but generally passed without much pain. The bowels were constipated and flatulent, and in two instances something similar to the globus hystericus was observed.† Though all the patients were restless in the extreme, seldom obtaining a moment's sleep, yet they never complained of violent pain in the head, but of an uncomfortable aching and lightness there. The eyes, when the fever was at its *acmé*, seemed rather brighter than natural, and the pupils were slightly dilated. The whole train of symptoms already described may, in a practical view, be called the first stage of the disease — the stage in which alone a fair opportunity is offered to the practitioner of saving the life of the patient.

This state of febrile excitement, in most of the cases which lately occurred, seldom continued longer than fifty hours, and in some it terminated much sooner. When the disease was not impeded at this period, it passed into what may be termed the second and last stage; which, toward the close, was marked by an exceedingly great prostration of all the vital powers.

But the first approaches of this fatal stage were most clearly indicated by the rising of the pulse, which then generally ranged from between 140 and 160 in the minute, and was very soft and compressible; it feebly struck the sides of the artery, and gave the idea that the heart was labouring hard to keep up the force of the circulation. About twelve hours before death, the pulse became thready, fluttering, and irregular, and so rapid as not to be correctly numbered.

For some time after the accession of the second stage the skin remained at an increased temperature and dry, but then the patients almost constantly complained of chilliness. The cheeks

* Dr. John Clarke has stated this indifference of the mother about her child as a common symptom. Consult page 110.

† Willis enumerates distentions resembling hysteric passions among the symptoms of puerperal fever. Consult an abridgement of his works, printed, with the allowance of the college, by T. Basset, T. Dring, C. Harper, and W. Crook, in 1692. See page 632 and 634, in particular.

were alternately flushed and deadly pale, the eyes lost their lustre, the pupils were much dilated, and a kind of dewy perspiration stood upon the face and forehead. The pain gradually and entirely receded from the surface of the abdomen, when it usually happened that dark, slimy, and very fetid stools were discharged from that time onward. The thirst was unceasing, and when any liquid was offered, the patients hastily seized the vessel, and glutted down its contents, as if they had previously been expiring for want of drink. The tongue for the most part was brown, or rather black and parched, and had aphthæ upon it, which even appeared about the edges of it at an early period. In one very bad case, however, the tongue continued clean and moist to the last, but there was an almost perpetual vomiting throughout the second stage, though only a slight nausea occurred in the beginning, and very little vomiting in the rest of the first stage. Indeed vomiting was always more urgent in the last than in the first stage of the disease, and the matter then thrown up very much resembled coffee-grounds, and was offensive to the smell.* The teeth and gums were crusted with dark, slimy sordes, and the breath was disagreeable, as if it had been tainted with mercury. Throughout the complaint there was a short teasing cough, but this was more especially the case in the last stage, when the respiration grew very short, feeble, and frequent, and the alæ nasi were thrown into perpetual motion.

Soon after the advancement of the second stage, the patients began to talk incoherently; they frequently made attempts to get out of bed, and occasionally, after having lain still a short time, suddenly started, and spread out their hands, which were then very tremulous, as if to ward something off that was approaching them. About this time two patients became gradually collected, complained of no pain whatever, looked and spoke cheerfully, and flattered themselves that they would soon be well; this illusion continued till within an hour or two of their departure, rendering them completely insensible to their real situation; and even to friends, though warned by the medical attendant, their death was at last unexpectedly sudden. But in three other unfavourable cases, the light wanderings of the mind which took place at an early period of the second stage, were not succeeded by a state of serenity, but by a low muttering delirium, speedily followed by a stupor, in which the patients lay with their eyes half-closed, and could not be roused from it, but by loud speaking, upon which they started as from a disturbed sleep, uttered some vague and hasty expressions, and then sunk into the same condition as before. A few hours before death, in these cases, some dark scattered petechiæ appeared, and the skin was in that peculiar

* Compare this with that appearance of the stools which Mr. Wolfe, surgeon, of Chester-le-street, considers in another part of this work as one of the diagnostics of the disease.

state which accompanies the last stages of tetanus, and the nervous fever of intoxication,* the whole surface felt soft, relaxed, and clammy, and the hand glided almost as smoothly over it as if wet by soap and water. In the above three instances, also slight stertorous breathing occurred near the termination of the disease; and, last of all, general though not violent convulsions.

This complaint, when not arrested by art, ran its course in about five days, and in one case in a much shorter time. Soon after death, the bodies became rather livid and very offensive to the smell, and the abdomen immensely distended. It is to be regretted that no examination could be obtained, as morbid dissection might perhaps have thrown some additional light on the nature of the disease. In the course of practice, when apprehending that advantage might be derived from anatomical investigation, I have frequently had to lament that I could not obtain permission from relatives to examine the body of the deceased. Though one cannot but respect those feelings which venerate the dead, yet it would be well for society, if the consideration of the general good were permitted to operate so as to overcome, on such occasions, the private sympathies of our nature. And this is the more to be desired, for, till it can be accomplished, medical science must necessarily be retarded upon those very points respecting which it is most needful that it should rapidly advance. But to return from this digression, which the importance of the subject has led me to make.

From extensive inquiries, I have good reason for believing that a similar disease has also appeared among lying-in women, in some other places, in the counties both of Durham and Northumberland, especially within the last twelve months. Dr. Ramsay, in particular, informed me that one gentleman has lately witnessed several distressing cases in the vicinity of Newcastle; and, it is a fact worthy of particular notice, that it has occurred to some individuals, while it has been entirely unknown in the practice of others living in the same neighbourhood. Dr. Gordon remarked something of the same kind many years ago, when a puerperal fever raged at Aberdeen, and discovered that practitioners attending one patient labouring under the disease, carried the contagion to other women, whom they afterwards attended in parturition; and I am now well convinced, that when puerperal fever is once generated, there is almost always cause to apprehend its being communicated to other puerperal women, especially by accoucheurs and nurses who have previously waited upon affected persons. This is an important consideration, as it respects the prevention.

Notwithstanding the many discoveries in chemistry, we are yet entirely unacquainted with the properties of the atmosphere, which

* The disease which Dr. Sutton, in his valuable publication, has designated delirium tremens. See the *Edinburgh Medical Journal*, for July, 1813.

are supposed to have an agency in the production of contagious and epidemical diseases. However, that this matter may still be open to investigation, I have given some account, in the Appendix, of the states and changes observed in the weather when this distemper was most predominant. It may, also, be worthy of remark in this place, that febrile, inflammatory, stomachic, and intestinal affections were common at the same time.

My principal reason for having so minutely described the symptoms, is to mark the differences between the first and second stage, being persuaded that those differences may, by proper attention, be generally discerned in this kind of fever, though, perhaps, in a practical point of view, they have not been sufficiently regarded by some authors.

The succeeding observations will be of a more desultory and general nature, and though intended to include most particulars of importance relative to the diagnosis, prognosis, and prevention of puerperal fever, they are more especially designed to exhibit the methods of treatment which have been so successfully employed in overcoming the disorder above mentioned.

Diagnosis. — If in a therapeutic view, as shall be afterwards shown, the puerperal epidemic should be thought *essentially* different from the ordinary peritonitis of lying-in women, the distinction will, most assuredly, be made at the hazard of life. The admirers of nosological minuteness, however, may contend that there are circumstances in the rise, progress, and sequel of the epidemic which sufficiently mark it from the more simple peritoneal affection; but I can assert, with some degree of confidence, that if these circumstances be allowed to influence the practice very materially, they will be found exceedingly fallacious at the bedside, however plausible they may seem in books. These, then, being the firm convictions of my mind, it is only deemed requisite to distinguish particularly puerperal fever from milk fever, after-pains, inflammation of the uterus, and that ephemera called the weed, to which childbed women are very liable.

The milk-fever is known, principally, by throbbing, irritation, and enlargement of the breasts, and by the pain being confined to the mammæ, during the continuance of the febrile symptoms; — whereas, in the puerperal fever, pain begins and continues in the abdomen, while the breasts, for the most part, are neither distended nor uneasy, but much more flaccid than natural. Besides, there is considerably more lassitude and weariness, a more urgent nausea and sickness, and a much quicker pulse in the commencement of the puerperal than of the milk-fever.

In after-pains, at certain times, pressure can be borne without uneasiness, but in puerperal fever the belly is sore to the touch, and pressure always greatly aggravates the pain. In the first, there is no accession of fever, nor an accelerated pulse, the pains are grinding like those of labour, and, like them, they are succeeded by intervals of complete ease; — on the contrary, in the last, there

is an accession of fever marked by an uncommon rapidity of the pulse, and the pain is without intermission.

Simple hysteritis may be known by a burning, throbbing pain, fulness, and oppressive weight in the region of the uterus, by frequent calls to make water, which is passed with great pain and difficulty,* by the uterus itself feeling hard, stony, and enlarged, and being exquisitely sensible when pressed upon, by violent pains darting through to the back, and down to the groins and thighs, and by the soreness and fulness being more confined to the lower part of the abdomen throughout the attack than in puerperal fever.† When the above symptoms occur with increased heat, thirst, quick pulse, sickness of the stomach, and suppression of the lochia, there can be no question as to the seat of the disorder. Nevertheless, however plain these distinctions may appear upon paper, or in lectures, it is certain, from dissections, that hysteritis often constitutes a part of the abdominal inflammation attendant upon puerperal fever.‡ Nor will this seem at all surprising, when we reflect that the uterus, after the separation of the placenta, is in fact a kind of recently wounded member, to which inflammation may be readily imparted, especially if the lochial discharge, as generally happens in puerperal fever, be diminished or suppressed. When simple hysteritis does take place, Denman judiciously observes, that it is much less dangerous, particularly after parturition, than an equal extent of inflammation in any other of the abdominal viscera, because the uterus, as a kind of outlet, admits of a return of the lochial discharge, which may lessen, and even remove the disease.

The ephemera called the weed is ushered in by strong rigors, which, commonly in less than an hour, are followed by heat, thirst, and general excitement; the whole train of symptoms being terminated in twenty-four or thirty hours by profuse perspiration; the absence of abdominal irritation is sufficient to prevent the possibility of mistaking this disease for puerperal fever.

Severe griping pains, occurring in the childbed state, with fever and tenesmus, have been considered by some as the characteristics

* "It is remarkable, that not one instance has been observed of any woman, who had an abscess in the breast, being attacked with this (puerperal) fever; nor any who, in consequence of their labour, had such an affection of the bladder as to occasion a suppression of the urine."—*An Introduction to Practice of Midwifery*, by Thomas Denman, M.D. Fourth edition, London, 1805, vol. ii., p. 477, 478.

† "In inflammation of the uterus, there is a sense of pain and tension in the hypogastric region, and the pain is increased upon pressure there, or upon touching the os uteri."—*Baillie's Morbid Anatomy*, third edition, p. 379.

‡ Consult Denman, vol. ii., p. 494.

"When the uterus becomes inflamed, it takes place almost always under the same circumstances, viz., very soon after parturition. The inflammation is sometimes confined to the uterus itself, or its appendages, but the peritoneum in the neighbourhood is most commonly affected, and frequently over its whole extent."—*Baillie's Morbid Anatomy*, p. 362.

of enteritis, but I cannot help suspecting, that these nice discriminations are more specious than useful.

Having thus endeavoured to distinguish puerperal fever from milk-fever, after-pains, hysteritis, and the ephemera, I shall now be more at liberty to pursue the consideration of the disease itself; and may, perhaps, hope that the inexperienced student will be prevented from confounding it with the forementioned complaints.

Puerperal fever sometimes creeps on in a very insidious manner, the abdominal inflammation being masked by an oppressive languor, and a diminished sensibility of the nervous system; yet, in such cases, the disease may generally be detected by the great frequency of the pulse, quickened respiration, an uneasy sensation at the pit of the stomach, and by the patients shrinking when pressure is applied over the abdomen, though they previously made little or no complaint of pain in that part.

My friend, Mr. Wolf, of Chester-le-street, who has paid great attention to puerperal fever, considers the appearance of the alvine evacuations as one of the best diagnostics. Whenever, therefore, febrile symptoms take place, with pain and soreness of the abdomen, after parturition, he immediately gives the patient a brisk purge, and if, when the contents of the lower part of the bowels have been dislodged, the stools should be of a dark colour, somewhat resembling coffee-grounds, very copious, of the consistence of thick gruel, and of a fetid smell, he is then confirmed in his opinion, that he has to encounter an affection requiring more than ordinary activity of treatment; and subsequent events have always fulfilled his predictions.*

As an additional proof of the justness of the above remarks, I have always, on inspecting the evacuations, found them dark, slimy, fetid, and unexpectedly large; indeed, excepting that they are generally mixed with hard pieces of scybala, they have neither the ordinary smell, consistence, nor colour of natural fecal stools, but seem to be composed, for the most part, of some excrementitious matter thrown out in considerable quantity, in the course of the disease.†

In a great number of instances, it is remarkable how very indifferent patients are to surrounding objects, and this indifference is of such a nature, as not only to extend to objects in general, but to render them inattentive even to the suckling of their infants; this last mentioned circumstance has been imputed by some to the suppression of the lacteal secretions, but this is certainly not the cause, since I have seen it in the very commencement of some cases, in which the secretion of the milk was but little affected. Whatever may be the cause of this curious phenomenon, it indicates an ex-

* Consult Mr. Wolfe's communication in the Appendix.

† Quæ excernuntur nigra sunt, et interdum perquam mali ordoris.—*Hippocrates:* As translated by Hulme, in his *Treatise on Puerperal Fever.*

traordinary power of disease, which can in a few hours paralyse the maternal affections.*

But to conclude this part of the subject: abdominal pain and soreness, short anxious breathing, uncommon quickness of the pulse, increased temperature, anorexia, prostration of the vital powers, suppression or diminution of the milk and lochia, and an unnatural condition of the excrements, are the chief pathognomonic signs of the disease. Besides, if the apartment be ever so well cleaned and ventilated, and the linen daily changed, there is still an offensive smell about the bed of the patient; and in the first stage, particularly of the more severe cases, a peculiarly striking expression of the face, which I have not seen in any other complaint; the countenance manifests alarm and solicitude, as if the person affected was the subject of two different emotions at the same time; at least I am not able to convey a more definite conception of the physiognomy soon after the attack of the disease. Howevernecessary an accurate diagnosis may be for the student, so very singular are the appearances of puerperal fever, that the medical man who has had opportunities of observing them, can be in no danger of confounding this with any other distemper.

Prognosis. — From the days of Hippocrates† to the present time, the puerperal fever has been esteemed imminently dangerous; indeed, some writers have not hesitated to place it next to the plague in the catalogue of diseases; and though I perfectly agree with the common opinion, as to its danger, and am convinced that part of its fatality may be fairly ascribed to its natural tendency, yet I am fully persuaded that it may generally be arrested in the beginning, and that much of its fatality has been occasioned by our great caution, timidity, and indecision in treating it. In truth, it is an extraordinary malady, and requires extraordinary remedies, rapid as well as powerful in their effect; for, if the first twenty hours from its marked appearance be lost in doubt and hesitation, no human efforts, generally speaking, can afterwards atone for the error; and, on the contrary, if these golden moments be seized without delay, and an active treatment steadily pursued, it is my conscientious belief that there are few febrile disorders of the more serious kind, which afford the physician a fairer chance for the successful exercise of his functions.

Notwithstanding, in this disease it would only be proper that the physician should always give a guarded prognosis, and more especially when it is epidemical, since it has happened in this, as in every other epidemical fever, that cases have proved fatal, in defiance of the most prompt and judicious measures.

Dr. Foster has observed that there is often a treacherous remission about twenty-four hours after the attack; and this, also, is

* Infantes de ope nostra ac de divina misericordia plus merentur, qui in primo statim nativitatis suæ ortu plorantes ac flentes, nil aliud faciunt quam deprecantur.—*Cyprian*, Epist.

† Si mulieri pregnanti fiat in utero erysipelas, lethale est.—*Hippocrates.*

often the case about the end of the third day ; whenever, indeed, any remission of pain takes place, the professional attendant must neither be betrayed into a sanguine declaration of speedy recovery, nor into a supineness of practice ; since, under such an apparent abatement, the disease sometimes secretly and rapidly advances to a state which admits of no relief.

It has been stated, by some authors, that the pain in general suddenly leaves the belly before puerperal fever ends unfavourably, but, from an almost hourly attendance upon many cases, I am inclined to believe that their assertions respecting this point have been too hastily made, and that the pain, in the majority of examples, gradually abates, and, in some, even continues distressing to the last. Occasionally, however, there can be no doubt but that there is a surprisingly sudden transition from the greatest suffering to the most perfect ease ; when this happens with a cold, clammy skin, and a rapid, small, fluttering pulse, it must be looked upon as a fatal sign — as the last illumination of life.

It seems agreed by all accurate observers, that the earlier the attack the greater is the danger ; and that those whose powers of feeling are much diminished from the beginning, and who consequently complain but little, generally sink under the pressure of the disease. On the other hand, an excess of sensibility is always to be dreaded ; for I have had opportunities of remarking, that those patients seldom recover who are tremblingly alive to every surrounding impression.* It is well known that unmarried women do not recover as well as married ones ; the mental irritation necessarily attendant upon their situation considerably increasing the febrile excitement, and rendering them extremely restless.

On dissection,† the structure of the brain, as far as I know, has hardly ever been found much affected, yet the functions of that organ are sometimes greatly disordered early in the attack ; the slightest approach to mental confusion or delirium is an inauspicious sign, at any period of the complaint. Tremors of the limbs, startings of the tendons, a quick convulsive motion of the upper lip, an agitated countenance, with a hurried, unconnected manner of speaking, constant sighing attended with a tossing of the arms, pain, and oppression of the chest, visual deceptions, imaginary strange sounds and voices, muttering, and stupor, are among the most unfavourable symptoms.

Dr. Foster, on examining the bodies of two women who apparently died of puerperal fever, discovered that the omentum in both was lacerated near the middle, almost entirely across from

* "Women of delicate constitutions, very susceptible, and continually agitated by hopes and fears, are, of all others, the most subject to it, and recover with the greatest difficulty."—*Practical Observations on the Childbed Fever, &c.*, by John Leake, M.D., fifth edition, vol. ii., p. 43.

† "As the brain and nerves have seemed to be affected in some cases, soon after the attack, I did not fail to open the head ; but its contents have always been in a natural state."—*Dr. John Clarke*, p. 130.

side to side;* it is, however, readily acknowledged that such lesions are exceedingly uncommon; yet, since when they do happen, they place the patient beyond the power of art; and, as nothing but actual dissection can prove that they do not exist in any case, we should, in every instance, be the more cautious in passing a prognosis.

Irreparable derangements in the structure and functions of the abdominal viscera are often made in the course of twenty-four hours,† the time, therefore, which the disease has continued, ought materially to influence the opinion to be delivered. In one robustly formed young woman, whom I was called to visit about three years ago in the last stage, the whole term occupied from the commencement to the fatal close of the fever did not exceed forty-eight hours; and it is certain, from indubitable facts, that it sometimes destroys as rapidly as the plague itself.‡ By referring to the case of Martha Watson, in the Appendix, it will be found, that a patient may be saved, by vigorous treatment, so late as thirty hours after a violent attack, but it is well known that such occurrences are very rare, yet this melancholy truth should never make any of us desist from strenuous exertions, however late we may be called in, as the most surprising recoveries may now and then be effected by proper means and steady perseverance.

At any time when the disease has existed more than twelve hours, frequent strong rigors are highly alarming; but, in some cases, there is a morbid sensibility of the surface to external impressions, which must not be confounded with the chills denoting the approaches of gangrene or suppuration, as it may always be distinguished from them by the pulse remaining unaltered in force and frequency. Almost immediately after copious venesection, patients sometimes become cold, faint, and shivery; but these symptoms need not alarm the attendant, provided the operation has been opportunely performed, for he will then almost invariably find them gradually give way to a general warmth and moisture of the surface, succeeded by a reduction of the pulse; but if, on the other hand, the lancet has been indiscreetly used, when suppuration or mortification was about to commence, or had actually commenced, nothing can be more dangerous than the continuance

* The principles and Practice of Midwifery. By Edward Foster, M.D., late Teacher of Midwifery in the City of Dublin. Edited by James Simms, M.D., 1781. Consult p. 297.

† "When the patient had been ill for a longer space than twenty-four hours, before I was sent for, I generally found that the disease was no longer in the power of art."—*A Treatise on the Epidemic Puerperal Fever of Aberdeen*, by Alexander Gordon, M.D., p. 35, *ante*.

‡ "As far as my experience goes, the same degree of fever would not destroy, in the same length of time, a patient not in the puerperal state. Indeed, scarcely any fever is known, except the plague, which has killed so rapidly."—*Dr. John Clarke*, p. 140, 141.

Also, consult the Treatise of Dr. Gordon, *ante*, p. 54.

of the coldness, faintness, and shivering, especially if attended by frequent sighing, and a very quick, weak, and irregular pulse.

An open state of the belly immediately before delivery generally tends to mitigate the severity of an early attack, and a diarrhœa coming on afterwards sometimes carries off the disease; whereas, on the contrary, costiveness is always an unfavourable circumstance, increasing, in no inconsiderable degree, the difficulty of the cure. An experienced friend of mine lately attended a patient whose bowels had not been loosened for more than a week before her labour; the case was unusually violent, and resisted every remedy.*

The state of the respiration, pulse, stomach, and skin, must, in a great measure, regulate the prognosis. When the respirations are short, feeble, and amount to sixty in a minute;† when the pulse becomes extremely weak and compressible, and rises above one hundred and sixty; when there are frequent vomitings of a coffee-coloured fluid,‡ an increase of abdominal distention,§ repeated shiverings, a universally cold damp skin, and a very rough, dry tongue, the case may be pronounced desperate; on the contrary, when the respiration grows easy, deep, and slow; when the pulse comes down, and ceases to be variable; when the stomach retains the food and medicine, the stools continue copious, the tension and pain of the belly abate; when the skin breaks out into a warm sweat, the tongue becomes clean and moist, and especially when fresh discharges of the lochia,‖ and secretion of the milk take place, the symptoms fully authorise a favourable opinion.¶

If the pulse can be kept under one hundred and twenty in the minute for the first twelve days the patients will generally do well; but if the pulse continues very quick after the abdominal symptoms have entirely disappeared, affections of the chest,** and

* "A person seized with this fever, having had a costive body during pregnancy, is threatened with more danger than if the belly had been regular."—*Hulme*, p. 32.

† "It appears that the number of respirations made in a given time, differ considerably in different men. Dr. Hales reckons them at twenty in a minute.—The average of all is twenty."—*Dr. Thompson's Chemistry*, second edition, vol. iv., p. 712.

‡ "When there were symptoms of mortification, what the patient vomited was black, and had a strong resemblance to the grounds of coffee."—*Gordon*, ante, p. 34.

§ "A subsidence of the abdomen, after copious stools, and with a moist skin, is a fortunate alteration for the patient; but that circumstance without evacuations, and a dry skin, threaten the utmost danger."—*Denman*, vol. ii., p. 469.

‖ "The suppression of the lochial discharge seems to be in consequence of the disorder, and the return in consequence of its abatement."—*Hulme*, p. 14.

¶ "It is likewise a favourable sign when the patient can turn herself; for in dangerous cases, the patient generally lies in one posture, unable to turn herself in bed."—*Gordon*, ante, p. 54.

** "If any disease hath taken its immediate origin, as it were, out of the puerperal fever, and been combined with it, it hath been the peripneumony. I have met with several instances of this kind."—*Hulme*, p. 15.

of the glandular system, or deep seated suppurations may be dreaded.*

Prevention. — When puerperal fever is epidemical, the accoucheur should make it a point of duty to have the apartments of the women whom he is engaged to attend properly cleaned and ventilated before confinement; to prevent nurses and other persons who have been with those affected, from waiting upon or going near any patient about to be delivered; to pay the most scrupulous regard to the cleanliness of his own person, using daily ablutions of the whole body, and frequent changes of linen and dress.†

In another part of this work, I shall endeavour to show that puerperal fever is always infectious; however this may be disputed by some, it is granted by all that it is so in many cases; and, would it not, as it respects prevention, influence us to greater caution to consider it capable of being communicated by contagion in every case? No harm can arise from this, and much evil may result from a contrary admission.

As anxiety of mind materially contributes to produce this disease, it should always, if possible, be timely allayed. But when puerperal fever is known to be prevalent, the greatest attention and address will be requisite to remove the solicitude of pregnant women; for such is the constitution of human nature in general, that they are irresistibly drawn to the consideration of the existing calamity, though conscious that not to think of it would be best in their condition. If, therefore, an alarm be abroad, the practitioner must, above all things, aim to inspire the apprehensive patient with a complete confidence in his powers of prevention; nor must he ever use doubtful language upon the subject; in fact, if he once betray the least fear, as to her security, from that moment no faith will be placed in his professions.

Sedentary employments, too stimulating, or too spare a diet, night watchings, fashionable dissipations, and irregular habits of every kind, seem to predispose pregnant women to puerperal fever.‡ A nutritious diet, early rising, and regular exercise in the open air, are among the most efficacious means for preserving health,§ and inducing an easy and safe labour. It did not escape

* "Some of those who survived, recovered very slowly, and were affected with wandering pains, and paralytic numbness of the limbs, like that of chronic rheumatism. Some had critical abscesses in the muscular parts of the body, which were a long time in coming to suppuration, and when broke discharged a sanious ichor."—*Leake*, vol. ii., p. 58.

† "I had evident proofs that every person who had been with a patient in the puerperal fever, became charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere."—*Gordon*, ante, p. 50, 51.

‡ "Mulieribus præ cæteris animalibus hæc contingunt, et præsertim delicatis, vitamque umbratilem et mollem degere assuetis; ut et iis quæ teneræ valetudinis sunt, et facile in morbos labuntur."—*Harv. Exercit de Partu.*

§ "Verum ad sanitatem tuendam, si ante cibum corpora moderate exerceantur, mirum in modum prodest, at contra quies et otium diuturnum iis maximo nocumento est."—*Galen de Euchymia et Cacochymia.*

the penetrative sagacity of Lycurgus,* the law-giver of ancient Sparta, that simplicity of diet, and an habitual action of the body during pregnancy, greatly favoured the security of the mother and the strength of the offspring. And, I believe, that if these simple truths were more generally known and acted upon, there would be much less fatality in parturition.

As the retention of fecal matter in the intestines often greatly assists in the production of this disease, so the timely exhibition of purgative medicine may be reckoned one of the best preventives. It is proverbial among childbearing women, that castor oil is an excellent remedy for lessening the dangers incident to delivery; and I have little doubt, that when the bowels have been kept open by it or any other purgative, the occurrence of fever has frequently been prevented. Many breeding women suppose their bowels to be in a proper state when they have only one scanty evacuation in the day; so that, in the course of pregnancy, an extraordinary accumulation of feces takes place, as I have repeatedly witnessed. The professional person may be much deceived, who trusts to the reports of his patients in this respect. Nothing less than frequent inspections of the alvine evacuations can be at all satisfactory, since their quantity and appearance alone can regulate the extent to which purgatives should be used as preventives. As a general rule, to which, however, there may be exceptions, never less than one very copious natural stool should be procured in the day, throughout the whole term of gestation.† When a puerperal epidemic raged at Aberdeen, Dr. Gordon found that a purging bolus of calomel and jalap given in the morning, the day after delivery, either prevented the disease entirely, or answered this good purpose, that the cure was anticipated before the attack.‡

During labour, care should be taken not to irritate the os uteri by frequent rude and unnecessary examinations; neither ought the placenta to be extracted too hastily, for much mischief may result from such procedure;§ hemorrhages may immediately follow, the uterus itself may receive some serious injury, or it may contract upon a small portion of the placenta left attached to its interior; any of which things may act as an exciting cause in a person predisposed to this fever. My respected friend, Mr. Ferguson, of Bishopwearmouth, who has been in a most extensive practice of midwifery for nearly forty years, has hardly ever seen puerperal fever succeed uterine effusions merely arising from a defect of contractility in the uterus, but has often seen it follow those hemorrhages which arose from an injury sustained by that organ. This is an important fact, and perhaps may, in part, explain the existing

* Consult Plutarch's Life of Lycurgus.

† Consult Mr. Fife's very sensible communication in the Appendix.

‡ See Gordon, *ante*, p. 63.

§ "Rude treatment of the os uteri, and a violent or hasty separation of the placenta, will often give rise to this disease."—*Denman*, vol. ii., p. 461.

discrepancies of authors, some of whom assert that floodings occasion,* and others that they prevent the disease ;† at all events it suggests the propriety of using prophylactic measures, where large discharges have taken place after difficult labours, or in consequence of violence suffered by the uterus. It is not, I hope, presuming beyond my province when I admonish accoucheurs in general not to let the pressure of business induce them to extract the placenta too soon ; nothing but an eruption of blood, threatening the very life of the patient, can justify its hasty and forcible separation. On the other hand, the after-birth, for obvious reasons, must not be allowed to remain too long. Dr. Hamilton, the experienced and judicious professor of midwifery in the University of Edinburgh, declares, in his lectures, that it cannot be left, with perfect safety, longer than an hour in the uterus, after the expulsion of the child.‡

If cold has been applied to any great extent in uterine floodings, and a considerable reaction of the heart and arteries, with some degree of fever, is likely to succeed their suppression, the practitioner must be upon his guard, and not permit his patient to take strong drinks and food by way of replenishing the system; but he must insist upon a cooling regimen, and administer aperients till the inflammatory threatenings disappear. After severe, and especially after instrumental labours, two or three visits should be daily paid to the patients for some time by the professional attendants, that they may have proper opportunities of enforcing their directions, and of perceiving the very first approaches of any fever that may supervene ; but, indeed, a spare diet, cleanliness, ventilation, quietness, and an occasional purge, will generally obviate danger.§

Celsus,‖ and others writers since his day, have recommended patients to be treated for a certain time after delivery as if they actually laboured under an inflammatory affection, or had received some wound in an important part of the body. In reality, no advice can be more judicious or necessary, however it may be

* Mr. White on the Management of Pregnant and Lying-in Women, p. 219.—Dr. Manning on Female Diseases, p. 371.

† "Those gentlemen themselves know best on what foundation their opinion is grounded; but, for my part, I found that large uterine effusions invariably prevented the epidemic puerperal fever which I have described."—*Gordon*, ante, p. 66.

‡ "As the life of the patient is never exempt from danger till the afterbirth be extracted, no practitioner ought, on any pretence, to leave a woman even for a short space of time, till that circumstance has taken place."—*Hamilton's Treatise on the Management of Female Complaints*, fifth edition, p. 188.

§ "Women are certainly not so often attacked with this fever after difficult labours, because of the particular care with which they are then managed, whereas after easy ones they are more unguarded."—*Denman*, vol. ii., p. 463.

‖ Reliqua curatio talis esse debet, qualis in inflammationibus, et in his vulneribus, quæ in nervosis locis sunt, adhibetur. A. Corn. Celsus. Glasguæ. Excudebat Gulielmus Bell, MDCCLXVI. Vide p. 357.

"Women in childbed ought to be managed not only as persons sorely wounded, but as having gotten a feverish indisposition."—*Willis*, p. 636.

disregarded in general practice. The species of inflammatory diathesis which exists throughout the whole period of pregnancy,* together with the throes of parturition, bring the system into a state verging upon febrile excitement, which, no doubt, would be attended with considerable danger, were it not for the secretion of the milk, and the flowing of the lochia. If, therefore, we would lessen the risk of fever in general, and of puerperal fever in particular, the child should not be kept from the breast longer than twelve hours from the time of its birth; we should enjoin the strictest antiphlogistic regimen, and administer purgatives now and then, especially during the first four or five days, as that appears to be the term in which there is the greatest tendency to febrile disorders.† Everything calculated strongly to excite should be withdrawn, such as noise, light, and heat. And at the same time that the room should be kept at a moderate temperature and properly ventilated, we should be particularly careful to prevent currents of cold air from passing over the bed of the patient.‡

The use of cordials cannot be too positively and repeatedly prohibited; since it is not uncommon for nurses to give the patients whom they attend a cup of burnt brandy, or caudle after delivery, and to add to the sago or gruel, which ought always to be taken in the simplest form, large portions of strong wine. And it is melancholy to think that such things are sometimes done expressly against the commands of medical practitioners. The deceptions practised by those persons, commonly called old experienced nurses, are hardly credible; in the presence of the physician they will seem very desirous to carry all his orders into effect, but in his absence either accommodate themselves to the whims of the capricious, or, appealing to their long experience, persuade the timorous patient to take a diet very different from that directed; and thus, between the hypocrisy of the one, and the weakness of the other, the deceit is successfully carried on, unless danger or accident should reveal it. The lives of many women, and the reputations of many accoucheurs have, I am fully confident, been sacrificed in this way. Whenever, therefore, professional men detect anything like duplicity in the conduct of nurses, they should act in the most authoritative manner, immediately insisting upon their dismission; for persons who once deliberately commit a dishonourable action can never be trusted with safety a second time.

* Hunter affirms that the blood is always sizy in breeding women. See a *Treatise on the Blood, Inflammation*, &c. By the late John Hunter. Philadelphia, Barrington & Haswell.

† "The pernicious custom of binding the body too tight ought also to be avoided; as it will produce difficulty of breathing, headache, and oppression at stomach."—*Leake*, p. 149.

‡ "There is nothing so great an enemie to a woman in travail, especially to her whose childe is drawn away by violence, as cold.—And thereof commeth manie grievous accidents, as hysterical suffocation, painful fretting of the guts, fevers, and other mortal diseases."—*Johnson's Translation of the Works of Ambrose Paré*. Printed in 1649. See p. 615.

Mismanagement in nursing is not confined to the higher, but extends to the middle and lower ranks of life, in which it has become an almost established custom to give distilled spirits and a flesh diet to women in childbed.* Besides, in the first week of confinement, the rooms are crowded with a succession of friends and visitants, who generally converse over a large fire, till a late hour at night. As improprieties of this nature are often followed by disagreeable, and sometimes by fatal consequences to the sick, they cannot be too publicly and frequently exposed.

If, notwithstanding every possible precaution, there should be the slightest accession of fever after parturiency, and especially if the puerperal fever be prevalent at the time, or there be any circumstances in the patient which predispose to its attack, we ought to be extremely attentive, as any fever may pass into the puerperal, particularly where great anxiety and irritability exist.†

Pathological Remarks. — After what has been said, it may be thought by some that I ought to endeavour to find out that cause from which this fever immediately proceeds and derives its specific character; but when I reflect how little is known about proximate causes, and how great the uncertainty of all reasonings *à priori*, I am induced entirely to avoid this part of the subject, especially as I conceive it to belong to metaphysical rather than to medical science. Indeed, such discussions are far from being generally satisfactory, and, even when most ingeniously conducted, perhaps not more profitable than the long agitated disputes of the schoolmen, respecting the essences of things, which, in some respects, they seem to resemble. The history of medicine, like that of every other science, clearly shows that conjectures have seldom led to useful discoveries; but, on the contrary, have often allured from the investigation of facts, to the consideration of those obscure and disputable relations which things unknown bear to the known phenomena of nature. It has been well observed, by a sensible anonymous writer, that in physic, more than in any other department of human knowledge, facts are everything, and theory nothing.‡ It is, therefore, my determination not to connect hypotheses of any kind with the plain evidences of symptoms and of dissections, by which, in my opinion, a true knowledge of medicine can alone be established, and from which my observations shall be strictly drawn.

If an unprejudiced professional man were called to attend a woman shortly after parturition, and found her labouring under an

* "I have diligently observed that an over-hasty eating of flesh, or of rich food, has oftentimes brought these fevers."—*Willis*, p. 636.

† "After labour, the cavity of the abdomen is in part debilitated, from the great change it has undergone in passing from a state of great tension to a state of great flaccidity; and if the woman catches cold, or receives infection, the mischief falls on the abdomen, as on the weaker part."—*The Anatomy of the Absorbing Vessels of the Human Body.* Second edition. By William Cruikshank, p. 119.

‡ See the Eclectic Review for October, 1813, vol. x., p. 343.

oppressive fever, the abdomen painful and distended, the skin hot, the tongue dry, the pulse very quick, the breathing hurried, and the milk and lochia diminished or suppressed; and if he had the misfortune of seeing his patient fall a victim to the complaint, and, on accurately dissecting the body afterwards, discovered the most extensive traces of an abdominal inflammation, without any other appearances to account for the death of the patient, he would at once conclude that the disease which baffled his skill was of an actively inflammatory nature, and would determine for the future to be, if possible, more upon his guard, and to treat it, and every similar affection, with the greatest promptitude and decision; and such a conclusion and determination I would most earnestly recommend every medical person to form; first, because there is no disease more uniform than puerperal fever in the symptoms and morbid derangements which it induces; and, secondly, because it can only be combated with the probability of success by antiphlogistic means. Almost ever writer of eminence on puerperal fever has recorded the uniformity of the symptoms and morbid derangements;* and to prove the propriety and usefulness of the antiphlogistic methods of cure, I might appeal to the works of Mauriceau, Burton, Peautau, Heberden, Denman, Hulme, Leake, and Gordon, which, collectively, constitute, in my estimation at least, a complete and satisfactory train of evidence upon the subject. Were I inclined, I might here also avail myself of the great candour of those authors who have treated puerperal fever as a putrid and typhoid distemper, their impartial and disastrous reports forcibly demonstrating that cordials and stimulants answer no good purpose.

Some writers, of deserved celebrity, having considered the epidemical malignant childbed fever as specifically distinct from the more simple peritonitic fever of lying-in women, it, therefore, becomes a matter of great practical consequence to ascertain whether symptoms and dissections justify such a distinction.

In the malignant fever, pain, tenderness, and fulness of the abdomen are generally discernible in the beginning; there is, likewise, a quick pulse, preternatural heat, headache, thirst, and vomiting, all of which symptoms appear in the peritonitic fever; but, in the malignant, we find a weariness, a deadly prostration of the animal functions, an overpowering oppression of the whole system, which are not so apparent in the common peritonitic fever, and which, together with the decidedly contagious nature of the former, have been thought sufficient grounds for classing it as a separate and distinct disorder. But, passing from symptoms, let us endeavour, by dissections, to develope the true character of this disease.

* "The operations of nature upon the human frame, in this disease, are the same in Britain as in Greece; and continue the same at this day as they were above two thousand years. This is likewise a clear proof of the immutability of puerperal fever, that it is an original disease, and has been prevalent at all times, and in all climates."—*Hulme on Puerperal Fever*, p. 96.

Also, respecting this point, consult Leake, vol. ii., p. 43; Home, Clinical Experiments, p. 67, and Gordon, *ante*, pp. 32, 68.

All the anatomical examinations which have been made on the bodies of those who died of the malignant epidemic, incontestibly prove that if there be any difference between it and the peritonitic fever, with regard to their inflammatory disposition, that difference merely consists in degree—the inflammation being more strikingly evident, and extensively destructive in the former than in the latter; and, for the truth of these affirmations, I refer, in particular, to the writings of Denman, Leake, Home, Hulme, and Gordon, in which it will be found that the viscera of the abdomen—the peritoneum, the omentum, the mesentery, the mesicolon, the liver, the stomach, the small and large intestines, the uterus and its appendages, the bladder, and even the pleura, and the lungs themselves, have all, in their turn, been more or less affected by the inflammation attendant upon the malignant puerperal fever.

It has been demonstrated by some accurate dissections, that several quarts of a serous fluid, and large portions of coagulable lymph have been effused, in the course of a few days, into the cavity of the belly, during the progress of the low childbed fever, and that, in those instances, the vestiges of inflammation left on the abdominal viscera were by no means proportionate to the quantities of fluid and solid matter extravasated. These appearances have led some ingenious and highly gifted men to suppose that the effusion was not the effect of active inflammation, but of a certain disposition of the vessels of the parts affected, specifically distinct from an inflammatory action; the properties of this fluid, however, the coagulable lymph everywhere covering the intestines, and filling up their interstices, and the pain and general excitement which attended the previous disease, considerably lessen the force of this conjecture, which will also appear the more improbable when we reflect, that the extravasation of so large a portion of serous fluid and curd-like matter would necessarily tend to obliterate the strong characters of inflammation, on the surface of the viscera and linings of the abdomen, in some cases, and, in others, render those characters less distinct than they would have been, provided a more inconsiderable exudation had taken place.* It is an indisputable fact, that inflamed internal canals and membranous surfaces often pass, with great rapidity, from the first or adhesive, into the suppurative or effusive action.† Very con-

* "If an inflammation arise in a cavity, it may terminate in a number of different ways; one of these ways is by an increased secretion of the fluid of surfaces. A man receives a blow on the testicle; inflammation takes place, and the consequence is frequently a hydrocele, or dropsy of the tunica vaginalis. A child's brain inflames, and this inflammation ends at last in hydrocephalus, or collection of water in the brain. Pleurisy frequently terminates in hydrothorax, or collection of water in the chest. I have often taken away forty or sixty pints of water which had accumulated in the cavity of the abdomen, in the few days the peritoneal inflammation had lasted, during the usual species of childbed fever."—*Cruikshank on the Absorbing Vessels*, p. 116.

† Consult Hunter's *Treatise on the Blood, Inflammation*, &c. Philadelphia, Barrington & Haswell.

"In inflammation of membranous parts, which in health secrete a particular

siderable suppuration is occasionally found, on the membranes of the brain for instance, with hardly any vestiges of an increase of vascular action; but would any person deny, or has any person even conjectured that this could take place without previous inflammation? If it be here objected that suppuration is not effusion, and that, therefore, the cases are not analogous, it is readily granted that suppuration is not effusion; but it cannot be disputed that these are two of the ways in which inflammation terminates, and if we always infer the existence of inflammation in the one case, how can we fairly deny it in the other? In short, it appears to me impossible that anything but a highly active inflammation could occasion, in the short space of five or six days, so large a collection of serous fluid and coagulable lymph as that sometimes found in the cavity of the abdomen after the fatal termination of the low childbed fever.

From all that has been advanced, I hope that I may presume to lay it down as a general and incontrovertible proposition, that abdominal inflammation, either directly or indirectly, is the cause of the fatal termination both of the epidemic and peritonitic fever of childbed.

It has been already stated, that I have not examined the body of any patient who died of the malignant epidemic; but in the course of my studies and practice I have witnessed three dissections of the bodies of persons who fell victims to a well marked peurperal fever. In all of them there were the most unquestionable proofs of an abdominal inflammation; but, as this is the fact upon which I rest so much weight, I have rather chosen to prove its universal existence* from the dissections of others, passing over the particulars of my own.

Nor can I admit that the contagious nature of the epidemic constitutes one decided distinction between it and the common peritonitic fever; because every observation and inquiry which I have made, lead me to believe that, like scarlatina and cynanche maligna, they are modifications of the same disease, and that the peri-

fluid, a liquid, different from pus, and resembling more the natural secretion of the part, is formed. In this, as in the other case, the inflammation diminishes; but the patient has seldom any chills; nor is the structure of the part injured, at least farther than by mere distention, if it be a cavity. The functions of the part are, however, often injured from the presence of the fluid."—*John Burns'* *Dissertation on Inflammation*, vol. i., p. 289–90.

* "We have indeed been told, that, in the dissections of some who are said to have died of this disease, no appearances of inflammation have been discovered; but I should suspect that in such cases some important appearances had been overlooked, or that errors had been committed as to the nature of the disease, and probably in its treatment."—*Denman*, vol. ii., p. 295.

"Whatever be the cause of puerperal fever, the cause of death is the same in all its varieties, viz., abdominal inflammation; and therefore the cure must be conducted on the same principle, or that which is calculated to obviate inflammation, for which reason all of them require the same or a similar treatment."—*Gordon*, ante, p. 68.

tonitic fever, when completely formed, is in kind, though not in degree, as contagious as the epidemic.* On several occasions I have clearly traced the origin of a puerperal fever of the most malignant kind, to the contagion of one having only the simple peritonitic characters. The puerperal fever, described in the beginning of this work, first appeared as an ordinary peritonitic affection, but changed its appearance and became full as complicated as any that has yet been recorded, and, before it was finally subdued, again put on its original aspect. It existed for more than two years in different places in the counties of Durham and Northumberland. In 1811 it arose in the neighbourhood of Stockton-upon-Tees, afterwards in the town of Newcastle-upon-Tyne, near Chester-le-Street, in Sunderland, and again in the vicinity of Newcastle. From all the reports which I have collected of professional men, it seems to have appeared sometimes as a simple inflammation of the peritoneum, and sometimes as a more mixed and malignant complaint. In its course, also, it has been considerably modified by the circumstances and situation of the patients. In the confined and crowded habitations of the poor of Sunderland, it was exactly such a disease as Dr. John Clarke has so ably described under the name of the low fever of childbed; when, at the same time, only a few miles distant in the country, where the air was pure, and the circumstances of the patients much more comfortable, it resembled the ordinary peritonitic fever, having nothing of the typhoid type, though in every place in which it occurred, and under all its varieties, it seemed to be possessed of an infectious quality.†

Though I contend that these are modifications of the same disease, I have avoided the phrase identity, about which there has been so much controversy, because I have no inclination to enter into abstract discussions, or nominal disputes; nor will I assert that there is a perfect sameness, since there necessarily must be such a difference as arises from constitutional peculiarities of patients, the changeable nature of the disease itself, together with local and other circumstances; nay, I have no objection to grant that the inflammatory character of this disorder sometimes conceals itself, and even appears to lose itself in an almost unequalled prostration of the powers of the system.‡ But what I wish particu-

* "The nature and the power of contagion in general seem not to be perfectly understood, and it may exist in many diseases in which it has not been suspected. This subject is, therefore, deserving of the most serious investigation and inquiry."—*Denman*, vol. ii., p. 508.

† "When I had finished this sheet, and was about to send it to the press, in glancing over the article Medicine in the Encyclopædia Britannica, I discovered that the late Dr. Thomas Young had read, in the Philosophical Society of Edinburgh, a paper respecting puerperal fever, in which he maintains that it is always contagious; and, although he differs with me on several points, I am happy to find that he perfectly agrees with what I had written on this particular in the twelfth page of this work."—See *Encyclopædia Britannica*, fourth edition, Edin. 1810, vol. xiii., p. 467.

‡ Debility begins very early, because the inflammation itself is interfering

larly to insist upon is, that the epidemic and the peritonitic fever are so far the same as to require the antiphlogistic practice; only in the epidemic this kind of treatment must be applied with more promptitude and decision, as the time in which the professional man can be useful is much shorter.*

Treatment. — No medical man can be ignorant of the great diversity of treatment pursued in puerperal fever, and this diversity must be a subject of deep regret to every one desirous of being serviceable in his profession, by acting upon principles at once simple and adapted to the nature of the disease. Being persuaded that much of the difference which exists among practitioners proceeds from their not having sufficiently attended to the distinctions between the first stage of inflammation, and the second of suppuration, gangrene, or effusion, the reader will, I trust, excuse me for again mentioning a few of the most striking symptoms of each of these stages, especially since it was repeated observation of the disorder as existing under two different states which partly fixed my present principles, and led me to adopt the practice about to be recommended.

In the first stage, after the rigors have ceased, the pulse is hardly ever less than 120, and sometimes, though, as far as I have observed, very seldom, as high as 140 in the minute; the blood does not seem to flow in a soft, easy, natural current, but comes against the finger with a kind of vibratory motion; and more than ordinary pressure is commonly requisite to stop its course along the artery, which feels rather hard and tense. The skin is dry and hotter than natural, the patient complains of great pain and soreness of the abdomen, breathes nearly forty times in the minute, vomits mucus and bile, is generally bound in the belly, has a white, dry tongue, considerable thirst, and labours under all the restlessness and irritation of fever.

In the second stage the pulse is never under 140, and frequently rises above 160 in the minute, while it is always exceedingly variable, weak, and compressible; the tenderness of the belly is usually much diminished, and the fulness increased; cold, partial perspirations first break out about the face, neck, and extremities; the centre of the body, particularly the surface of the abdomen; remaining dry and of a pungent heat for some time afterwards; the patient rarely shivers much, but has repeated chills, vomits dark grumous matter, seldom breathes less than sixty times in the minute,

immediately with the actions of life; and, also, in such parts, universal sympathy takes place more readily, because the connection of these parts by sympathy is more immediate.—*John Hunter's Works*, Philad., Barrington & Haswell.

* If the reader should be desirous of consulting the authors alluded to, respecting the morbid changes induced by puerperal fever, the following references may save him some trouble. — *Denman*, vol. 2, p. 494, 495.—*Hulme*, p. 37, 38, 40, 41, 42, 43, 45, 46, 48, 53, 54, 55, 56. — *Foster*, p. 296, 297, 298. — *Leake*, vol. 2, p. 11, 106, 180, 181, 182, 197, 198, 199, 209, 210, 227, 228, 240, 241.— *Home*, Clinical Experiments, p. 73, 77. — *Dr. John Clarke*, p. 80, 81, 123, 124. — *Dr. Gordon*, ante, 40, 43, 68.

has generally a loose belly, a brown, black, or reddish parched tongue, unquenchable thirst, tremulous hands, lightness and swimming of the head, confusion of thought, or delirium, and, several hours before death, a remarkably relaxed, cold, damp skin. The first stage is marked by highly inflammatory, the second by highly typhoid characters; and it has always appeared to me that the tendency to putridity in the latter was proportionate to the degrees of inflammation in the former.*

Perhaps scarcely any of the above symptoms, taken singly, can be entirely depended upon as distinctions between the first and second stage, yet, as several of them accompany or succeed each other, in each of these states of puerperal fever, they may together enable the observant practitioner to form a tolerably correct opinion relative to the plan of treatment to be laid down. In the first stage, bloodletting is generally followed by the most beneficial, in the second, by the most fatal effects; an antiphlogistic regimen is indicated in the first, but the second requires a nutritious diet.

The first stage is variable as to its duration, sometimes terminating in little more than twenty, and sometimes continuing as long as seventy hours, but always being much shorter in the epidemical than in the peritonitic fever. The period of time which the second stage occupies is likewise very uncertain; if it be accompanied by gangrene, it does not last many hours; if by suppuration, it is generally mortal in three or four days; and if by an effusion of serous fluid and coagulable lymph, without an actual disorganization of a vital part, it may continue a longer time, and perhaps present the possibility of recovery, but seldom anything more; for very few patients are saved in the second stage, whatever may be the morbid changes with which it is connected.

In the earlier part of my practice, being consulted in the second stage of some cases of puerperal fever, more than once I was surprised to find the abdomen soft and painless, and the countenance little discomposed, when the clayey coldness of the extremities, and the quick, liny, irregular pulse, warned me that the patient had not many hours to live. If no accurate history of such cases could have been obtained, it is not impossible but I might have concluded, that the disease was decidedly of the debilitative order, requiring wine and cordials throughout; but, on minute and repeated investigation, I then found, as I have always since in similar cases, that this general prostration of the system was preceded by pain, and highly febrile excitement; in short, by symptoms of an active abdominal inflammation. For the most part, physicians are are not consulted till the disorder has advanced into the second stage, in which bloodletting is so very destructive; and I cannot help suspecting that some distinguished authors, having formed their opinion from the appearance of the disease, and the ill effects of venesection, at

* "When the fever has remained for a very few days, the putrid symptoms, which are usually according to the degree of the preceding inflammation, advance very rapidly."—*Denman*, vol. ii., p. 481.

this period, have thus been persuaded that debility is the principal thing to be counteracted from the beginning, and during the whole course of the fever. Be this as it may, the stimulant treatment is at once the most delusive and dangerous which can be adopted, and it is much to be lamented that it has the weight and authority of some eminent names.

During a residence of more than six years in Sunderland, some cases of puerperal fever, chiefly occurring among the poorer inhabitants, have annually come under my care. For the most part, my opinion was not requested till the disease had existed three or four days; and I found that whatever plan was pursued the event was generally disastrous. Bloodletting invariably sunk the feeble remains of life with great rapidity; a liberal allowance of wine and cordials was, if possible, more speedily destructive; and, although purgative medicines and a nutritious diet protracted, they seldom saved the life of the patient. Being fully aware of the inflammatory nature of the puerperal fever in the first instance, when called early I almost always ordered one copious venesection from a large orifice, cathartics daily, and a spare diet during the continuance of the urgent symptoms. In the main run, this practice succeeded, though now and then a solitary patient was lost, even when it had been commenced under the most favourable circumstances. From these facts, it clearly appeared that the complaint, when attacked in the commencement, was generally curable, but, when advanced beyond a certain point, almost always irremediable. It likewise forcibly struck me, that when purgative medicines failed to procure stools in the first instance, the disorder commonly gained so much power, in the time lost in their repetition, as to become uncontrollable. This naturally led me to give larger doses, that the bowels might, if possible, be thoroughly opened at an early stage of the disease. Having, however, witnessed some cases in which the aperient plan was not singly adequate to the cure, I was the more established in the opinion that both venesection and purgation were, in general, indispensably necessary. Thus far were my views extended when the puerperal fever, described in the beginning of this work, appeared at Sunderland in January last.*

The few cases which took place in the winter were simply inflammatory; without exception, they yielded to an antiphlogistic practice, and the majority of them to brisk purgation and a spare regimen. In the spring of the year, however, the disease became more frequent, and much more formidable, being attended with symptoms resembling those of a malignant typhus; and, in a little more than two weeks, five patients fell victims to its violence. Four of these cases having occurred in the practice of Mr. Gregson, and my opinion having been taken in three of them, it may readily be imagined, that a succession of such untoward events excited great anxiety in both our minds, drawing our whole attention to

* 1813.

this fatal malady. On reflection, however, we were sensible that we had done our duty, and followed, to the best of our judgment, the only plan of treatment upon which any rational confidence could be placed; and if we had anything to regret, with regard to ourselves personally, it was in not having carried the depletions sufficiently far during the first twenty-four hours of the attack.

Every review of these unfortunate cases tended to convince me, that bleeding and purging were the most promising remedies; and experience had taught me that even these would be inefficient, unless they could be brought to operate powerfully together on the disease in its first stage. Thus prepared, I determined to unite and carry venesection and purgation much farther than before, if any cases of the same kind should be again timely entrusted to my care; and an occasion soon offered itself which enabled me to put my determinations into effect, not only without opposition, but with the complete approbation of Mr. Gregson, the attendant surgeon, whose opinions were, in every respect, similar to my own.

The patient had not been ill longer than twelve hours, and the case seemed full as threatening as any of those which had ended unfavourably. Twenty-four ounces of blood* were immediately drawn from a large orifice, one scruple of calomel, suspended in mucilage, given immediately afterwards, and two ounces of a strong infusion of senna, containing two drachms of the sulphate magnesia, ordered to be taken every hour till copious evacuations should be produced; the attendants were directed to allow the patient barley water, agreeably acidulated with lemon juice, for a common drink and diet, and to withhold the smallest portion of solid food, or stimulating liquids. In about four hours the medicines began to operate, and several copious, dark, fetid stools were discharged; from that time considerable relief was obtained, and a regular perseverance in cathartics, with mucilaginous drinks, and a regimen of weak chicken broth, completed the cure in five days. Several cases of a similar description succeeded, and being treated upon the same principles, the result was always equally favourable; in some instances, however, it was found that more than a scruple of calomel was necessary to pass with the desired rapidity through the bowels, and the dose was accordingly increased to half a drachm, not only without danger, but with the most decided advantage. When the inflammatory symptoms were subdued, small opiate draughts or enemata were very useful in allaying the irritation of the system, and inducing quiet sleep; but they were always prejudicial in the commencement of the fever.

In addition to bleeding and purging, Mr. Gregson was induced, from an accidental circumstance, noticed in his communication, to prescribe antimonial emetics; and, on repeated trials, fully proved them to be excellent auxiliaries; never using them, however, till the patient had been freely bled or purged; and this is certainly the best way of administering emetics in puer-

* In all the cases, the blood drawn was covered with a buffy coat.

peral fever. Three very severe cases which I attended were treated by bloodletting, purging, and vomiting, successively employed in less than twelve hours, and the united influence of these remedies was certainly very striking — a complete change having been brought about in the circulatory system, and almost every symptom of inflammation and fever entirely subdued. But, for more accurate information on this mode of practice, I refer the reader to the communications of Mr. Gregson and Mr. Gregory, which will amply repay an attentive perusal.

Denman, Monsieur Doulcet, and other writers, have borne testimony to the usefulness of emetics in puerperal fever; and, though thinking favourably of them myself, when given in the manner above mentioned, notwithstanding I must confess that bleeding and purging are the two remedies in which my chief confidence is placed.

From accurate documents now before me, it appears that, from the first of January to the first of October, 1813,* forty-three distinctly marked cases of puerperal fever have occurred to five practitioners residing in Sunderland, and the adjacent parishes of Bishopwearmouth and Monkwearmouth; four of these gentlemen I met in consultation on different occasions; and I can assert upon the testimony of them all, united to my own, that only five cases out of the whole number terminated fatally. By comparing these facts with the reports as to the general fatality of puerperal fever, and by examining the evidences contained in the Appendix, the superior advantages of the practice pursued will be fully apparent.

The thirty-eight successful cases were all treated by copious depletions of one kind or other; and in twenty-nine of them, calomel was exhibited in doses of a scruple or half a drachm at the beginning, and occasionally repeated in the course of the distemper. For the most part, it passed so expeditiously along the intestinal canal that there were very few instances in which ptyalism was excited; and whenever this was the case, it seemed a favourable circumstance; all the patients, with only one exception, recovering with more than ordinary celerity from the time that the mouth became affected. And further, to illustrate the superior efficacy of large doses of calomel, it may be here remarked, that in none of the five cases which proved fatal more than fourteen grains of calomel were given on the accession of the fever; jalap, sulphate of magnesia, and castor oil, being the cathartics chiefly employed during its progress.

* The first eight pages of this treatise was sent to press in the beginning of August, when I imagined that the puerperal fever had disappeared; since that time, however, I have seen several cases; but have reason to believe that the disease has now, November 11th, 1813, entirely ceased, no instance having occurred from the 1st of October.

Independently of the number above-mentioned, Mr. Wolfe of Chester-le-Street, whose practice extends within a few miles of Sunderland, has seen several cases of puerperal fever in the same term; one of the severest of which I attended with that gentleman.

To a person in health, or but slightly indisposed, such an extraordinary dose as thirty grains of calomel would be followed by unpleasant and violent effects; but when the constitution labours under a febrile disorder of the infectious or inflammatory kind, calomel, given to a large amount, is not succeeded by disagreeable, but beneficial consequences; which shows that the operation of this remedy is materially influenced by the state of the system at the time of its administration. Indeed this must be apparent at first sight; in health, the violent operation of calomel would of itself produce a disease; but in fevers, especially in those increased by irritations of the primæ viæ, there is something in the morbid state of the system which prevents its distressing effects; and, as far as it does act, it has a direct tendency to diminish the febrile commotions; so that no reasoning from its operation, in ordinary cases, can, with propriety, restrain us from giving it with the greatest freedom in extraordinary cases. It is, however, merely as an aperient that I consider it serviceable in any acute disease; and I have been led to prefer it to every other, only because it is more certain and effectual in its oparation, though I have always endeavoured to quicken its action by combining it with other purgatives; my object in inflammatory affections being to produce a powerful effect in as short a time as possible.

Some years ago I believed the free exhibition of purgatives to be a very doubtful practice in inflammations of some of the abdominal viscera, imagining that they increased the general irritation without lessening the local disease, but more extensive observations have convinced me that I was in error, and emboldened me to give cathartics, in full and repeated doses, both in the commencement and course of gastric and enteritic inflammations; and my late success in puerperal fever has still further tended to increase my confidence in their medical powers.

My experience does not enable me to determine how far large doses of calomel, combined with other aperients, might be trusted to, independently of venesection, in the malignant puerperal fever; but in slighter attacks, active purgatives, opportunely administered, and diligently persevered in, will be found fully adequate to every purpose. In some few severe cases which took place in very weak, delicate women, venesection seemed altogether inadmissible, and calomel was prescribed, in large quantities, with the sulphate of magnesia and castor oil, and though the patients finally did well, their recovery was slow and doubtful for some time, and they had a strong tendency to hectic, long after the abdominal symptoms disappeared; whereas those patients who were copiously bled and purged, or bled, purged, and vomited successively, were usually convalescent on the fourth or fifth day; and, from that time, regained their health and strength rapidly.*

* My experience with respect to bleeding in puerperal fever, corresponded with that of Cleghorn in pleurisy. "It was remarkable," says that author, "to observe how quickly the sick recovered their usual health and strength, notwith-

My correspondent, Mr. Wolfe, whose opinions I greatly respect, relies principally upon the daily exhibition of purgative medicines, and his practice has been generally successful; which may be partly attributed to his discernment and his unremitting attention to the duties of his profession; the former enabling him to detect, and the latter to attack the disorder when first advancing. But, from repeated conversations which I have had with Mr. Wolfe, it would seem, that all the cases which have fallen under his observation have had the simple peritonitic characters only, and were, of course, divested of that malignity accompanying the fever particularly described, which, I am fully persuaded, will be found, with exceedingly few exceptions, to require a combination of the most powerful means which have been singly recommended and adopted by physicians of the first authority.

If some differences exist in the opinions of those gentlemen who have honoured me with their remarks, they all undoubtedly agree in principle, acknowledging, with one voice, the necessity of early and continued depletion, and only dissenting as to the means by which that ought to be effected. This agreement appears to lay the foundation for a fair inference in favour of the inflammatory character of puerperal fever, when those who have treated it successfully, in whatever else they may differ, accord in this, that it can only be overcome by the means constantly had recourse to for the removal of active inflammations.

In the treatment of puerperal fever, it will sometimes be found a point of great difficulty to determine with precision whether a vein should be opened or not. When called at any time within sixteen hours from the attack, I have hardly ever hesitated to order venesection, and have never dared to recommend it when the disease had continued longer than thirty hours. Dr. Gordon,* whose admirable treatise should be in the hands of every practitioner, bled with very good effect in some cases when the pulse was 160; but I have in no instance known the operation to be of the least service when the pulse had risen as high as 150; and in my practice, in all the patients who were materially benefitted by bloodletting, the pulse was under 140 in the minute.

It has, perhaps, been too much the practice to confide in one set of remedies in acute diseases, which may be most expeditiously removed by a series of antiphlogistic measures. Although strenuously insisting upon the utility of phlebotomy at an early period of

standing the great loss of blood they had sustained; while many, who had been bled more sparingly, continued in a languid, infirm state for months."

"This was precisely the case in the puerperal fever, with this difference only, that those who were sparingly bled, instead of having slow recoveries, did not recover at all."—*Gordon*, ante, p. 65.

* Dr. Gordon, I have very lately been informed, died about three years ago; and, in justice to his memory, I cannot but express it as my opinion that his Treatise on Puerperal Fever is one of the most valuable which ever appeared upon the subject, though, in some practica lpoints, it is certainly defective.

the first stage, yet it was never my intention to affirm, that it is of itself equal to the removal of puerperal fever; on the contrary, I feel it my duty to declare, that it has generally failed in my hands, unless followed by powerful cathartics. In confirmation of this, I also find on inquiry, that the patients of those authors who adopted an antiphlogistic method of treatment, whatever might be the quantity of blood drawn, almost invariably died, when the purgatives ordered did not act at all, or only operated imperfectly.* It is not, then, simply bleeding and purging in which I have so much confidence, but in copious bleeding, immediately succeeded, and diligently followed up, by copious purging; or, in other words, in the powers of these two remedies exerted on the disease at the same time.

The quantity of blood drawn at once in puerperal fever should seldom be less than twenty-four, and, perhaps, never more than thirty ounces; but a repetition of venesection ought, if possible, to be avoided, though, occasionally, it may be absolutely necessary; and when this is the case, there should be as short an interval as possible between the first and second bloodletting. If the first bleeding has been very large, the second should hardly ever exceed twelve ounces; but if the patient, as sometimes happens, faint under the first operation when only four or five ounces of blood have been taken away, unless there be an abatement of all the urgent symptoms, another vein ought to be opened, after the lapse of one or two hours, and about twenty ounces abstracted in a full stream.

The ingenious Darwin† suggests small, repeated bloodlettings; but, as far as I have remarked, they are exceedingly prejudicial, sinking the strength of the patient, without subduing the disease. Immediately after venesection, half a drachm of calomel should be given in mucilage of gum arabic, or in the syrup of sugar, and speedily purged off with the sulphate of magnesia, or castor oil; allowing the patient to take moderately of bland mucilaginous drinks during and after the operation of these medicines.

It has already been noticed, that puerperal fever often remits at the beginning of the second, and at the end of the third day; and, as such a calm is often the prelude of another and more serious attack, the purgatives should, on no account, be intermitted till after the third day; indeed five or six very copious motions should be daily procured, till the pain and tension leave the abdomen, the pulse become slow, the skin moist, the tongue clean, the respiration easy, and the stools natural. The quantities of excrement discharged in the course of this complaint are usually so very great, that nurses, and even patients themselves, often strenuously oppose a regular perseverance in the use of laxatives, conceiving that such

* The reader will find several instances of this kind in the writings of Leake and Gordon.

† Zoonomia, vol. iii., p. 492, third edition, London, 1801.

extraordinary evacuations can neither be necessary or useful; but appeals of this nature must never turn the practitioner from his purpose; and so long as there are pain and tension of the abdomen, a quick pulse, and dark fetid stools, he must steadily proceed, unsubdued by remonstrances, however urgently made; and should not even hesitate to risk his own professional reputation by the boldness of his practice, if it afford the patient the least chance of recovery.

During the rigors or shiverings which usher in the first stage of puerperal fever, an aperient enema should be first ordered, and a brisk purgative afterwards, with moderate portions of tepid gruel; all kinds of diffusible stimuli ought to be expressly prohibited, for even then they are extremely pernicious; and it is surprising that they should have been so strongly recommended at this period of the disease by many sensible writers. The rigors having once abated, and the disorder become more completely developed, no time ought to be lost in cutting it short by the practice already laid down.

Whenever there are any reasonable grounds to suspect that the state of inflammatory excitement is passed, or upon the point of declination, every thought of venesection ought to be abandoned, for the abstraction of blood might then be imminently dangerous. If anything can save the life of the patient under such circumstances, it is the active perseverance in purgative medicines with an invigorating diet. Speaking from my own personal observation, I do not know the period of the disease in which cathartics can be omitted, without considerable hazard; they are indispensably requisite in the first stage, and I have seen them occasionally succeed when the disorder seemed advanced into the second. The system is uncommonly susceptible of stimulants, such as strong wine and cordials, in the second stage, and, if freely administered, they generally soon destroy the patient, whose remaining powers are best supported by milk, nourishing broths, and the like.

The case communicated by Mr. Tulloch will be found worthy of particular attention, as it strikingly illustrates the benefit derived from the aperient plan, under the most unpromising appearances.

When the stomach, as occasionally happens, is so excessively affected in the commencement of puerperal fever, that almost everything taken is immediately rejected, the case may be considered violent, and strongly indicates the necessity of bloodletting, which at once lessens the disorder, and allays the consequential irritability of that organ. In such instances, calomel, in the dose of a scruple or half a drachm, mixed with mucilage or syrup, is by far the best formula,* and it ought to be repeated at such intervals

* "Si ventriculus, nimia irritabilitate, medicamenta retinere nequit, ad enemata confugiendum est; et post evacuationem hoc modo factam, ventriculi irritatio plerumque adeo sedatur, ut retinere possit quæ antea rejecisset. Medicamenta minime ingrata eligenda sunt; et submurias hydrargyri, quoniam parva quantitas pro dosi sufficit, utilissima est. Quum mihi visum est purgatione opus esse,

as the practitioner finds expedient, till plentiful dejections succeed, after which the sulphate of magnesia, given with the infusion of roses,* will prove one of the most agreeable and useful purgatives. The bowels having been completely and frequently opened, the sickness almost always ceases, and the cure may then be conducted without more than ordinary risk or impediment. Examples of the above nature, according to the observations of Mr. Gregson, do not form objections to the use of antimonial emetics, after venesection and purging, though I have never prescribed them myself under such circumstances.

Blisters, I suspect, have incurred, like some other antiphlogistic remedies, an unmerited censure from having been too frequently applied in the second stage of puerperal fever, in which they rather increase than diminish the disease, by exciting a general irritation; but, in the commencement of the disease, large blisters, covering the surface of the abdomen, may be had recourse to with advantage. Since, however, I have bled and purged so freely, I have hardly ever found it necessary to prescribe blisters to the abdomen; though, in cases where the respiratory organs are much oppressed from the beginning, I never scruple to order them to the chest, suspecting that the pleura participates in the inflammatory action.

Hippocrates seems to have used the cold affusions in puerperal fever;† if at all admissible, they can only be so in the first stage, when the skin is preternaturally hot and dry; having never tried them myself, in this complaint, it neither becomes me to advise nor condemn their application, but, recommended by such authority, they, at least, deserve the consideration of future inquirers. The warm bath has been said to be very beneficial, and although I have seen it of some service, after bleeding and purging, yet the fatigue which it necessarily occasions the patient is a strong objection to its general use.

When the pain is very severe, flannels, wrung out of hot water, applied to the belly, as warm as the patient can bear them, sometimes afford considerable temporary relief; and, being satisfied with their effects, I have never ventured to try cold applications, notwithstanding they have been favourably reported by a very

aliaque remedia rejecta fuerant, ob ventriculi magnam irritabilitatem, inveni submuriatem hydrargyri cum pauxillo syrupi datam, effectum exoptatum edere. Licet enim occurrat vomitus, submurias hydrargyri, ut syrupo gravior, subsidet, et minus facile rejicietur, quam si forma pilulæ vel boli exhibetur."

The above is an extract from the twenty-first page of an elegant Inaugural Dissertation on Hematemesis, by my experienced and judicious friend, Dr. Noel Thomas Smith, now Physician at Newcastle-upon-Tyne.

* The infusion of roses, prepared with the diluted sulphuric acid, according to the London Pharmacopœia, covers the taste of the sulphate of magnesia better than anything else.

† "Pour water upon a woman in a puerperal fever attended with pain."—Book Second, p. 63, of the *History of Epidemics*, by Hippocrates. Translated into English by Samuel Farr, M.D., F.R.S., London, 1780.

judicious physician;* but I must here observe, once for all, that fomentations, blisters, scarification and cupping, every species of topical application, and the warm bath, are only secondary means at the best, and ought not for a moment to make the practitioner lose sight of the main part of the treatment, viz., copious venesection, and early, active, and repeated purging.

The patient should be lightly covered, the linen daily changed, and the room frequently ventilated, the temperature of which should never exceed 60° of Fahrenheit. Light and noise ought to be guarded against as much as possible, for even the burning of a candle, or the ticking of a clock might prevent sleep, and prove the cause of additional irritation.

When a fever is known to be contagious, many practitioners object to the bare proposal of general depletion, and especially when such an affection attacks a woman in childbed, the exhaustion induced by delivery, and the additional debility supposed to be the consequence of contagion, strongly inclining them to adopt the gentlest measures. But, if we consider that there is a great change produced upon the system by the return into the circulation of a portion of the blood which supported the fœtus, that the weakness succeeding parturition, so far from preventing, is the very state in which phlogistic diseases most readily take place, and, above all, that puerperal fever is invariably attended by an active abdominal inflammation, which the suppression of the milk and the lochia tends to support, no vain fears of the debility from parturition and contagion should deter us from depletion, the only remedy in this formidable malady. It is not, however, in the partial adoption of the means recommended, that success will be found; small bleedings and gentle purging may weaken the patient, but will not remove the disease; whereas, large bleedings and active purging will subdue the disease, and leave nothing but mere debility to be counteracted.

It is a profound observation of Baglivi, that those fevers called malignant are generally connected with latent inflammation of some of the viscera, which passes into suppuration or gangrene when venesection has been omitted. In a future publication, I shall attempt to prove, that this observation may be justly extended to the worst species of typhus, and other contagious disorders, yet it is more particularly applicable to all the forms of puerperal fever.

My experience in this complaint is so far conclusive, that I have repeatedly witnessed it under all its varieties, from the most simple peritonitic to the most complicated typhoid puerperal fever; and every fact which has come before me has tended to establish this principle — that in proportion as the disease increases in malignity, the greater is the demand for early and copious depletions.

Before concluding this interesting subject, I beg leave most

* See a Paper by Thomas Sutton, M.D., in No. XXXV., p. 318, of the Edinburgh Medical and Surgical Journal.

earnestly to advise practitioners of midwifery to visit their patients very frequently, for several days after delivery, and narrowly to observe the state of the pulse, tongue, stomach, bowels, and skin; for such attentions will always be satisfactory, and often enable them to perceive the most insidious approaches of puerperal fever. And it ought never to be forgotten, that it is in the provident anticipation of disease the medical man most strikingly shows the force of his understanding and the efficacy of his art.

APPENDIX.*

I.

THE CASE OF MRS. A——, AGED 32, TREATED BY BLOODLETTING AND PURGING.

April 5th, 1813.

Mrs. A——— was delivered on the 3d of April of her sixth child, after a natural and easy labour; the placenta was cast off in less than an hour, and a moderate discharge of the lochia succeeded.

On the morning of the 5th, she had a slight attack of fever, and here pulse rose to 100 in the minute. Her bowels not having been moved since her delivery, six grains of calomel, and a purgative mixture, containing an ounce and a half of the sulphate of magnesia, were prescribed by her accoucheur, but they failed to operate, and in the evening she became considerably worse.

The pulse was then 130 in the minute, the thirst urgent, the skin very hot and dry, the face flushed, the breathing hurried, the milk and lochia suppressed, and the whole surface of the belly extremely tender and painful to the touch. The patient was afflicted with constant nausea and retching, lay upon her back, tossed her arms from one part of the bed to another, and sighed very frequently.

Twenty-four ounces of blood were drawn from a large orifice, which occasioned syncope. One scruple of calomel was administered, about a quarter of an hour afterwards, in a draught of

* Intending to publish several communications which will much illustrate the principles laid down in this work, and not wishing to swell it into a large volume by superfluous repetitions, I shall only insert three cases, by way of more fully detailing the treatment of puerperal fever.

mucilage, and the same dose directed to be repeated in about four hours, if the first should not operate very freely. A spare regimen was strictly enjoined.

April 6th, 7 o'clock in the morning. — The blood drawn the night before was very sizy; both the draughts had been taken, and six large fetid stools procured. The patient felt much relieved; her pulse was reduced to 118 in the minute, but there was still pain and tenderness over the abdomen.

Two drachms of the sulphate of magnesia were ordered to be taken every two hours, till the bowels should be four or five times loosened.

Evening, 8 o'clock. — The patient took about eight drachms of the sulphate of magnesia, and had seven copious liquid stools. Her pulse was only 100 in the minute, and the pain and tension of the belly considerably diminished.

From this time the patient was convalescent; but mild purgatives were daily prescribed till the 9th, after which no medicines were required.

THE CASE OF MRS. R———, TREATED BY BLOODLETTING AND PURGING.

June 4th, 1813.

Mrs. R. ——, a stout, young woman, in the twenty-eighth year of her age, was delivered on the 2d of June. She had a natural and easy labour, and seemed to be recovering extremely well, till very early on the morning of the 4th, when she was seized with shiverings, speedily followed by headache, nausea, and retching. At noon of the same day, about ten hours after she first felt indisposed, I was requested to visit her; the pulse was then as high as 134 in the minute, the skin pungently hot, the tongue white and dry, the milk and lochia almost entirely suppressed, the urine passed with some uneasiness, the breathing much quickened, the abdomen tense, and so sore that the weight of the bed-clothes could not be borne upon it; her countenance was very anxious, and she complained of great oppression, pain, and weakness.

Twenty-four ounces of blood were ordered to be drawn immediately from the arm, and one scruple of calomel, mixed in mucilage, to be given directly after venesection, and two drachms of sulphate of magnesia, with an ounce and a half of the infusion of roses, every hour till five or six copious stools should be procured. Barley water, thickened with a little isinglass, was allowed as a common drink and diet.

Evening, 6 o'clock. — The blood abstracted had a firm crassamentum, which was cupped and sizy. The patient had passed only three scanty, fetid evacuations, and did not appear much relieved, the symptoms being nearly as urgent as at the last visit.

Twelve ounces of blood were directed to be taken away immediately, twenty grains of calomel prescribed, and a mixture, com-

posed of an ounce and a half of the sulphate of magnesia and six ounces of the infusion of roses, two table-spoonfuls of which were ordered to be taken every hour, after the exhibition of the calomel, till the bowels should be frequently and plentifully opened.

June 6th, 6 o'clock in the morning. — The blood drawn last evening was covered with a buffy coat. The whole of the medicine had been taken, which produced seven large, dark, loose stools. The patient was very considerably better; her belly felt soft, and she could bear pressure with very little inconvenience. The skin was warm and moist, and the pulse reduced to 100 in the minute.

An anodyne enema, containing 120 drops of the tincture of opium, was directed to be injected immediately, and the common neutral mixture to be taken in the course of the day, with weak chicken broth as a diet.

Several hours of sleep were procured by the anodyne enema, and from that time the patient might be considered convalescent, but her bowels required to be kept open by castor oil, for five or six days longer.

This case being extremely violent, and the patient of a plethoric habit, a repetition of bloodletting appeared admissible, and it certainly had an excellent effect.

THE CASE OF MRS. B———, AGED 30, TREATED BY PURGING.

June 6th, 1813.

Late on the 4th of June, Mrs. B—— was safely delivered of her third child, and continued tolerably well till the 6th, when she was attacked by a shivering fit, followed by increase of heat, oppression at the præcordia, restlessness, thirst, quick breathing, suppression of the milk and lochia, great pain, tension, and extreme tenderness of the belly, with a small, hard pulse, exceeding 120 in the minute. Her urine was scanty, and passed without much inconvenience.

Half a drachm of calomel was prescribed in mucilage, and half an ounce of castor oil directed to be taken every hour, in a little warm coffee, till the patient should be plentifully purged. An antiphlogistic regimen was ordered.

Four doses of the castor oil were taken after the calomel. In the course of the day twelve copious, dark, fetid stools were procured, and an evident diminution of the disease took place.

7th, 6 o'clock in the morning. — The patient had two more evacuations from the medicines, but, notwithstanding, passed a restless night. The pulse was 120 in the minute, the surface very hot, the tongue dry, and the abdomen tense and painful on pressure. A scruple of calomel was prescribed, and the castor oil ordered every hour as before.

Eight copious stools were produced in six hours; the pain and

tension of the abdomen were greatly lessened, and the pulse had fallen to 110 in the minute.

This patient continued to improve under the daily use of purgatives, and occasional small anodynes, though she recovered much more slowly than those who had been largely bled. She was of a delicate and strumous habit, and had a considerable lochial discharge after delivery; for which reasons purgatives were trusted to alone.

II.

LETTER FROM MR. J. T. GREGSON, SURGEON IN SUNDERLAND, ADDRESSED TO THE AUTHOR, CONTAINING TWO CASES OF PUERPERAL FEVER, AND SOME OBSERVATIONS ON THAT DISEASE.

Sunderland, November 1st, 1813.

Sir — From the beginning of January to the beginning of October in the present year, forty cases of puerperal fever have occurred in my practice: about twenty of those cases have been attended with me, or for me by my late assistant, Mr. Gregory;* and, I believe, that you have nearly attended an equal number with me. This gives me much satisfaction, because, in matters of this nature, collective testimony is always the most desirable and conclusive.

The disease was marked by such strong characters that it could not be easily mistaken; and I have been particularly mindful to exclude, from the above number, every case in the least degree ambiguous.

Of the forty patients afflicted with puerperal fever, four only died, and the remaining thirty-six are now living testimonies of the efficacy of the treatment adopted. The consideration of this latter circumstance is extremely consolatory, and, perhaps, it authorises me to say, that the success of the practice is unexampled in the records of medicine; and, likewise, confidently to hope, that the publication of your treatise on puerperal fever may be the means of saving many lives hereafter.

While only three solitary examples of this distemper occurred to some practitioners, and while it was unobserved by several others who lived in the same town, it may appear rather singular at first sight, that so many should have occurred to myself and my assistant. The cause of this I cannot pretend fully to explain; but I should be wanting in common liberality if I were to make any hesitation in asserting, that the disease which appeared in my practice was highly contagious, and communicable from one puerperal woman to another. For some time I was not aware of this important fact. The cases which under my care, with a few exceptions, took place among poor women, who lived in confined situations, and in small apartments, in which fires were kept for the convenience of large

* Now surgeon in Monkwearmouth.

families that, for the most part, had no other room to reside in. The heat and noise of these apartments, the want of ventilation, the constant succession of visiters to the sick persons, the pernicious custom of taking strong drinks and fresh diet, in utter disregard of professional admonitions, seemed to me, for some time, sufficient causes for the production of this fever; but its frequent occurrence seriously awakened my attention, and led me to discover that the causes above enumerated generally acted only as predisposing ones, and that the disease was excited and kept up by an infectious matter. It is customary among the lower and middle ranks of people to make frequent personal visits to puerperal women resident in the same neighbourhood; and I have ample evidence for affirming, that the infection of the disease was often carried about in that manner; and, however painful to my feelings, I must in candour declare, that it is very probable the contagion was conveyed, in some instances, by myself, though I took every possible care to prevent such a thing from happening the moment I ascertained that the distemper was infectious.

The puerperal fever has at length disappeared from my practice, and while I have deeply to lament the loss of four patients by it, yet I feel greatly consoled in reflecting, that its occurrence has led to practical results, which will most materially lessen its fatality in future.

As I understand that you have, in several parts of your work, very particularly illustrated the combined powers of copious bloodletting and purging, I shall select two cases, to show the efficacy of bloodletting, purging, and vomiting, used in quick succession, and conclude with some desultory observations.

Martha Watson, an unmarried woman, aged nineteen years, was delivered of her first child on the 31st of last July. Nothing unusual occurred either during or after the labour. This woman was healthy and robust, and of a passive disposition, and did not seem to feel the peculiar delicacy of her situation with that regret and anxiety which is so often observed under similar circumstances.

No symptom of disease manifested itself till the 2d of August, the third day after her delivery, when she was attacked with rigors, which were soon succeeded by severe pain in the abdomen, considerable febrile excitement, nausea, and vomiting. These symptoms continued to advance with increasing violence, but, notwithstanding, I did not receive the least intimation of the indisposition of this poor woman until the disease had existed fully thirty hours.

At nine o'clock of the evening of the 4th, I found her in great agony, complaining of a constant pain and burning heat in the belly, the surface of which was extremely sore; and there was, likewise, much abdominal tension. The skin was uncommonly hot and dry, the tongue foul and parched, the lochial discharge suppressed, the secretion of the milk much diminished, the breathing

quick and laborious, the pulse 136 in a minute; and, besides, there was incessant thirst, and constant nausea or vomiting.

Although, as previously stated, thirty hours had elapsed from the first attack, the urgency of the inflammatory symptoms induced me, even at this advanced period of the first stage, to use the lancet; and, accordingly, I took away twenty ounces of blood from a large orifice at the arm, which brought on some degree of faintness; immediately exhibited half a drachm of calomel in mucilage of gum arabic, ordered three drachms of sulphate of magnesia to be taken every hour, in a little gruel, until free and repeated fecal evacuations were obtained, and recommended the diet to be weak tea and thin gruel.

At five o'clock on the following morning, I made another visit, and found that the patient had been purged copiously upwards of twelve times by the medicines prescribed. The nausea and sickness had entirely ceased, and the intense pain subsided from the abdomen, which, however, was still very tender upon pressure. The thirst and other febrile symptoms were nearly the same as before, excepting that the pulse was softer. One grain of tartarised antimony was ordered to be given every hour until considerable nausea or vomiting supervened. No alteration was made in the diet.

Calling again about noon of the same day, I was informed that four grains of the antimony had been taken as directed, that full and frequent vomiting had been induced, and several liquid stools discharged. There was considerably less tenderness over the abdomen, and the pulse reduced to 126 in a minute. The sickness having quite abated, half an ounce of castor oil was prescribed, and the same quantity ordered to be repeated two hours afterwards.

By the evening, five more fecal evacuations had taken place, and there was then only a slight degree of tenderness remaining over the abdomen; the skin was warm and perspiring freely, and the pulse only 116 in a minute. The lochia had returned in considerable quantity, and was extremely offensive.

Forty drops of the tincture of opium was exhibited in the form of a draught, which gave some hours of refreshing sleep; and on the ensuing morning, the 6th of August, the patient might be pronounced convalescent; the pulse being very soft, and less than 100 in the minute. Gentle laxative medicines, however, were frequently repeated till the 10th, after which she very speedily recovered her strength.

Mrs. D——— was delivered of her first child, after a severe labour, on the 15th of August. Everything went on well till the 17th; in the morning of which day she had rigors, succeeded by headache, nausea, sickness, increased heat, thirst, white clammy tongue, a small vibrating pulse, upwards of 120 in a minute, suppressed milk and lochia, great internal heat and pain in the cavity

of the belly, and considerable tenderness of the abdominal integuments. The breathing was laborious, the countenance anxious, and the natural functions much oppressed.

Without delay, I took from the arm twenty ounces of blood, prescribed half a drachm of calomel, and small doses of sulphate of magnesia, and a spare diet, as in the former case.

Before night the patient was purged about ten times very copiously, and she experienced great relief. One grain of tartarised antimony was ordered every hour until it excited nausea or vomiting.

On the following morning, I found that the antimony had caused vomiting when the third dose had been taken, and that three motions by the bowels had occurred during the night. A complete remission was affected, the pain and tenderness quite removed from the abdomen, and the pulse soft and only 90 in a minute.

From the 19th till the 23d of August, this patient continued better, hardly any medicine, except gentle laxatives, being required. In the morning of the last mentioned day, however, she again became feverish, and the pulse, in a few hours, rose to 130 in a minute; and she was afflicted with constant and excessive pain in the abdomen. A scruple of calomel was ordered to be taken directly, and the belly to be frequently fomented with flannels wrung out of hot water.

The calomel did not operate, and at six o'clock in the evening the pain in the bowels was extremely urgent, the abdomen tense and very tender, the skin intensely hot, and the pulse small and 160 in a minute. Conceiving that a repetition of bleeding was now contraindicated, I ordered half a drachm of calomel to be exhibited immediately, and half an ounce of castor oil every hour afterwards until it operated freely on the bowels.

At a very early hour in the morning of the 24th I visited this patient, and was much gratified to find that the calomel and four doses of the castor oil had caused eleven dark coloured stools, and produced a remission of all the urgent symptoms, and a return of the lochia. The pulse was 140 in a minute, and some degree of abdominal tenderness still remained. A grain of tartarised antimony was given every hour; and, after having been repeated three times, it occasioned free vomiting.

At night the pulse was reduced to 118 in a minute, the skin was warm, and in a state of free perspiration, and the abdominal tenderness removed. The sickness had quite abated, and five or six more fecal evacuations had taken place in the course of the day. With a view to procure rest, an enema, which contained 120 drops of the tincture of opium, was administered.

The patient had a good night, and next morning was in every respect convalescent; but, notwithstanding, her bowels were kept in a lax state for several succeeding days by small doses of castor oil; and an opiate was occasionally prescribed for the purpose of allaying irritation.

The last case manifests the necessity of constant vigilance on the part of the practitioner, even when a remission has been effected, and shows that however desperate the circumstances may be they are not always absolutely insurmountable. If diffusive stimuli had been resorted to, under an idea of sustaining the apparently sinking powers of the system, I have not the least doubt but that the patient would have been lost. Evacuations saved her, because they removed the inflammation which was verging towards a fatal crisis by oppressing and impeding the vital functions.

From long experience, Denman advises antimonial emetics, which have, nevertheless, been prohibited in puerperal fever by some later systematic writers; hardly any of whom, however, appear to reason from facts; and the greater part raise objections to the use of emetics, merely because they cannot perceive in what manner such remedies can be of service. Without speculating on the subject, it is enough for me that I have seen them really beneficial after bleeding and purging; nor shall I attempt to explain their mode of operation, although I must confess that they have always seemed to me to produce their good effects by reducing the morbid force of the arterial system.

My attention was particularly turned to the usefulness of emetics from an accidental occurrence in a case in which purgative medicines had been given to a considerable extent, without completely relieving the pain and tenderness of the abdomen; which, however, were soon removed by free vomiting, occasioned by a large dose of calomel combined with jalap. And from that period I have repeatedly used antimonials, with the intention of exciting nausea or vomiting, when bleeding and purging, or when purging alone, had been premised.

The forty cases of puerperal fever which took place in my practice this year, were treated by the antiphlogistic method; a few cases by purging simply, and all the remainder by bleeding and purging, or by bleeding, purging, and vomiting, used in the manner previously specified.

From remarks diligently made at different times and occasions, I have long believed that the simple peritonitis of childbed women is nothing more or less than a variety of the low infectious puerperal fever, and that they ought to be classed and treated as the same disease. My whole experience in an extensive practice of midwifery in the middling and inferior classes of society, and more particularly that of the last ten months, has left me without a doubt upon this point.

The generality of the cases which fell under my care, in the present year, were attended by as great apparent lassitude and prostration of strength as ever I beheld in the common typhus gravior; but conceiving that an acute local inflammation was going forward in a vital part, I was induced to place my sole reliance upon depletion, which, when very freely employed in the beginning of the disease, never failed to answer my utmost expectations.

Bleeding may always be employed in the first stage of puerperal fever, with much benefit, and I believe that it has been brought into disrepute from having been used indiscriminately during the course of the disease.

From the rapid progress which this fever generally makes, the necessity of procuring as speedy a resolution as possible will be admitted at once; and, I conceive, that large doses of calomel are admirably calculated, in part, to fulfil that intention; they have been given in a great number of instances, and none but the most salutary effects have ever resulted from their exhibition; and I can, therefore, confidently recommend them.

After what you have written, it would be needless for me to enter more into details than I have already done; particularly as my chief object in addressing you at all, is rather to confirm the accuracy of your statements, than to offer any additional matter upon the subject that you have discussed.

I took short, but correct notes of most of the cases of puerperal fever as they occurred; if these should be of the least use to you hereafter, they are perfectly at your command for publication; and I consider you fully entitled to all the facilities that I can give to your undertaking, on account of the unwearied attention you paid to many of my patients who were afflicted with puerperal fever.

I am, sir, your obedient servant,

J. T. GREGSON.

To John Armstrong, M.D.,
Wearmouth Walk, Sunderland.

LETTER ON THE SAME SUBJECT, ADDRESSED TO THE AUTHOR, BY MR. R. GREGORY, SURGEON IN MONKWEARMOUTH.

Monkwearmouth, November 3d, 1813.

Sir — While acting as an assistant to Mr. Gregson, I witnessed, at different times in the current year, at least twenty cases of puerperal fever, the whole of which were forcibly characterised by great abdominal pain and tenderness, unusual celerity of pulse, high pyrexia, suppressed or diminished lochia and milk; and also by excessive debility and restlessness, such as attend the most severe kinds of typhus.

From all that I observed I was firmly convinced, that the fever was highly inflammatory in the beginning, and required the most rigid antiphlogistic practice. Every case that I saw more completely satisfied me of the superiority of the treatment made use of by you and Mr. Gregson.

With two exceptions only, the cases that I witnessed were treated by free venesection, large doses of calomel, and other purgatives; or by venesection and cathartics, with antimonial emetics; and though plentiful bleeding and purging certainly fulfilled every intention, yet antimonials seemed to me auxiliary remedies of considerable force in promoting a speedy resolution of

the disease. Where antimony excited vomiting, soon after free bloodletting and purging, I remarked that the complaint terminated sooner than in those cases where it only induced nausea.

The pain was mitigated, in every instance, by bloodletting, but permanent relief was not obtained in any case until the bowels were freely moved; and calomel, exhibited in doses of a scruple or half a drachm, answered that purpose extremely well, with the assistance of sulphate of magnesia or castor oil. Some practitioners will probably think such a quantity of calomel given at one time rather hazardous, particularly to a woman labouring under puerperal fever; but a little experience will soon remove their groundless apprehensions, and convince them of its inestimable value in this disease.

In no case whatever have I seen the smallest danger result from the use of such an unusual dose as above stated; on the contrary, it has always been most eminently beneficial, and the only inconvenience that can arise from its exhibition is an occasional ptyalism; yet this, in my opinion, is a very desirable occurrence, as the symptoms of the disease very rapidly receded in those cases where it took place from the repetitions of the large dose of calomel.

In the unavoidable absence of Mr. Gregson, some cases were left to my own management; and I made a point of bleeding till the patient was likely to faint; a circumstance which, I conceive, is of some consequence in checking the inflammatory action. It, likewise appeared to me, that half a drachm of calomel answered better than a scruple, because it acted much sooner and more effectually.

These are the principal facts that occur to me at present, which I hope you will find sufficient, as evidence of the success of your plan of treatment. From the notes in my possession, it would have been easy for me to have given you a minute detail of several cases, but having been informed by Mr. Gregson that he has addressed you at some length upon the subject, I have thought it better to be as brief as possible.

I remain, sir, your very obedient servant,

R. GREGORY.

To John Armstrong, M.D.

THE CASE OF CATHARINE BEWICK, WITH OBSERVATIONS, COMMUNICATED TO THE AUTHOR, BY MR. B. TULLOCH, HOUSE-SURGEON TO THE SUNDERLAND DISPENSARY.

Sunderland Dispensary, October 13th, 1813.

Sir — Agreeable to your request, I send you the detail of the case of Catharine Bewick, whom I was particularly desired to attend in labour. The important nature of the complaint induced me to make notes at every visit; and I trust that their accuracy, as to

fact, will be a sufficient excuse for the length to which they have extended this very interesting case.

My professional duties, as house-surgeon and apothecary to the Sunderland Dispensary, affording me very little leisure, these notes, with the observations attached to them, have not been arranged with that perspicuity that I could have wished; but I hope they will, nevertheless, tend to prove the great utility of the practice that was adopted and pursued at your suggestion.

I am, sir, with sincere respect, you very humble servant,

B. TULLOCH.

To JOHN ARMSTRONG, M.D.

Catharine Bewick, aged 19, unmarried, of a robust habit, after a severe labour, was delivered of her first child on Monday, the 23d of August, 1813. The placenta was thrown off about twenty minutes after the expulsion of the child; and though the discharge hitherto had been trifling, yet, in an hour, it became so considerable as to require the application of cold to restrain it.

On visiting her the next day, I found that she had passed a good night; her bowels had been freely moved from castor oil, administered before her delivery. There was neither pain nor tension over the abdomen, and she had passed her urine freely, and without the least uneasiness.

Being unavoidably called to a distance early on the morning of the 25th, I requested a professional friend to pay her a visit, on my account, in the course of the day. On my return in the evening, I was much concerned to hear from my friend that he had been called to her soon after I left home, and found her labouring under all the symptoms of puerperal fever, viz., anxiety, restlessness, prostration of strength, aching of the temples, hot skin, intense thirst, with a dry tongue, a pulse 120 in the minute and hard, great tenderness and tension of the abdomen, and suppression of the lochial discharge and of the milk.

On inquiry, the gentleman in attendance was informed, that at midnight, on the 24th, she was seized with a strong rigor, which lasted some time, and was succeeded by a hot fit, and all the febrile symptoms above enumerated.

Twelve ounces of blood were immediately drawn from the arm, a strict antiphlogistic regimen enjoined, and the following bolus and mixture prescribed: —

℞. Calomel, gr. x., Cons. rosæ, q. s. Fiat bol.

This bolus to be taken immediately.

℞. Sulph. magnes. ℥iv.; Infus. senn. tart. ℥xii.; Tart. antimon. gr. i. M. ft. mistur.

Four table-spoonfuls of this mixture to be taken every two hours until the bowels have been freely moved.

At 6 o'clock in the evening another visit was made; two very small stools had been procured; the abdomen was still tense and very painful on the slightest pressure, and the pulse 130 in the

minute. From the urgency of the symptoms, this gentleman was induced to draw sixteen ounces more of blood, and to direct a continuance of the purgative mixture.

Having returned from my journey at 9 o'clock, I immediately visited the patient with my professional friend, when we were both disappointed to find that the purgatives previously taken had failed to procure free evacuations; the pulse had risen to 160, and the anxiety, restlessness, heat, pain and tension of the belly were all increased.

At this period, Dr. Armstrong was first requested to see the patient; and it was agreed, in consultation, that half a drachm of calomel, in an ounce of mucilage of gum arabic, should be directly given, and the dose of the mixture repeated every hour.

At midnight another visit was paid; the patient had had several large stools, the pulse was now 140, the pain and tension of the belly were greatly relieved, and the anxiety, thirst, and restlessness considerably diminished.

The mixture ordered to be continued as before.

August 26th, 5 o'clock, A.M.—One stool having only been procured since last visit, ten grains more of calomel were given in a bolus, and the mixture continued.

7 A.M.—She has had two copious stools of the appearance of gruel; pulse 120, tenderness, tension, and pain of the abdomen diminished, countenance less anxious, tongue cleaner and more moist, thirst not so urgent.

To go on with the purging mixture, and to use a thin mucilage of gum arabic for a common drink.

12, noon.—Three more stools since last visit, symptoms as before. The mixture with the sulphate of magnesia was omitted, and the following directed in its stead:—

℞. Ol. ricini, ℥iii.; Vitel. ovi, q. s.; Aq. menth. ℥ix. M. ft. mistur.

Four table-spoonfuls to be taken every two hours.

9 P.M.—Three copious stools since last visit, symptoms still continue favourable. The purging mixture was omitted, and the following medicines prescribed:—

℞. Tart. antimon. gr. ii., Aq. pur. ℥vi. M. ft. mistur.

Two table-spoonfuls to be taken every two hours, if awake.

℞. Haust. anodyn. cum. Tinct. opii, gr. xxx.

This draught to be taken at bed-time.

27th, 9 A.M.—She has had a little sleep; no stools since last report; some slight increase of fever. The antimonial mixture to be omitted.

℞. Sulph. magnes. ℥ii.; Tart. antimon. gr. i.; Infus. senn. tart. ℥xi. M. ft. mistur.

Four table-spoonfuls to be taken every two hours.

8 P.M.—Three copious stools have been procured; the pain and tension of the belly nearly gone, but the former is still increased

by pressure; pulse remains at 120 in the minute, anxiety, heat, and thirst considerably abated. The laxative mixture was now discontinued, and the diluted sulphuric acid administered, as follows: —

℞. Muc. g. arab. ten. ℥viii.; Acid sulp. dilut. Ph. Ed. Syr. papav. errat. ää ℥i. M. ft. mistur.

Two table-spoonfuls to be taken frequently, in a little barley water.

The anodyne draught to be taken at bed-time.

28th, 8 A.M.—Has had a good night, pulse still 120, other symptoms as before. Weak chicken broth allowed.

The mixture with castor oil was repeated; of which four table-spoonfuls were directed to be taken every two hours.

9 P.M.—She has taken all the mixture, and has had five stools of a natural appearance; pulse 120; slight pain on pressure over the belly; perspiring freely, yet the skin is hotter than natural. The anodyne draught to be taken immediately.

℞. Aq. ammon. acet. ℥ii.; Aq. puræ, ℥vss.; Syr. simp. ℥ss. M. ft. mistur.

Two table-spoonfuls to be taken every two hours.

29th, 10 A.M.—She had had no sleep during the night; complains much of pain nearly in the situation of the right lateral ligament of the uterus; though she perspires freely, there is great heat of the skin; pulse has risen to 130, and is rather hard; has had one scanty stool, attended with some griping pain; anxiety, restlessness, and thirst considerably increased. The following injection was directed to be used immediately, and the sudorific mixture omitted: —

℞. Tinct. opii., gr. cx; Muc. g. arab., Aq. tepid. ää ℥iss. M. ft. enema.

12, noon. — Rather easier since the injection was administered; but the tenderness, tension, and pain of the abdomen have returned; the latter increased by the slightest pressure; pulse 130, tongue dry, intense thirst, aching of the temples, impatience of light and noise, great general heat of the whole surface, though there is a very free perspiration; countenance pale and dejected. The chicken broth to be omitted, milk and water gruel allowed.

Repet mistur. cum sulph. magnes.

Four table-spoonfuls to be taken every half hour, until the bowels are freely opened.

9 P.M.—All the mixture has been taken; no stools; pulse 135, great restlessness, intense thirst, countenance extremely solicitous, respiration short and quick; the other symptoms as at last report.

℞. Ol. ricini, ℥iss.

The castor oil to be taken directly, in a little warm coffee.

11 P.M. — No stools, pulse 140, small and compressible; in other respects the patient was much the same as when last visited.

Warm fomentations were ordered to be applied to the belly, a

common purgative enema injected directly, and a scruple of calomel suspended in mucilage was then administered.

30th, 7 A.M. — Has had five very copious stools since last visit, of a much darker colour than before; she feels greatly relieved; the pulse has came down to 120 in the minute, and is more free; less heat of the surface, tongue more moist, countenance more composed, the pain of the right side is still severe, and more especially so when she is moved, or when pressure is applied. Slight ptyalism first observed.

6 P.M. — Since last visit she has taken five drachms of the compound powder of jalap,* and has had three stools; pulse 130, great heat of the skin, though there is a general perspiration; pain of the side the same, great thirst, restlessness, and anxiety; in other respects as at last report.

The anodyne enema was again directed to be used immediately.

She was visited again at 10 P.M. — Pulse 136, other symptoms as before; no sleep had been procured, though the enema was retained.

Three table-spoonfuls of the following mixture were ordered to be taken at 2 P.M. if awake, and repeated every two hours: —

℞. Sulph. magnes. ℥ii.; Aq. menth. pp. ℥viii.; Pulv. jalap. ℈ii.; Tart. antimon. gr. ii. M. ft. mistur.

31st, 8 A.M. — Has slept several hours, and is rather more composed, pulse 130, heat and thirst less urgent, sensation of the head nearly as before; a part of the mixture taken; no stools. The mixture to be continued.

8 P.M.—At noon, all the purgative mixture having been taken without effect, an ounce and a half of castor oil was given, which has procured four dark coloured stools; pulse 125: in other respects the same.

℞. Pulv. ipecac. comp. gr. xii.; Aq. menth. ℥i. M. ft. haust.

This draught to be taken at bed-time.

September 1st, 8 A.M.—Has had little sleep; pulse 125; other symptoms as before. The anodyne enema was ordered to be injected directly, and four of the following pills to be taken every six hours: —

℞. Mass. pilul. colocynth. cum Aloe, ℥i. In pilul. xii. dividend.

8 P.M.—Has had no stools during the last twenty-four hours; pulse 130, considerable heat of the skin, countenance extremely anxious, much pain on pressure over the abdomen. The laxative pills to be omitted, and ℥i., of the compound powder of jalap to be taken directly, and ℥ss. every two hours after, until the bowels have been freely moved.

* This powder is a preparation of the Sunderland Dispensary, and is composed of equal parts of jalap and supertartrite of potass.

2d, 9 A.M.—After taking ʒiiss. of the compound powder of jalap, her bowels were moved four times, the stools were copious and feculent, and she afterwards had three hours sleep. Pulse 125, other symptoms as before. Beef tea, chicken broth, and milk allowed to be taken freely.

8 P. M.—Pulse 130, tongue dry, great thirst; heat, restlessness, and anxiety much increased; a general uneasiness over the belly, with tumefaction and pain, the latter increased by pressure; considerable confusion of thought, with a more urgent uneasiness of the head. No stools since the morning.

An ounce and a half of castor oil was immediately given in warm coffee.

3d. 8 A.M. After having had four evacuations she had some disturbed sleep; pulse 140; countenance pale, anxious, and dejected; impatience of light and noise; tongue dry, intense thirst, short wheezing respiration, profuse perspirations, which do not reduce the heat of the surface; considerable enlargement, with tension and tenderness of the belly, which feels as if an effusion had taken place into the cavity. The beef tea and chicken broth to be omitted, and milk and gruel substituted.

℞. Calomel., gr. xxiv.; Muc. g. arab., ʒi. M. ft. haust.

This draught to be taken directly.

℞. Sulphat. magnes., ʒiiss.; Infus. senn. tart., ʒxi. M. ft. mistur.

Four table-spoonfuls every hour until the bowels have been freely moved.

8 P.M. She has had five very copious stools, which contained *many small pieces of dark-coloured scybala;* pulse 125; heat, thirst, restlessness, and anxiety greatly relieved; swelling and pain of the abdomen considerably less. Four table-spoonfuls of the purging mixture to be taken every two hours, if awake.

Soda water for common drink.

4th. 8 A.M. Has had a sleepless night, owing to the frequent operation of the purgatives; pulse 120, countenance not so much depressed, swelling and tenderness of the belly quite gone; still some wheezing in respiration; no pain or tightness of the chest; tongue cleaner, thirst urgent; stools dark and copious, with flocculæ of a whitish appearance floating on the surface. The purging mixture to be discontinued.

8 P.M. Three stools since the morning, similar to those last described; abdomen free from pain; the peculiar confusion and aching of the head continue nearly the same; and there is a degree of deafness on the left side; pulse 130, wheezing in respiration rather more troublesome since last visit.

℞. Opii, gr. i., in pilul. ii. dividend.

One to be taken directly, and the other in four hours, if sleep is not procured.

℞. Acet. scillæ, ʒii.; Muc. g. arab. ℥ii.; Aq. puræ, ℥vss.; Syr. simp., ʒii.; Tinct. opii, gr. xxv. M. ft. mistur.

Two table-spoonfuls to be taken frequently.

5th. 8 A.M. Has had very little sleep; pulse 120; heat, thirst, and anxiety considerably diminished; two stools of a feculent appearance; wheezing less troublesome, slight cough, no pain about the chest. Ordered to drink freely of beef tea, chicken broth, and milk, and to take a wine-glassful of ale every two hours.

The pectoral mixture to be continued as before.

℞. Decoct. cinchon. peru. ℥viii.; Acid. sulph. dilut. Ph. Ed. ʒi. M. ft. mistur.

Two table-spoonfuls to be taken every four hours.

℞. Extract hyosciam., gr. iii.; Pulv. ipecac., gr. ss.; Cons. rosæ, q. s. Ft. bol.

The bolus to be taken at bed-time.

6th. Still convalescent; pulse 110, tongue cleaner, three stools, no uneasiness of the belly, appetite returning; still complains of the wheezing and the headache, though these symptoms are rather relieved.

9th. From the 6th to the 8th nothing of consequence occurred; the medicines were continued; she then complained a good deal of the cough and oppression about the chest without pain.

App. emp. lyttæ sterno.

10th. Cough and oppression of the chest much relieved, bowels regular, appetite improving. The bolus and pectoral mixture were omitted, and the decoction of bark, with a gentle laxative, continued.

From this period she recovered very fast, and in about a month was so well as to be able to return to her ordinary employment as a menial servant.

It will appear, from the minutes of the above case, that the disease had existed rather more than ten hours before medical aid was procured, and that it had then put on a very alarming appearance.

It is now the opinion of the medical gentleman who visited the patient during my absence, that the first bleeding was too small, and that the dose of calomel first prescribed was not of sufficient quantity to insure that speedy and complete evacuation by the bowels, so necessary under such pressing circumstances; and to the inefficiency of these means he is inclined to attribute the protraction of the complaint. This avowal of my professional friend is undoubtedly very liberal, especially as his practice was more active than that generally had recourse to in puerperal fever.

Though in the first day of this patient's illness she took ten grains of calomel and rather more than three ounces of the sulphate of magnesia, yet they only occasioned two very scanty stools; and this fact points out the necessity of giving extraordinary doses of purgative medicines in the commencement of this disease, as early

and free evacuations are essentially requisite to reduce the abdominal inflammation.

It will be observed, that the half drachm of calomel, prescribed at ten in the evening of the 25th of August, aided, perhaps, by the purgatives previously taken, operated briskly in little more than two hours, and produced a striking alleviation of the disease; and, furthermore, that the patient, from the use of purgatives, continued, upon the whole, in an improving state until the morning of the 29th, when there was an evident recurrence of the violent symptoms.

On account of the extreme anxiety and uneasiness of this poor woman, it was thought advisable at that period to order the anodyne enema, to obtain, if possible, a temporary respite from the pain and general irritability of the system; which intention being in some degree effected by the injection, the purgative medicines were again persevered in without loss of time. So great was the torpor of the bowels, that two ounces of the sulphate of magnesia and an ounce and half of castor oil produced no effect upon them; for which reason a scruple of calomel was administered; and it soon purged the patient freely, and considerably mitigated the urgency of the disease; which, nevertheless, at times, became very severe, and that more especially on the 3d of September, when it seemed to be hastening fast to a fatal termination; but another large dose of calomel was given, in conjunction with the sulphate of magnesia, and, operating powerfully, it effected a most remarkable change for the better; and, what is rather extraordinary, brought away several dark-coloured scybala, which from their appearance had been retained in the bowels for a considerable length of time, notwithstanding the large quantity of purgatives previously exhibited.

The recovery of this young woman will, perhaps, be thought the more remarkable when it is made known, that before her confinement she was affected with uncommon anxiety of mind, caused by the loss of a good moral character; and, throughout the whole continuance of her complaint, imagined that she could not possibly survive. Moreover, the place of her abode was a very small ceiled garret, situated in one of the most unhealthy and noisy parts of the town; so that this, with many other concurring disadvantages, contributed to aggravate the disease, and render her situation the more critical.

III.

LETTER ADDRESSED TO THE AUTHOR, BY MR. J. WOLFE, SURGEON IN CHESTER-LE-STREET, NEAR DURHAM.*

Chester-le-street, August 4th, 1813.

DEAR SIR — In reply to your inquiries, I beg to inform you that

* In the course of his inquiries, the author received this and the following letter; and, as they contain many valuable hints on puerperal fever, he has, with the permission of the writers, inserted them.

since last January several cases of puerperal fever have fallen under my observation, but none of them were so severe as the case of the lady whom you lately attended with me in the neighbourhood of Chester-le-street. Since you appear to wish me to give you some account of my general method of treatment, rather than details of particular circumstances, I shall endeavour to comply with your request in as few words as may be.

Whenever I find that any patient after her labour has a very quick pulse, hot skin, thirst, oppression, abdominal pain and tenderness, I immediately open her bowels freely with calomel, castor oil, or infusion of senna, and occasionally assist the operations of these medicines by a cathartic enema, to procure speedy evacuations. If, after the contents of the lower part of the bowels have been dislodged, the stools are of a dark-brown colour, resembling coffee-grounds, very copious, of the consistence of thick gruel, and of a fetid smell, I am led to suspect the existence of puerperal fever, and continue the laxative medicines in order to obtain several free stools daily, till the peritoneal pain and tenderness are considerably abated, and the pulse diminished in frequency; occasionally, however, I prescribe an anodyne draught at bed-time, or an anodyne injection, to suspend the action of the intestines and procure some ease and rest.

During the last sixteen years, I have always trusted to very copious purging for the cure of puerperal fever, and to effect my purpose have often been obliged to keep the bowels very free for several days successively; and in some severe cases even for two or three weeks before the symptoms of the abdominal inflammation have completely subsided. In short, I am never afraid of my patients having too many stools, as long as abdominal pain and tenderness and fever continue. When I examine the alvine discharge, I do not expect to find ordinary stools, but evacuations of a peculiar nature, and am often obliged to explain this matter to nurses, who are in general greatly alarmed at so much purging.

From the commencement of the complaint to its termination, I have almost always observed that the stools have not had a natural appearance, and frequently that hard scybala have only been discharged when the stools were becoming natural towards the end of the disease. As it has always been my custom to inspect the evacuations, I know from experience that I can detect the presence of puerperal fever by their appearance and consistence, taken in conjunction with other symptoms described in the former part of this letter.

Having been accustomed to treat the puerperal fever solely by active purging, I can speak decisively in favor of that mode of practice; nor do I recollect that I ever made use of the lancet, except in one case attended with symptoms of acute hepatitis, in which plentiful bleeding from the arm produced a remarkably good effect.

It has sometimes happened in my practice that one brisk purge only has been necessary in the beginning of the complaint; but

in those cases the free evacuation of the unnatural stools went on for several days, and, like a kind of spontaneous diarrhœa, carried off the disease.

Though I said above that I treated the complaint solely by purging, yet I do not omit to give the saline mixture in the state of effervescence, when sickness or vomiting take place, and afterwards continue it as a febrifuge.

The late Dr. Clarke of Newcastle relied entirely upon the purgative plan of treatment, and I freely acknowledge that I first made use of it at his recommendation, having had the good fortune to attend a patient labouring under puerperal fever with him, at the commencement of my obstetric practice.

My practice in puerperal fever has been generally successful, but, as I always see my patients very often after their delivery, I have had it in my power to combat the disease in its first attack; which circumstance gives the practitioner great advantage, and to which I am partly inclined to ascribe the fortunate result of the cases that have come under my care.

I am, dear sir, yours, very truly,

JOHN WOLFE.

To John Armstrong, M.D.

LETTER ADDRESSED TO THE AUTHOR DY MR. W. FIFE, SURGEON IN NEWCASTLE-UPON-TYNE.

Newcastle September 10th, 1813.

Dear Sir — With respect to the puerperal fever which prevailed here last year I cannot say much, as I only attended one unfortunate case, where the disease was far advanced before I saw the patient; nor am I able to give you much information relative to a similar fever which prevailed amongst lying-in women this summer at Newburn and the vicinity. It is remarkable, however, that the fever which took place in Newcastle was confined to the patients of one female practitioner, and that which occurred at Newburn, in like manner, to those of one accoucheur. I have been informed, on good authority, that almost every patient died who was seized with this formidable disorder.

In answer to your inquiries respecting the result of my experience in cases of puerperal fever, I think myself fortunate in being able to state, that although I have practised midwifery in this town and neighbourhood upwards of twenty years, I have not seen much of the disease.

I trust, however, from the previous opportunities I had of observing the appearances after death, and the observations I have since made in the few cases which have occurred in my own practice and that of others, I am enabled to form a tolerably correct opinion of its nature, and consequently feel no hesitation as to its treatment.

Dissections have shown, and I believe it is now very generally admitted, that it is in its first stage an inflammatory disease, chiefly

affecting the peritoneum, and of course often extending to almost every viscus in the pelvis and abdomen which receives a covering from that membrane.

It is not necessary that I should enter into the consideration of the various causes assigned as capable of producing this disease; but there is one to which I wish particularly to draw your attention, as it appears to me of great practical importance, viz., a loaded state of the bowels.

Pregnant women are very apt to deceive themselves in this respect, some neglecting altogether the state of the bowels, while others, from a fear of doing harm, even by the occasional use of mild but effectual opening medicines, content themselves by taking now and then a little magnesia, which they imagine has done enough when it produces a partial loose evacuation; and thus I believe they very often lay the foundation of a great deal of future distress and danger.

From my views of this subject, you will readily anticipate the treatment. If called in time, I promptly take away as much blood as existing circumstances seem to require, and repeat the operation if necessary, paying due regard to the strength of the patient, with as little loss of time as possible after the first bleeding. I next have recourse to active purgatives, giving them in divided doses at short intervals, until a full and satisfactory effect is produced. I have been astonished on seeing the great quantity of hard, dark-coloured, offensive, feculent matter that has been discharged by this means, and almost always with evident relief of symptoms. I never think it safe to trust to the nurses' account in these cases, but inspect the evacuations, and continue the use of purgatives day after day, until the colour and appearance of the stools become natural. It is sometimes found very difficult to open the bowels in this disease, and liquid purgatives are apt to be rejected by vomiting; when this symptom has occurred I have given calomel with great freedom and most decided advantage, employing, at the same time, purging injections. These are the means I chiefly rely upon in the treatment of puerperal fever, observing in every respect, in its first stage, a strict antiphlogistic regimen, and, as opportunity serves, having recourse to saline, antimonial, and such other medicines as circumstances indicate in the course of its progress.

It is my firm belief, when the practitioner is called in time, that the disease may generally be subdued by the prompt employment of these means; but it too often happens that the precious opportunity is lost before advice is sought for, and the practitioner, when called, feels himself placed in the painful situation of witnessing the fatal ravages of a disease it is too late to remedy.

Wishing that your inquiries may lead to the establishment of a successful practice in this formidable and important disease,

I am, dear sir, your obedient servant,

WILLIAM FIFE.

To JOHN ARMSTRONG, M.D.

IV.

OBSERVATIONS ON THE WEATHER.

OBSERVATIONS ON THE STATE OF THE ATMOSPHERE BETWEEN JANUARY AND OCTOBER, 1813, THE TERM IN WHICH THE PUERPERAL FEVER WAS MOST PREVALENT.

The following brief account of the weather is extracted from the diary of an acquaintance; and the author regrets that it contains no barometrical and thermometrical observations. One of the principal reasons for inserting it is, that the puerperal fever prevailed in different places during the same period.

In the beginning of January, the weather was very mild and clear, with light airs from the west and south-west; about the middle, there was a strong frost, with some snow; and the day afterwards, heavy rain, the wind blowing from the south-east; from the 16th to the end, it was mostly clear and frosty; very little snow fell, and the wind varied from the south, west, and north. The complaints most prevalent in Sunderland in this month were low fevers, rheumatism, and dyspepsia.

February was ushered in by fresh breezes from the west and south-west, and continued, for the most part, fair till the 10th, when hard squalls came on from the west-south-west, with showers of rain, sleet, and snow; from the 11th onward, there were strong gales from the south and west, and frequent heavy rains. Low fevers were rather more prevalent this month, and the number of rheumatic and dyspeptic cases were nearly the same as in the last.

March was remarkably mild and clear for the season; very little rain fell, and the wind was light and variable; it shifted chiefly from the west to the west-north-west throughout the month. Low fevers most entirely disappeared, though rheumatic and dyspeptic complaints were nearly as numerous as before.

From the 1st of April to the 5th the wind blew from the west-south-west or from the east-north-east, much snow and sleet fell, and it was intensely cold; from the 10th to the 21st the wind was almost constantly in the west; the weather was fine and dry, and the early blossoms were advanced more than is usual at the season. From about the 22d to the end of the month, high gales from the east-north-east and north-east, with rain, sleet, and snow, which did much injury to the fruit-trees. In this month a few cases of low fever again occurred, hardly any of rheumatism, or dyspepsia, but some of catarrh.

The commencement of May was rainy and very cold, and the wind continued in the north-east or south-east till about the middle, when it changed to the south-west, and some rain and thunder followed; from the 16th it blew from the south-east; and the weather was very wet and hazy till the 25th, on which day it became warm and dry, and continued so till the end of the month.

The long continuance of the cold east winds destroyed almost all the early blossoms; and the sides of those hedges and trees which were exposed to its successive blasts appeared as if they

had been scorched, exhibiting such effects as are attributed to the Siroc in Sicily. In this month, there were some low fevers, and rheumatic complaints, and several dyspeptic and pulmonic cases.

The weather was alternately warm and cold till the 6th of June, during which some rain fell, and the wind was principally from the north-east; from this time there were light south-east breezes, with very mild weather till the 11th; after which it became for a short time rather thick and hazy, the wind blowing from the south-west. From about the 16th to the end of the month it continued cold and hazy for the season, and the wind veered from the north-east to the south-east. In the beginning of July, there were strong gales from the east-south-east and north-north-west, with rain, followed by some tolerably calm clear days, with fresh gales from the north and south-east. From the 16th to the 20th, the wind was principally in the west, and there was a good deal of rain, though the weather upon the whole was very sultry. One or two cold days afterwards occurred with a north-east wind; but the weather again became sultry, and there was much thunder, lightning, and rain, the wind blowing either from the south-west or south-east. During these two months, low febrile, rheumatic, and dyspeptic complaints were still most prevalent, and there were some cases of catarrh and dysentery.

From the 1st to the 9th of August, the wind was from the south-west and north-west, the weather fine, and some light showers of rain; from the 9th to the 12th, the wind shifted from the west-north-west to the north and south-west, and the atmosphere was clear and sultry; from the 13th to the 20th, fresh gales from the north-west and west, and occasional showers of rain; from the 21st to the 26th, fine, calm, clear weather, and the wind in the north-east and south-east; from that time till the end of the month it mostly blew from the north-east; there was very little rain, the air cloudy and rather cold for the season. There were several cases of typhus this month, some of scarlet fever, dysentery, rheumatism, enteritis, and cholera.

From the 1st of September to the 7th, the atmosphere was sometimes hazy, and sometimes clear; light airs from the south-west, with slight showers; from the 7th to the 12th, the wind shifted from the west-south-west, north-west, and north-east; some rain fell, and the weather was alternately fair and cloudy; from the 13th to the 16th, strong gales from the west-south-west, cloudy and rather rainy; from that time to the 20th, the wind was variable, with fine, clear weather; from the 20th to the 29th, it was in the north-east and north, and the air cloudy and cold; on the 30th, fresh breezes from the east-south-east, and the day was warm and clear. The diseases which prevailed most this month were typhus, scarlet fever, rheumatism, dyspepsia, and pneumonia.

The author, not having been able to trace any evident connection between the variations of the weather and the *increase* and *decrease* of the puerperal fever, has thought it unnecessary to state the number of cases which occurred in each month.

ON

PUERPERAL FEVER AND CRURAL PHLEBITIS.

BY ROBERT LEE, M.D.,F.R.S.

CHAPTER I.

INTRODUCTORY OBSERVATIONS ON THE PATHOLOGY OF PUERPERAL FEVER.

The term "puerperal fever" has been employed, for upwards of a century, to designate the most fatal inflammatory disease to which childbed women are liable. The name is now generally adopted by medical writers, and is considered to be synonymous with the terms Puerperal Peritonitis, Childbed Fever, Peritoneal Fever, or the Epidemic Disease of Lying-in Women.

The records of medicine afford indubitable evidence, that puerperal or childbed women have, from the most remote periods of antiquity, been liable to attacks of this destructive affection. In the works, however, of the earlier authors, its history is short and imperfect: and, it is probable, that the disease did not attract the particular attention of physicians before the middle of the seventeenth century, when it occurred as a malignant epidemic in the lying-in wards of the Hotel-Dieu. Since that period, it has often occurred in the principal cities and lying-in hospitals of Europe.

Most vague and contradictory opinions have hitherto prevailed respecting the nature and treatment of this disease. Inflammation of the peritoneum, omentum, or other of the abdominal viscera, has by some been considered as the cause of all the phenomena; and copious bloodletting and cathartics have been recommended for the treatment. Other writers, who refer all the local and constitutional symptoms to a specific fever, peculiar to women in the puerperal state, deprecate the employment of venesection, and urge the necessity of employing the most powerful stimulants and cordials. The morbid sensibility of the hypogastrium, usually observed at the commencement of the attack, and the changes of structure from inflammation often discovered after death, both in the uterine and other organs, have been considered by them as the consequences of this idiopathic fever, in like manner as inflamma-

tion of the brain, lungs, or intestines, often supervenes during the progress of typhus.

Those who have most attentively perused the works of Drs. Hulme, Leake, Denman, Walsh, Gordon, Joseph and John Clarke, Hamilton, Hey, Armstrong, Douglas, Campbell, Mackintosh, and Cusack, must have felt convinced that the pathology of puerperal fever required a more careful investigation than had been made by any of these distinguished authors. To reconcile their discordant statements, with respect to the nature and treatment of the affection, it appeared to me requisite, that it should be examined not only in hospitals, but also in private practice, for several successive years, throughout all the different seasons. In this manner only did it seem possible to ascertain, whether diseases had been described essentially distinct from one another, or merely varieties of the same affection, modified perhaps by some powerful but unknown causes.

From the 1st of January, 1827, to the 1st of October, 1832, one hundred and seventy-two cases of well-marked puerperal fever came under my immediate observation in private practice, and in the British Lying-in Hospital and other public institutions in the western districts of London. The symptoms and progress of these cases were watched with close attention; the effects of the different remedies employed were observed, and, where death took place, I carefully examined the alterations of structure in the uterine and other organs.

Of fifty-six cases which proved fatal, the bodies of forty-five were examined, and in all were found some morbid change, decidedly the effect of inflammation, either in the peritoneal coat of the uterus, or uterine appendages, — in the muscular tissue, in the veins, — or in the absorbents of the uterus, accounting in a most satisfactory manner for the constitutional disturbance observed during life. The peritoneum and uterine appendages were found inflamed in thirty-two cases; in twenty-four, there was uterine phlebitis; in ten, there was inflammation and softening of the muscular tissue of the uterus; and in four, the absorbents were filled with pus. These observations are therefore subversive of the general opinion now prevalent, that there is a specific, essential, or idiopathic fever, which attacks puerperal women, and which may arise independent of any local affection in the uterine organs, and even prove fatal without leaving any perceptible change in the organization of their different textures. As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical, and more consistent with the principles of nosological arrangement, to banish entirely from medical nomenclature the terms puerperal and childbed fever, and to substitute that of uterine inflammation, or inflammation of the uterus and its appendages in peurperal women. Puerperal peritonitis and peritoneal fever, are terms not less objectionable than puerperal fever; for in many fatal cases there is no proof

whatever of the existence of any morbid affection of the peritoneum.

All writers state, that in puerperal fever there is exquisite sensibility of the abdomen with pyrexia, and that these are the only characteristic symptoms of the disease. After the inflammatory symptoms of the uterine organs subside, those of collapse follow, as in the last stages of inflammation of the brain, lungs, liver, intestines, and other abdominal viscera: then the abdomen becomes distended and tympanitic, and after death extensive alterations of structure are found in the uterus and its appendages; the other external and internal organs presenting no morbid appearance. Besides, there is nothing to be remarked in the condition of a puerperal woman, to render her more liable to attacks of typhus fever than other individuals; and lying-in women, as I had an opportunity of observing in the epidemic typhus, which prevailed in Edinburgh in the years 1816 and 1817, and also during the last six years in this metropolis, are rarely affected with typhus. It is to the uterus, left in a condition, after delivery, in which no other organ can be similarly placed, and rendering it peculiarly liable to attacks of inflammation, that we are to look for an explanation of all the phenomena of puerperal fever.

Until a recent period, the pathological anatomy of the uterine organs in puerperal women had not received that attention which its importance demanded. In the histories of the different epidemic fevers which have prevailed amongst lying-in women since the middle of the seventeenth century, the symptoms and morbid appearances, though imperfectly described, nevertheless strongly confirm the accuracy of the conclusion, that the whole phenomena, local and general, of these fevers, are to be referred to inflammation of the uterine organs: and that the symptoms vary according as the superficial or the deeper-seated structures of the uterus are affected.

It is stated by Peu, that, in 1664, a prodigious number of puerperal women perished in the Hotel-Dieu, and that the cause of this mortality was attributed by M. Vesou, Physician to the Hospital, to the circumstance of the lying-in wards being situated immediately over those set apart for the reception of individuals who had been wounded. The women were attacked with hemorrhages, and on opening their bodies they were found to be full of abscesses.*

This brief and imperfect account of the disease when first observed as an epidemic, is interesting from this circumstance, that no further notice is taken of it by the French writers during the succeeding one hundred and twenty-two years; the whole of which period the lying-in wards of the Hotel-Dieu remained contiguous to the wards of the sick and wounded. It is not stated by Vesou whether it was in the uterus, or in the viscera of the thorax, head,

* Peu, Pratique des Accouchemens, p. 263.

or abdomen, that abscesses were observed on dissection; but it will hereafter appear that the formation of abscesses in any part of the body of a woman who has recently been delivered, is one of the strongest proofs of the previous existence of inflammation in the deeper seated textures of the uterine organs.

The winter of 1746 at Paris was most destructive to puerperal women, and they died between the fifth and the seventeenth day after their confinement. The epidemic attacked the indigent, but much less frequently those delivered at their own habitations, than in the Hotel-Dieu. Of twenty women in childbed affected with the disease in February of that year, in the Hotel-Dieu, scarcely one recovered.*

M. Malouin has given the following history of the symptoms and progress of this epidemic. "The disease usually commenced with a diarrhœa; the uterus became dry, hard, and painful; it was swollen, and the lochia had not their ordinary course; then the women experienced pain in the bowels, particularly in the situation of the broad ligaments; the abdomen was tense; and to all these symptoms were sometimes joined pain of the head, and sometimes cough. On the third and fourth day after delivery the mammæ became flaccid. On opening the bodies, curdled milk was found on the surface of the intestines, a milky serous fluid in the hypogastrium, a similar fluid was found in the thorax of certain women, and when the lungs were divided they discharged a milky or putrid lymph. The stomach, the intestines, the uterus, when carefully examined, appeared to have been inflamed. According to the report of the physicians, there escaped clots on opening the vessels of this organ."

"This terrible disease," says M. Tenon, "has shown itself at different epochs, and its returns have been more frequent than ever; it reappeared every winter from 1774; it commenced usually about the middle of November, and continued till the end of January. It is met with also at the other seasons of the year, even during spring, for it has come to prevail more and more, and to be as it were naturalized.†

"Those who were attacked in the years 1774 and 1775, died between the fourth and seventh days after delivery, and seven out of every twelve women who were delivered were seized with the disease. Two distinct forms of it were successively observed; one, a simple form, which was cured by ipecacuan; the other, a complicated form, for which there is no remedy: so that there perished, in 1816, one of every seven of those who were attacked with puerperal fever, and death took place from the sixth to the eighth day after delivery, and often much earlier.

"The first symptoms manifest themselves twenty-four, thirty six, or forty-eight hours after delivery, and sometimes, but rarely, in the space of twelve hours. The symptoms of the simple puer-

* Memoires de l'Academie des Sciences pour l'année, 1746.
† Memoires sur Les Hopitaux de Paris, p. 243.

peral fever are developed in the following order: — rigor, slight pain in the region of the kidneys, intestinal colic, which in two hours affects the whole hypogastrium, and gradually becomes more acute. Pulse concentrated, fever moderate, lochia not suppressed; mammæ flaccid, tongue dry in the middle, covered with a yellow mucus on the edges: hiccup, and vomiting of green-coloured matters. There was sometimes combined with these constant and characteristic symptoms of the disease which occurred in the years 1774 and 1775, a diarrhœa of a bilious glairy matter, a considerable swelling of the hypogastrium, thirst, and remarkable retention of urine.

"In the complicated puerperal fever, the pyrexia is more intense, with exacerbations; the tongue is black and dry, the belly is tense, distended and tympanitic, and slightly painful. In some women, the lochia have been either wholly suppressed or only diminished, others have experienced attacks of *ophthalmia;* in some, the respiration was difficult: in general, the blood showed the buffy coat.

"On opening the abdomen, the stomach, the intestines, particularly the small intestines, were inflamed, adhering to one another, distended with air and a yellow fluid matter. The uterus was contracted to its ordinary dimensions, and was seldom inflamed. I had occasion to dissect two; in one, the uterus contained a coagulum of blood; an infiltration of a milky appearance, or whey-like fluid, existed in certain women in the cellular membrane surrounding the kidneys. Sometimes also a thick, white, cheesy matter was met with. When the lungs were gorged with blood, or inflamed, or emphysematous, an effusion of serum was found in each side of the chest. We did not observe the hemorrhages which occurred in the epidemic of 1664, and the uterus was not found dry, hard, and tumefied as in that of 1746. In the epidemic of 1774, the lochia flowed, but they did not flow in 1746."

From 1782 to the present time the same fatal disorder had appeared at different times in the Maternitè at Paris, and in many of the continental lying-in hospitals, and the same morbid appearances have always been observed on dissection.

The bodies of fifty-six women were examined who had died of puerperal fever in the general hospital at Vienna, in the autumn of 1819; and in all of these, with the exception of two, where delivery had taken place a considerable time previous to death, effusions of sero-purulent fluid were found in the abdominal cavity, and traces of inflammation in one or more of the abdominal viscera. The ovaria and fallopian tubes were always more or less swollen, red, and tender; and the body of the uterus was, in consequence of inflammation, flabby, tender, and easily broken down with the finger. It is also stated in the report of this epidemic that the accession of fever is always preceded by marked changes in the whole system, particularly in the uterus, clearly indicating an inflammatory state.

The symptoms indeed were such, that the inflammation combined with high fever could not be mistaken.*

Pinel, Bichat, Laroche, and Gardien, found the peritoneum inflamed in so many fatal cases of puerperal fever, that they have considered this disease essentially to depend on inflammation of the peritoneum. A French author, who has subsequently observed the disease, and who entertains the same views of its nature, asserts that nothing can be more absurd, more chimerical, or more contrary to the spirit of analysis and observation, than the idea that there is a fever essential or peculiar to a woman recently delivered.

When we consult the works of the most celebrated writers on puerperal fever in this country, it clearly appears that they all describe the disease as commencing with a sense of soreness, or exquisite tenderness in the region of the uterus; and that where it proves fatal, the appearances on dissection afford unequivocal proofs of inflammation of one or more of the pelvic and abdominal viscera.

Strother, Burton, Millar, and Wallace Johnson, state that the distinguishing marks of the disease are pain of the hypogastric region, abdomen, and loins, and that relief often follows venesection.

Hulme and Leake considered inflammation of the omentum to be the proximate cause of puerperal fever, and the latter suspected that the whole mass of circulating blood becomes contaminated by absorption of the fluids effused into the peritoneal sac. "Considering," observes Dr. Leake, "the suppuration of the omentum, and large quantity of purulent fluid in the abdomen after death, it is easy to see how a secondary fever, which was truly inflammatory at the beginning, may soon become putrid by absorption of that fluid, which, like old leaven, will taint the blood by exciting a putrid ferment in the whole mass, and change its whole qualities into that of its own morbid nature. Some of those who survived, recovered very slowly, and were affected with wandering pains and paralytic numbness of the limbs, like that of chronic rheumatism. Some had critical abscesses in the muscular parts of the body, which were a long time in coming to suppuration, and when broke discharged a sanious ichor."†

Dr. William Hunter observes, that on examining the bodies of those who have died from puerperal fever, the viscera and every other part of the abdomen are found to be inflamed. There is a quantity of purulent matter in the cavity of the abdomen, and the intestines are all glued together.

Pain of the head and abdomen with fever, were the symptoms which Dr. Lowder considered to be pathognomonic of the disease; and redness of the peritoneum, adhesion of the intestines, effusion

* Medical Annals of the Austrian States, 1822.

† Leake on Childbed Fever, &c., vol. ii., p. 90-92.

of serum mingled with pus and lymph, the most frequent morbid appearances.

The history of the symptoms and the morbid changes of structure, described by Drs. Joseph Clarke, Gordon, Campbell, Mackintosh, Douglas, and other writers, is nearly the same: and Professor Hamilton, who believes that puerperal fever is a fever *sui generis*, nevertheless admits that the appearances on dissection are exactly similar to the descriptions generally given by those authors, and that acute pain of the abdomen is a primary and not a secondary symptom of the disease. Dr. Hamilton affirms, that puerperal fever is a disease of a "putrid" nature, requiring for its treatment wine, volatile alkali, cinchona, and animal jellies; and yet in direct opposition to these theoretical views, and as if involuntarily led by the symptoms to a correct conclusion respecting the true character of the affection, he has laid down, as the first indication of treatment, to moderate local inflammation by purging and hot fomentations.

It is a singular circumstance, that in none of the works now referred to, has the most remote allusion been made to inflammation of the veins, absorbents, or any of the other structures of the uterus, except the peritoneal covering, though several authors have accurately described the symptoms which characterise their morbid states.

In the epidemic fever which prevailed at Aberdeen, between the years 1789 and 1792, Dr. Gordon examined the bodies of three patients, and, in each case, the peritoneum and uterine appendages were inflamed. "The omentum," he observes, "does not appear to be more especially affected, than the other productions of the peritoneum, which are all equally and indiscriminately affected. The dissections which I have made prove that the puerperal fever is a disease which principally affects the peritoneum and its productions, and the ovaria. The peritoneum was inflamed, and the omentum, mesentery, and peritoneal coat of the intestines were all promiscuously affected." Venesection and cathartics were found to be the most powerful remedies.*

Dr. Joseph Clarke states, in his Observations on the Puerperal Fever which appeared in the Dublin Lying-in Hospital, in the years 1774, 1787, and 1788, that the symptoms of this fever corresponded with what Dr. Hulme had previously so well described. "It always began," he says, "with a distinct chilliness, or shivering. The pain in the cavity of the abdomen was not more frequent in one part than another. Little or no vomiting appeared in any stage of the disease; no delirium; no unequivocal marks of putrescency in any part of the system. The pulse in general beat from 120 to 140 strokes in a minute. The lochial discharge and secretion of milk were not subject to any general law."

"In all our dissections the peritoneum appeared everywhere universally vascular and inflamed. Next to the omentum, the

* Treatise on the Epidemic Puerperal Fever, *ante*.

broad ligaments of the uterus, the cæcum and sigmoid flexure of the colon, seemed to suffer most by inflammation. We always meet with more or less of a turbid yellow, and sometimes fetid fluid, floating among the intestines; coagulated purulent-like masses, adhesive inflammation, glueing the intestines to each other, &c. In no instance did the appearance of inflammation seem to penetrate deeper than the peritoneal coat on any of the viscera of abdomen and pelvis."*

Dr. John Clarke admits, that in most cases of true puerperal fever there has been some degree of inflammation in the cavity of the abdomen, and that the uterus and ovaria sometimes partake of the inflammation. In two cases he found an appearance of pus in the veins of the uterus. The brain was in a natural state. In one instance only was there an appearance of disease in the chest. The effusion of sero-purulent fluid into the sac of the peritoneum was so disproportioned, however, to the degree of inflammation, that he supposed it arose from another cause. Pathologists are now agreed, that these copious effusions into the peritoneal sac are invariably the result of acute inflammation, and not of any peculiar disposition of the vessels of the part, as Dr. Clarke had supposed.†

The works of Dr. Armstrong and Mr. Hey contain the histories of two epidemics, in which the leading symptoms were those which are present in cases of abdominal inflammation, and the employment of copious bloodletting, cathartics, and other antiphlogistic remedies was attended with decided advantage. The actual condition of the uterine and other organs was not, however, ascertained by either of these writers, as they were not permitted to examine the bodies of any of those who were cut off with the disease.

The more recent works of Drs. Campbell and Mackintosh may also both be referred to, in confirmation of the truth of the pathological doctrines we shall endeavour to establish; and the statements of Dr. Gooch, if carefully examined, will be found to support rather than to weaken the force of our conclusions. As a substitute for the ordinary names, childbed fever, puerperal fever, and peritonitis, he has employed the term peritoneal fever, "to express the fact that an affection of the peritoneum is an essential accompaniment of the disease, without defining what that affection is, because it is not uniform." This term, peritoneal fever, is, perhaps, the least appropriate of all the terms that Dr. Gooch could have invented; for he admits, that the disease may occur in its most exquisite form, and yet leave few or no traces in the peritoneum after death, by which we might have been enabled to determine that this membrane had previously been the seat of the disease.

"The most remarkable circumstance," Dr. Gooch observes,

* Medical Commentaries, 1790, p. 299.

† Essays on the Epidemic Disease of Lying-in Women, by J. Clarke, M.D.

"which the experience of the last few years has taught us about peritoneal fevers is, that they may occur in their most malignant and fatal form, and yet leave few or no vestiges in the peritoneum after death. The state of this membrane, indicated by pain and tenderness of the abdomen, with a rapid pulse, appears to be not one uniform state, but one which varies so much in different cases, that a scale might be formed of its several varieties; this scale would begin with little more than a nervous affection, often removable by soothing remedies, and, when terminating fatally, leaving no morbid appearances discoverable after death. Next above this, a state in which this nervous affection is combined with some congestion, indicated in the cases which recover by the relief afforded by leeches, and in the cases which die by slight redness in parts of the peritoneum, and a slight effusion of serum, sometimes colourless, sometimes stained with blood. Above this might be placed those cases in which there are in the peritoneum the effusions of inflammation without its redness; namely, a pale peritoneum and no adhesions, lymph like a thin layer of soft custard, and a copious effusion of serum, rendered turbid by soft lymph. Lastly, the vestiges of acute inflammation of the peritoneum, viz., redness of the membrane, adhesion of its contiguous surfaces, a copious effusion of serum, and large masses of lymph."*

Dr. Gooch affirms, that symptoms and dissections cannot settle the question respecting the pathology of puerperal fever. "The effects of remedies on a disease," he says, "if accurately observed, form the most important part of the history. They are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar. Symptoms and dissections can never do more than suggest probabilities about the nature of a disease, and the effects of a remedy on it. A trial of the remedies themselves is the only conclusive proof."

I might confidently appeal to the works of all the most eminent writers on puerperal fever, since the middle of the seventeenth century, to prove that this opinion is equally erroneous as it is dangerous; and it would be easy to show, from the contradictory statements they have made of the results of the various modes of treatment adopted during the last fifty years, that we must have forever remained ignorant of the true nature of the disease, had we reasoned from the effects of remedies alone, without investigating symptoms, and the morbid changes of structure.

That a diffused pain of the abdomen, with a rapid soft pulse, not unfrequently occurs without inflammation of the uterus, or of any other part, or with a very slight degree of inflammation, in delicate nervous women after parturition, and that these symptoms are relieved by opiates and warm fomentations, without either general or local bloodletting, will readily be admitted by all who are con-

* An Account of some of the most Important Diseases peculiar to Women, by Robert Gooch, M.D.

versant with the diseases of the puerperal state. That such cases are, however, if not essentially different in their nature, at least widely different in degree of severity from cases of sporadic or epidemic puerperal fever, or uterine inflammation, is clearly demonstrated by the following observation of Dr. Gooch: — "There seemed to be nothing dangerous in this form of disease, provided the nature of it was not mistaken, and improper remedies not used; yet it so strikingly resembled peritoneal inflammation, that it was invariably taken for it by the practitioners who witnessed it, all of whom possessed at least that average quantity of sense and knowledge on which the public must extensively depend."

There can be little doubt that, in numerous instances, the irregular spasmodic contractions of the uterus, constituting after-pains and irritation of the intestines, have been mistaken by superficial observers for puerperal fever; but such mistakes do not prove the identity of the affections. The results of the practice in the Westminster Lying-in Hospital in the years 1828 and 1829, referred to by Dr. Gooch, demonstrate that the cases described by him under the term peritoneal fever, were not genuine examples of low childbed fever, as he has maintained; for of twenty-eight women who were attacked with the disease, and most of whom were treated as he had recommended, with Dover's powder and warm cataplasms, seven died, or one in four.

In investigating the morbid anatomy of this class of diseases, Dr. Gooch appears to have been satisfied with simply inspecting the peritoneal covering of the uterus: now I am strongly inclined to believe, that if he had carefully examined the uterine, spermatic, and hypogastric veins, the absorbents, the uterus, and its appendages, and the sub-peritoneal tissues, he would frequently have found acute inflammation or some of its consequences. With the phenomena of inflammation of the deep-seated structures of the uterine organs, he appears indeed to have been perfectly unacquainted, as they are not even alluded to in the course of his Essay, and are generally confounded with the effects of loss of blood. In a fatal case, examined by Mr. Stanley, it is indeed stated by Dr. Gooch, that no inflammation of the veins of the uterus was detected, but the symptoms had not been such during life as to render it probable that such a condition of the veins existed. The absence of increased vascularity of the peritoneum, and of lymph and serum in its sac, does not prove that the subjacent tissues are in a healthy state. That a nervous affection or congestion of the peritoneum should give rise to all the symptoms and consequences of fatal uterine inflammation, is not only highly improbable, but is wholly unsupported by facts. Had Dr. Gooch estimated more correctly the value of pathological anatomy, in investigating the nature of the disease, and placed less reliance on the uncertain operation of remedies, he could not possibly have fallen into so many serious practical errors respecting puerperal fever, as well as some of the organic diseases of the uterine organs in the unimpregnated state.

The recent valuable researches of Andral, Luroth, Dance, Danyau, Tonellé, and Dupley, confirm, in a remarkable manner, the accuracy of the views now given of the proximate cause of puerperal fever. In the epidemic of 1829, at Paris, numerous opportunities occurred of examining the morbid appearances in those who were cut off by the disease. In one hundred and thirty-two out of two hundred and twenty-two fatal cases, puriform fluid was found in the veins and absorbents of the uterus; and in one hundred and ninety-seven, some important alteration of structure was observed in the uterine organs. In a few rare cases described by M. Tonellé, under the term "ataxic puerperal fever," the changes which had taken place in the uterine organs were comparatively slight, and consisted of an exudation of lymph at the neck of the uterus and into the cavities of the uterine veins. In these cases the symptoms were considerably different from those commonly observed in uterine inflammation, and were probably referable to other causes.

The preceding observations seem to warrant the following general inference which I drew from the observations I had made previous to October, 1829, "That inflammation of the uterus and its appendages must be considered as essentially the cause of all the destructive febrile affections which follow parturition; and that the various forms they assume, inflammatory, congestive and typhoid, in a great measure depend on whether the serous, muscular, or venous tissue of the organ has become affected."*

CHAPTER II.

OF UTERINE INFLAMMATION IN PUERPERAL WOMEN.

I now propose succinctly to describe — the various changes produced by inflammation in the uterine organs subsequent to parturition — to point out the local and constitutional symptoms by which these morbid conditions are characterised during life, and distinguished from some other affections to which they bear a resemblance — then to investigate the causes and nature of this disease — and lastly, to describe the treatment adapted to the different varieties of uterine inflammation, and the most important means to be adopted for its prevention.

The following are the principal varieties of inflammation of the uterus and its appendages in puerperal women: —

* Med. Chir. Transact., vol. xv., pt. ii., p. 405, 1829.

I. Inflammation of the peritoneal covering of the uterus and of the peritoneal sac.
II. Inflammation of the uterine appendages: viz., the ovaria, fallopian tubes, and broad ligaments.
III. Inflammation of the mucous and muscular, or proper tissue of the uterus.
IV. Inflammation and suppuration of the absorbent vessels, and veins of the uterine organs.

These varieties of uterine inflammation may take place independently of each other, though they are most frequently met with in combination. Peritonitis seldom occurs without some inflammation of the uterine appendages; but I have found both these textures severely affected, while the muscular coat of the uterus and the veins were wholly exempt from disease. The venous and muscular tissues of the uterus are also liable to attacks of severe inflammation without any corresponding affection of the peritoneal covering, though it most frequently happens that inflammation, when excited, either in the veins or muscular coat of the uterus, involves also the peritoneum. In the organs of respiration, similar varieties of inflammation are observed, and the pleura, pulmonary texture, and mucous membrane lining the air passages, may all be separately or simultaneously involved in the same attack. A similar observation may be extended to the brain and its membranes, and to the whole of the digestive organs; and the symptoms which characterise the inflammation of the different tissues of which these organs are composed, have been more accurately determined than formerly by the recent discoveries of pathologists.

Inflammation of the uterine organs, like inflammation of the lungs and other affections of a similar character which assume an epidemic form, occurs more frequently at one season than another; and at one period the peritoneum is the tissue most commonly affected, whilst at other seasons the deeper seated tissues are almost invariably found affected by the inflammation. That there is no essential difference between these varieties of uterine inflammation is proved by the circumstance, that in the course of a few days, in the same ward of the British Lying-in Hospital, and in patients who were placed in contiguous beds during the prevalence of the epidemic, when the disease appeared to be communicated from person to person, peritoneal inflammation, uterine phlebitis, and the other varieties enumerated, all occurred in their most characteristic form. In some patients the local and constitutional symptoms indicated the presence of acute inflammation of the serous covering of the uterus; and in those cases where active depletion was employed at the commencement of the attack, most frequently a speedy recovery took place. In other examples, at the onset of the disease, there was comparatively little pain in the region of the uterus; the pulse was from the beginning rapid and feeble, and the symptoms were such as to contraindicate the use of bloodletting and cathartics. Such cases usually terminated fatally, in defiance

of local bleeding and the exhibition of mercury and opium, and other remedies; and on examination after death, either the veins, the muscular structure, or the appendages of the uterus, were found to be the textures most frequently inflamed.

SECTION I.

INFLAMMATION OF THE PERITONEAL COVERING OF THE UTERUS, AND OF THE PERITONEAL SAC.

Great tenderness of the hypogastrium, increased by pressure, with pyrexia, are the characteristic symptoms of the disease. In every instance which has fallen under my observation, I have found the uterine region more or less painful on pressure, and there has been febrile disturbance.

When the attack is violent, the patient generally lies upon the back, with the knees drawn up to the trunk of the body. The abdomen at first is soft and flaccid, and, except in the region of the uterus, is frequently not affected by pressure. Though an enlarged and painful state of the uterus is never altogether wanting, yet the pain often undergoes exacerbations similar to after-pains, and is frequently mistaken for these by careless observers; and the true character of the disease is overlooked until a great part of the peritoneal sac is inflamed. The whole abdomen then becomes swollen and tympanitic, and the pain either wholly subsides, or becomes still more intense than at the commencement. Diarrhœa and vomiting of black or dark-green coloured fluids follow, as in other fatal inflammatory diseases of the abdominal viscera, the pulse becomes extremely rapid and feeble, the tongue dry and brown, the lips and teeth are covered with sordes, and death follows at no very remote period.

The manner in which the disease commences varies considerably in different individuals. The attack of pain is sometimes sudden; at other times the ordinary increased sensibility of the uterus, remaining after natural labour, passes insensibly into the acute pain increased by pressure, the chief pathognomonic symptom of this affection. Most frequently the accession of the disease is marked by rigors, partial or general; sometimes so slight as almost to escape notice, at other times so violent as to produce severe shivering of the whole body. The cold stage, after a longer or shorter duration, passes away, and is succeeded by heat of skin, suffusion of the countenance, acceleration of the pulse, and quick respiration, thirst, frequently nausea or vomiting, and vertigo or intense pain across the forehead. Cough is also a common symptom of the disease. The rigors precede, accompany, or follow the increased sensibility of the uterus. In some of the most severe cases there has been no distinct rigor; but a quick pulse, hot skin, and hurried respiration have rapidly succeeded to the uterine

pain. In most of the fatal cases the countenance has, from the commencement, been anxious and pallid, and the extremities cold.

There is no uniformity observable in the appearance of the tongue in puerperal peritonitis. It is sometimes entirely covered with a thin, moist, white, or cream-like film; at other times, it is of a deep-red, or brown colour in the centre, with a thick, yellow, or white fur on the edges.

The lochia are often entirely suppressed; in other cases, only diminished in quantity. In some instances, they have an offensive odour. The mammæ usually become flaccid; yet, in some fatal cases, the milk has been secreted until a short period before death. The urine is often passed with pain and difficulty.

Diagnosis. — This variety of uterine inflammation is frequently confounded with disordered states of the intestinal canal, the irregular spasmodic contractions of the uterus, which constitute after-pains, hysteralgia, and simple suppression of the lochial discharge.

In cases of intestinal irritation, or disordered states of the stomach or bowels after delivery, which are not of such frequent occurrence as some writers have represented, the pain is from the commencement of the attack diffused over the whole abdomen; it is rather a griping than acute pain, does not commence in the region of the uterus, and is but little, if at all, aggravated by pressure. The abdomen is generally soft, puffy, and distended. The tongue is loaded; there is thirst and headache; neither the lochia, nor the secretion of milk are suppressed. The febrile attack is usually preceded by evident signs of derangement of the bowels, such as flatulence, nausea, vomiting, constipation, or diarrhœa. Puerperal peritonitis is developed in a large proportion of cases before the end of the fourth day after delivery, sometimes even within twenty-four hours; whereas this affection rarely appears until the termination of the first week.

It is sometimes difficult to distinguish inflammation of the peritoneum from after-pains and hysteralgia. Where the pulse is accelerated, the remissions of pain incomplete, the lochia scanty or suppressed, and the hypogastrium tender on pressure, we shall arrive at a correct diagnosis, by considering the peritoneal coat of the uterus in a state of congestion and inflammation, and employing antiphlogistic treatment. There are few puerperal women, except those of a feeble and irritable constitution, or who have been previously exhausted by profuse hemorrhage, or some chronic disease, who are seriously injured by cautious depletion, local or general; and where death has followed the abstraction of sixteen or twenty ounces of blood from the arm, the fatal result may fairly be attributed to disease, and to the neglect of the remedy rather than to its abuse. In cases of intestinal irritation, I have often found the local abstraction of blood followed by decided relief: and the same holds true with respect to the severe irregular pains without inflammation, which often occur subsequently to delivery, and do not yield to the ordinary means of treatment.

The peritoneum where inflamed becomes vascular, red, and apparently thickened, and the abdominal viscera adhere to one another by an effusion of lymph ; or there is an effusion of a turbid, yellowish-white, serous fluid, mixed with shreds of albumen or pus, sometimes tinged with blood, in greater or smaller quantity, into the cavity of the peritoneum. In some cases the exudation agglutinating the viscera consists almost entirely of solid lymph ; in others, there are only shreds of lymph, mixed with a large quantity of thin serous fluid. The omentum is often of a deep red colour, highly vascular, and closely adherent to the intestines, and sometimes to the fundus of the uterus by lymph. The omentum in some cases is only a little red, and in others it is not at all affected. The intestinal canal is frequently found much distended with air, at other times the sac of the peritoneum.

Puerperal peritonitis commences in the peritoneal covering of the uterus, and extends from thence with greater or less rapidity, according to the severity of the attack, to the whole peritoneum. In some cases the inflammation is confined to the uterus, and it is generally most severe in this situation, or in the parts immediately surrounding that organ ; even when it has extended to the other viscera, and affected them most severely, the peritoneum of the uterus invariably exhibits signs of recent inflammation. The lymph is, for the most part, thrown out in thicker masses upon the uterus than in any other situation, and this viscus seems always to suffer in the greatest degree. In the cellular membrane under the peritoneum, serum and pus are also not unfrequently found deposited. The cellular tissue also, which surrounds the vessels of the uterus where they enter or quit the organ, not unfrequently contains some serous or purulent fluid, and the same appearance has been observed in the cellular membrane connecting together the muscular fibres.

SECTION II.

INFLAMMATION OF THE UTERINE APPENDAGES, VIZ., THE OVARIA, FALLOPIAN TUBES, AND BROAD LIGAMENTS.

In one case only where the peritoneal covering of the uterus has been inflamed, have I found the uterine appendages free from disease ; but frequently the peritoneum has been observed slightly affected, when the appendages of the uterus have been extensively disorganised. The surface of the broad ligaments, ovaria, and fallopian tubes, when inflamed, have in some cases been found red and vascular, and partially or completely imbedded in lymph and pus. The loose extremities of the fallopian tubes have also been found of a deep red colour and softened, and deposits of pus in a diffused or circumscribed form within their cavities, or in their sub-peritoneal tissues. Between the folds of the broad ligaments, I

have also observed effusions of serous or purulent fluids. Numerous important changes have likewise been seen in the structure of the ovaria. Their peritoneal surface has been red, vascular, and imbedded in lymph, without any visible alteration of their parenchymatous structure, or their whole volume has been greatly enlarged, swollen, red, and pulpy: blood has been effused into the vesicles of De Graaf, or around them, and circumscribed collections of pus have been found dispersed throughout the substance of the enlarged ovaria. In several cases which have come under my own observation, the entire structure of the ovaria has been reduced to a vascular pulp, all traces of their natural organisation being imperceptible.

The ovarium appeared, in one instance which came under my care, to be converted into a large cyst containing pus, which had contracted adhesions with the abdominal parietes, and discharged its contents externally through an ulcerated opening. In another case, which proved fatal, the inflamed uterine appendages agglutinated together, had contracted adhesions with the peritoneum at the brim of the pelvis, the inflammation having extended to the cellular membrane exterior to the peritoneum, and occasioned an extensive collection of pus, in the course of the psoas and iliacus internus muscles, similar to what takes place in lumbar abscess.

In three other individuals under my care, who ultimately recovered, the purulent matter formed along the brim of the pelvis made its way under Poupart's ligament to the upper part of the thigh, and escaped through an opening formed in that region. In all of these cases, contraction of the thigh on the pelvis took place, which remained for several months.

Puzos and Levret have both described this variety of uterine inflammation in puerperal women; the former under the term Depot laiteux dans l'hypogastre, and the latter by that of Engorgemens laiteux dans le Bassin. Puzos states, that it is almost always situated between the groin and the anterior superior spinous process of the ilium on one side. In some instances, the humour is deposited under the skin and fat; in others, between the muscles and peritoneum; but the most considerable deposits take place in the cellular texture of the peritoneum, in the ligamenta lata, or in the ovaria. At their first commencement, he observes, they furnish no marks that are obvious to the sight or touch; but there are troublesome pains extending over the belly, and terminating at last in a fixed point. The other symptoms which indicate the formation of these purulent deposits are loss of appetite and sleep; pyrexia, continued or intermittent, with rigors, recurring several times in the course of twenty-four hours. It is only towards the tenth, twelfth, or fourteenth day after labour, that these deposits become perceptible to the touch; and if they are not treated early and vigorously with general and local bloodletting, they end in suppuration. M. Puzos adds, "the suppuration of milky deposits, particularly in the groin and hypogastrium, is

always dangerous, exposing the patient to the danger of losing her limb, and sometimes her life."*

The observations of MM. Husson and Dance likewise prove, that this is a frequent and often fatal termination of inflammation of the peritoneal coat of the uterus and its appendages.† In a woman who was under the care of Dr. Henry Davies, at the Welbeck-street Dispensary, I found the uterus low down in the pelvis, and it was immoveably fixed to the right side by extensive adhesions, which were clearly referable to a severe attack of inflammation of the peritoneum and right uterine appendages several months before, which occurred a few days after delivery. There is reason to believe that extensive effusion of lymph and serum into the peritoneal sac sometimes takes place after attacks of inflammation of the peritoneum, which are followed by recovery. Adhesions of the uterus to the surrounding viscera from inflammation after parturition are frequently formed, as I have often had occasion to observe, and give rise in after life to abortion, and painful displacement of the uterus and its appendages. Madame Boivin and M. Dugés state that anteversion of the uterus is often produced by morbid adhesion of the peritoneal coat of the uterus.‡

M. Weidmann has given the description of a case of adherence of the epiploon to the anterior part of the uterus, in consequence probably of a previous inflammation of the uterus after a laborious labour. In a subsequent pregnancy the woman perished about the fourth and a half month of utero-gestation with the symptoms of strangulated bowels.§ I have recorded the history of an interesting case of a similar description, at the full period, which came under my observation in the British Lying-in Hospital: Case VI.

Symptoms.—Inflammation of the uterine appendages being generally combined with peritonitis to a greater or less extent, it is often difficult to establish a diagnosis between these varieties of uterine inflammation. The pain is generally less acute than in peritonitis, and is principally seated in one or other of the iliac fossæ, extending from them to the loins, anus, and thighs. On pressure, the morbid sensibility will be found to exist chiefly in the lateral parts of the hypogastrium. The constitutional symptoms at the commencement of the attack do not materially differ from those which mark the accession of peritonitis, being often accompanied with strong febrile action, which speedily subsides, and is suddenly followed by prostration of strength and other changes which characterise inflammation of the muscular and mucous tissues of the uterus.

The following fatal cases, with the dissections, have been selected, with the view of further illustrating the phenomena of puerperal peritonitis and inflammation of the uterine appendages.

* Traité des Accouchemens, par M. Puzos. 4to. Paris, 1759, p. 356.
† Repertoire General d'Anatomie, &c. Paris, 1827, tom. 4, p. 74.
‡ Traité Pratique des Maladies de l'Uterus, et de ses Annexés, tom. 1, p. 134.
§ Weidmann, Memoria Casus rari, &c. Mons, 1818.

Case I. — Mrs. Groom, æt. 28, No. 13, Little Coram-street, was delivered of her first child on the 6th of March, 1827. On the 8th, great tenderness of the uterine region took place, with suppression of the lochia, and febrile symptoms, which, being supposed by her medical attendant to depend on spasmodic contractions of the uterus, were treated with anodynes, and warm fomentations to the hypogastrium. On the 10th, (the fourth day after her confinement, and the first on which I saw her,) the abdomen was tympanitic and exquisitely painful on pressure. The pulse 140, and feeble; the extremities cold, countenance haggard. There was incessant vomiting of a dark green fluid, with diarrhœa, and she died in the afternoon.

Dissection. — Present, Sir David Barry and Mr. Prout. The stomach and small intestines were inflated with gas. The peritoneum, covering the fundus and posterior part of the uterus, was of a bright red colour, and the cellular membrane underneath it in this latter situation was infiltrated with pus.

The peritoneal coat of the small intestines was highly vascular in different parts, and the surface of the liver was partially covered with lymph, The uterine appendages on both sides were covered with pus and lymph, and the lumbar regions contained about a pint of a wheyish-coloured turbid fluid. The consistence of the spleen was remarkably soft.

Case II. — Elizabeth Marshall, æt. 23, No. 3, Crown Place, Soho. Was attacked on the 4th of March, 1827, (the third day after her delivery,) with rigors, headache, vertigo, and sense of exquisite tenderness in the hypogastrium and right groin. The milk and lochia soon disappeared; bloodletting was employed on the 8th, and leeches were applied to the region of the uterus, but the tenderness gradually extended over the whole abdomen, which became as large as before delivery, and tympanitic. The pulse was rapid and intermitting. The tongue covered with brown fur, singultus and vomiting of dark coloured matter succeeded, and she died on the twelfth day after the attack.

Dissection. — Present, Sir David Barry and Mr. Prout. — The uterus with its appendages, and the small intestines, were all imbedded in thick masses of lymph and closely adherent to one another. The omentum, colon, and peritoneum, lining the abdominal muscles, were vascular, of a deep red colour, and partially coated with false membranes: about ℥x. of sero-purulent fluid were contained in the cavity of the abdomen. The deeper seated tissues of the uterus were healthy.

Case III. — Mrs. Laurens, æt. 42, at No. 5, Cumberland-street, Middlesex Hospital. After a severe and protracted labour, was delivered of a still-born, hydrocephalic child on the 12th of February, 1828. On the 14th, there was a severe rigor, the lochial discharge was suppressed, and the uterus was felt above the brim of the pelvis, large, hard, and exquisitely painful on pressure. The pulse 120, with great prostration of strength. On the 15th, the

pulse was more rapid and feeble, the abdomen tumid, and everywhere highly sensible. Vomiting of green coloured matter took place, and she died about sixty hours from the period of delivery.

Dissection — Present Mr. Baker, surgeon to the St. James's Infirmary. The uterus, uncontracted, occupied the whole brim of the pelvis; its peritoneal coat, and that of the small intestines and liver, was partially covered with thin, false membranes; and two pounds of a brownish coloured fluid, with flakes of albumen and pus, were contained in the peritoneal sac. A fibro-cartilaginous tumour of considerable size was found imbedded in the muscular coat of the uterus. The uterine appendages on the right side were red and vascular, and the ovarium was unusually soft, and about three times the natural size.

Case IV. — Mrs. Tiffin, æt. 32, No. 18, Mercer-street, Long Acre. Delivered on the 7th of July, 1829. Labour natural. On the 9th, the uterus was felt above the brim of the pelvis, large and hard, and it was very painful on the slightest pressure; lochia and milk suppressed; pulse 110 and feeble; tongue white; bowels open. Slight relief followed the abstraction of fifteen ounces of blood from the arm, and the application of leeches to the hypogastrium. — 10th July. The whole hypogastrium is now exquisitely painful, and the abdomen is swollen. Pulse more frequent. There has been much nausea and vomiting during the night. Bowels open. V.S. ad ℥xxiv. Eighteen leeches to the region of the uterus. 11th. Vomiting continues, abdomen less swollen, and pressure over the region of the uterus produces little uneasiness. Pulse rapid and feeble, respiration hurried, countenance sunk, occasional delirium. The whole surface of the body is now of a deep yellow colour. She became gradually more feeble, and died in the evening.

Dissection. — Present, Drs. Sims, Clark, and Williams. The abdomen was distended by a great accumulation of air within the bowels; the peritoneal coat of the small intestines was red and vascular: the peritoneum of the fundus and anterior portion of the body of the uterus was coated with albumen, and the subperitoneal tissue in this situation contained a sero-purulent and gelatinous fluid. From the incisions made into the lower part of the body of the uterus there escaped pure pus, but whether this flowed from the vessels, or muscular tissue, it was not easy to ascertain. Between the folds of the broad ligaments, there was a deposition of a gelatinous and purulent fluid, and both fallopian tubes were of a deep red colour, softened, and their cavities filled with pus. The right ovarium was of the size of a common hen's egg, of a pulpy gelatinous consistence, and its healthy organization entirely destroyed. The whole presented the appearance of a soft, fibrous, vascular pulp; the left ovarium was similarly affected.

Case V. — Mary Ann Hale, æt. 26, was delivered in the British Lying-in Hospital, on the 24th of July, 1829. On the 26th, she had a severe rigor, which was speedily followed by pain in the region

of the uterus, and febrile symptoms. Eighteen ounces of blood were drawn from the arm, which produced but little relief; leeches and other antiphlogistic remedies were employed; the whole abdomen, however, soon became exquisitely tender, without swelling or tension; and death took place on the 29th (the fifth day after delivery). Cough, dyspnœa, and pain in the right side of the chest were experienced during the last two days of her life.

Dissection. — The peritoneal coat of the uterus, and uterine appendages were quoted with false membrane; that covering the small intestines exhibited the usual effects of intense inflammation. Several folds of the ilium were glued together by lymph. The surface of the liver was also coated with albumen, and about two pounds of a whey-coloured fluid were contained in the abdominal cavity. The muscular coat and vessels of the uterus were in a healthy condition. In the left side of the thorax there were traces of recent inflammation in the pleura and substance of the lungs.

Case VI. — Elizabeth M'Creevy, æt. 25. Delivered of her first child in the British Lying-in Hospital, on the 29th of August, 1829. It was observed, in the second stage of labour, that, during each pain, vomiting of a dark coloured fluid like coffee-grounds took place. On the morning subsequent to delivery the pulse was natural, the abdomen was nowhere tender on pressure, and the vomiting had not recurred. In the afternoon she was, however, attacked with acute pain of the belly, rigors, and repeated fits of vomiting, and on the following morning the countenance was expressive of great anxiety, and the abdomen was swollen and extremely painful on pressure. The respiration hurried. Pulse 160, and feeble. Extremities cold. The vomiting continued unabated. Fourteen ounces of blood were taken from the arm; the abdomen was covered with leeches, and calomel and opium were administered every hour. On the 1st of September, all the symptoms were aggravated, and she sunk in the course of the day.

Dissection. — The small intestines, particularly the ilium, were red and vascular, and here and there covered with lymph. A pint and a half of a turbid fluid was effused into the peritoneal sac. The peritoneum of the uterus was covered with florid vessels. The uterine appendages on both sides exhibited the effects of severe inflammation. The omentum forming a tense broad band in front of the intestines, and firmly compressing them, was found adhering at its most depending part to the peritoneum, covering the posterior portion of the cervix uteri. The adhesion of the omentum to the peritoneum did not appear to be recent.

Case VII. — A patient of the Benevolent Institution, residing in Steward's Rents, Long Acre, who had suffered from anasarca and ascites in the latter months of gestation, was confined on the 5th of October, 1829. On the 7th, she had an attack of violent pain in the region of the uterus, with pyrexia; dyspnœa and pain in the right side of the thorax were also experienced at the same time.

Copious venesection and leeches to the hypogastrium were promptly had recourse to; but the tenderness extended to the whole belly, and it became greatly distended and tympanitic. She died on the fifth day after the commencement of the disease.

Dissection. — Present Messrs. Prout and James. The lungs on both sides inflamed, and there was a copious effusion of fluid into the sac of the pleura on the right side. About two quarts of a sero-albuminous fluid of a whey colour were contained in the peritoneum. The small intestines covered with florid vessels and patches of thin, false membrane. The uterus and its appendages were imbedded in thick masses of soft lymph. The muscular coat and veins of the uterus were healthy.

Case VIII. — Mrs. Long, æt. 29, a patient of the British Lying-in Hospital, was delivered, after a natural labour, of her first child, on the 18th of December, 1829. Mr. Stone, under whose care she was placed, and to whom I am indebted for the following report, was not called to see her until the 22d, when he found her in a rambling state. The face was flushed; head hot. There was no tenderness nor enlargement of the abdomen; pulse 130. A small quantity of blood was taken away, which was cupped and buffed. On the 23d she was considered better. The pulse was not quite so frequent. There was a good deal of rambling, but she had some sleep. More blood was abstracted from the arm. On the 24th, the tongue had become brown and parched; the abdomen greatly distended and painful; the pulse rapid and intermitting. She died on the 25th. The body was removed to No. 14, Grey-street, Manchester-square, where I was permitted to examine it with Mr. Prout on the 29th of December.

Dissection. — The sac of the peritoneum was filled with air. The whole abdominal and pelvic viscera exhibited the signs of acute inflammation. The omentum, red and thickened, had contracted adhesions, by a soft yellow lymph, with the small intestines. The small and great intestines, liver, uterus, and its appendages, were all coated with exudations of lymph. The uterine appendages, on both sides, were intensely red and vascular, and were more deeply imbedded in lymph than any of the other viscera. The muscular and vascular structures of the uterus were healthy.

Case IX. — Mrs. Gyde, æt. 22, Brewer-street, Golden-square, after a natural labour, was delivered of her first child, on the 26th of June, 1830. She continued perfectly well till the 28th, when she was attacked with rigors, suppression of the lochia, and great tenderness in the region of the uterus. V.S. to ℥xii., and leeches to the hypogastrium were employed, and calomel and opium were administered internally, at short intervals, by Mr. Stocker of Welbeck-street, who saw her on the evening of the attack. The symptoms were not, however, relieved by these remedies. The pain extended gradually over the whole abdomen, during the three following days. The pulse became extremely feeble and frequent. The countenance sunk, respiration hurried. Tongue

covered with a brown fur. Constant retching and vomiting. Before death, which took place on the 7th of July, (the 11th day after her delivery,) the belly had become enormously distended and tympanitic.

Dissection. — Three or four pints of dark coloured sero-purulent fluid were contained in the abdomen. The peritoneal sac and great intestines were distended with a fetid, gaseous fluid. The uterus and its appendages, the omentum, and small intestines, were all imbedded in lymph, and their peritoneal coat exhibited the other signs of having been severely inflamed. Near the fundus uteri on the left side, immediately underneath the peritoneum, was a circumscribed deposit of pus, about the size of a nutmeg. Another abscess, of a similar description, was observed under the peritoneal coat of the uterus on the left side. The other tissues of the uterus were healthy.

SECTION III.

INFLAMMATION AND SOFTENING OF THE PROPER OR MUSCULAR TISSUE OF THE UTERUS.

For several days after delivery, where no disease of the uterus has supervened, its lining membrane is coated with a yellowish-brown, dark red, or ash-grey coloured layer of no great thickness, which seems to be formed chiefly of the fibrin of the blood with small portions of deciduous membrane ; the os and cervix uteri are at this time of a deep red colour, from blood extravasated under the lining membrane. Where the placenta had adhered, numerous dark-coloured coagula of blood are found to seal up the orifices of the uterine sinuses in the inner membrane, and frequently to extend a considerable distance into these veins. The clots of blood, one extremity of which hangs loose within the cavity of the uterus, are often connected with a large fibrinous coagulum, which entirely fills the fundus uteri, and everywhere firmly adheres to the inner surface of the organ. The dark-coloured layer, which usually coats the inner surface of the uterus after delivery, has been supposed to be the result of gangrenous inflammation, and has been described as such by some pathologists. This ought not, however, to be confounded with the changes produced by inflammation of the inner membrane of the uterus, when it becomes softened or wholly disorganised like the mucous linings of the stomach and intestines in certain inflammatory affections. In two cases I have met with, the internal membrane was soft and flocculent, and had undergone changes similar in appearance to those which are produced in it by maceration. In other cases, not only has the internal coat been disorganised, but the muscular tissue to a considerable depth, or even through its entire substance to the peritoneum, has been of a dark purple, greyish, or yellowish hue,

and so softened in texture as to be torn by the gentlest efforts made in removing the parts from the body. The peritoneum covering the inflamed portion of the muscular coat of the uterus has also been affected, and lymph has been thrown out over its surface as in simple peritonitis, or the peritoneum has become of a yellow, red, or livid colour, where no albumen has been deposited on its surface. The peritoneum has also been softened where the subjacent muscular tissue has been little affected; though more frequently there has been extensive disorganisation of this latter tissue without a corresponding lesion of the peritoneum. In some cases the inflammation has affected the greater part of the muscular structure of the organ; in others, it has affected only the cervix of the uterus, or the part where the placenta had adhered, and the natural appearance of the muscular fibre has been lost. In other instances depositions of pus have been observed, either immediately under the peritoneum, or between the fibres of the proper tissue of the uterus.

In the different works on puerperal fever which have been published in this country, this rapid and fatal variety of uterine inflammation has scarcely been noticed, though it has been accurately described by several German and French pathologists. Astruc, Vigarou, and Primrose, state, that the uterus is liable to be attacked with gangrene and sphacelus; and other authors, particularly Pouteau and Gastellier, have recorded cases where gangrene of the uterus followed acute inflammation of the organ.

In 1750 an epidemic attacked many puerperal women, which was characterised by severe abdominal pain and tumefaction of the hypogastrium. On examining the bodies of two of these women, Pouteau states, that the uterus was found very large; the internal membrane was soft and black, and the substance of the parietes was of a livid red colour, and in a gangrenous state. Boer has described this affection under the term putrescence of the uterus, and has observed its frequent occurrence in particular epidemics.* Luroth† and Danyau‡ have more recently published detailed accounts of this destructive disease. Among the two hundred and twenty-two fatal cases of puerperal fever observed by M. Tonellé, in the Maternité at Paris in 1829, there were forty-nine in which the muscular tissue of the uterus was found softened. M. Tonellé states, that "softening of the uterus," after showing itself frequently in the first half of the year 1829, and particularly about January, disappeared entirely in the months of July and August, which were characterised in a remarkable manner by the frequency of inflammation of the veins. Afterwards it began to rage anew with great violence in September and October, and again disappeared in the last two months, during which time the mortality was inconsiderable.

* Naturæ Medicin. Obstet. lib. viii. Vienna, 1812.
† Repertoire Generale d'Anatomie, tom. v., p. 1.
‡ Essai sur la Metrite Gangreneuse, par A. Danyau, 1829.

Boer and Luroth have erroneously described the different degrees of this affection as constituting two essentially distinct diseases. M. Tonellé also states, that the disorder at Paris assumed two different forms, the softening of the uterus, properly so called, and the putrescence. In one form the softening affected only the internal surface of the uterus, and it presented itself under the appearance of irregular superficial patches of a red or brown colour, which occupied almost all the points of this surface; its limits were not determined, the diseased tissue passing by insensible gradations or shades into the healthy tissue. In the second species the softening extended deep into the substance of the uterus. It occupied sometimes the whole thickness of the body and cervix of the uterus. The tissue of this organ was so softened that the fingers could not seize it without passing through it in all parts. The superficial softening was combined almost constantly with some alteration of structure, peritonitis, metritis, or uterine phlebitis; and it did not appear to M. Tonellé that the existence of these had a very sensible influence on the progress of the symptoms. The softening in the second degree was also sometimes combined with other disorders, but it formed usually the principal alteration, often the only one, and invariably impressed upon the disease the most decided typhoid character.*

That the destruction of the healthy organization of the proper and internal tissues of the uterus, which has now been described, is the consequence of an inflammatory process, and not of any peculiar specific action of the parts, or an altered state of the blood, as some German and French pathologists have maintained, may, I think, safely be inferred, not only from the symptoms which accompany the disease, and from the usual effects of inflammation on the muscular tissue in other parts of the body, but from the frequent occurrence of this affection in combination with peritonitis, and the other varieties of uterine inflammation. The same causes as those which produce inflammation of the other tissues of the uterus also give rise to inflammation of the muscular structure of the organ; as violence inflicted on the abdomen during pregnancy, protracted labour, the incautious introduction of the hand within the uterus, and the application of cold and exposure to an impure atmosphere subsequent to delivery.

Symptoms.— Pain of the hypogastrium, diminution or suppression of the lochial discharge, and rigors with rapid feeble pulse, are the most frequent symptoms of the disease. The countenance becomes pallid, with an expression of great anxiety and distress. There are often present severe headache and delirium, and other symptoms of cerebral disturbance. The skin is hot and dry at first, but afterwards cold, and sometimes of a peculiar blue or sallow tinge; the respiration hurried, with great prostration of strength. The tongue soon becomes foul, the lips covered with dark sordes,

* Archives Générales de Medicine, tom. xxii.

with occasional nausea, vomiting, and diarrhœa. The disease sometimes runs its course with great rapidity; at other times it does not terminate fatally before the end of the second week after delivery.

Diagnosis. — The diagnosis of this variety of uterine inflammation, particularly where it is complicated with peritonitis or phlebitis, which is frequently the case, is extremely difficult. The prostration of strength, and the alteration of the features, which often exist from the commencement, the feebleness and rapidity of the pulse, the irregular fetid state of the lochia, are not such constant symptoms as to be considered pathognomonic, and they may arise from other causes. The most attentive consideration of the phenomena, will only lead to a probability as to the nature of the affection; and sometimes its existence cannot be determined during life. In all the cases of this affection which I have observed, the resources of nature and of art have proved equally unavailing in arresting its fatal course. The active inflammatory symptoms which have usually manifested themselves at the commencement of the attack, have passed speedily away, whatever plan of treatment has been adopted, and have been rapidly succeeded by symptoms of exhaustion. Where the disease has not been complicated with inflammation of the other tissues of the uterus, the symptoms have not been such as to indicate the necessity for venesection; and, in one case, where a considerable quantity of blood was abstracted from the system, death soon followed. In other cases, where an opposite plan of treatment was had recourse to, the fatal termination seemed to be less speedy, though equally certain.

A case of spontaneous rupture of the uterus came under my observation in July, 1828, and, on dissection, the posterior part of the cervix and body of the organ were found converted into a soft gelatinous pulp. Another case was related by Dr. Merriman to the Medical and Chirurgical Society, on the 10th of March, 1829, in which the same cause appeared to have given rise to a similar result; and here not only had the parietes of the uterus undergone this morbid softening, but the spleen, liver, and other viscera, were found peculiarly soft in their texture, so that the finger could scarcely be put upon the parts without tearing them.

On the 5th of November, 1832, I examined, with Dr. H. Davies and Dr. Edwards, the body of a woman who had died the preceding day, in the British Lying-in Hospital, about half an hour after delivery. The uterus lay in the hypogastrium like a large flaccid bag, of a dark livid colour, which was removed with some difficulty without laceration, in consequence of the soft shreddy state of the uterine parietes. When cut into, the muscular tissue of the uterus presented a blackish appearance, apparently from blood extravasated between the fibres. The whole fundus and body of the uterus was in this peculiar condition, except a small portion at the posterior and inferior part, where the placenta had not been attached. Here the healthy structure remained. The uterine appendages on both sides

were likewise of a dark livid colour, and the ovaria were broken down by the application of the slightest force.

This patient, for six weeks before delivery, had suffered so much uneasiness in the region of the uterus, that she could not lie down in bed during the whole of this time. The abdomen was also greatly distended before labour came on, and it is probable she would have died undelivered, but for the artificial assistance which was promptly afforded. The symptoms clearly proved the existence of some serious disease in the uterus before parturition commenced.

These facts, with those related by Boer, render it probable that the occurrence of softening of the uterine parietes may occasionally take place during utero-gestation, as well as subsequent to delivery.

Cases of Inflammation and Softening of the Muscular or Proper Tissue of the Uterus.

Case X.—Mrs. D———, Orange-street, Leicester-square, after a severe, protracted labour, was delivered of a still-born child on the 25th of March, 1829. On the 27th there was exquisite tenderness of the hypogastrium, increased by pressure, with fulness and tension of the whole abdomen. The pulse was rapid and feeble. The lochia and milk suppressed. The tongue was dry and furred. Thirst urgent, with constant nausea. Leeches and warm cataplasms were applied to the region of the uterus, and calomel and opium administered every second hour. The pain gradually extended to the whole abdomen, which was enormously distended. The pulse became still more rapid and feeble. The tongue brown, teeth covered with dark sordes. Incessant vomiting of dark-coloured matters, with low muttering delirium, followed, and she sunk on the 4th of April.

Dissection. — The peritoneal surface of the great intestines were remarkably vascular, but no false membrane was observed on any of the abdominal viscera. Several pints of a brown serous fluid were contained in the peritoneal sac. The uterus was large and uncontracted, and its peritoneal coat, at the inferior and posterior part, was deeply red, its muscular tissue to a considerable extent in this situation was of a dark ash-grey colour, and so soft as to be lacerated by slight pressure of the fingers. The os uteri at the posterior part was softened and wholly disorganised.

Case IX. — On the 7th of September, 1829, I was present at the examination of the body of a lady who had died, on the ninth day after delivery, with the ordinary symptoms of low childbed fever. Little complaint had been made of pain in the region of the uterus. The pulse was rapid and feeble, the respiration hurried. The tongue loaded, with diarrhœa. Before death the whole surface of the body had assumed a deep yellow colour. Dr. Henry Davies was consulted in this case; and it was by his kindness that I

enjoyed the opportunity of witnessing this dissection, and of examining the bodies of several other women who had died, in the hospital, under his care.

Dissection. — The uterus occupied the brim of the pelvis. The whole peritoneal sac had a healthy appearance, except a small portion covering the posterior part of the body of the uterus, which was red and vascular, but not covered with false membrane. On cutting into the cavity of the uterus, there escaped a dark-coloured offensive fluid. The muscular coat under the inflamed peritoneum, where the placenta had adhered, was converted into a soft flocculent substance, readily broken down with the fingers, and this morbid alteration extended nearly to the peritoneum. Around this disorganised portion of the muscular and internal coats of the uterus, similar changes, though slighter in degree, were observed in these tissues to a considerable distance, and they had a dark livid colour.

The uterine appendages on the right side were also disorganised by inflammation.

Case XII. — Mrs. Chapman, æt. 36, No. 9, Belton-street, Long Acre. Delivered on the 19th of August, 1830; labour easy. On the 24th, after drinking freely of porter, was suddenly attacked with a violent rigor, of long continuance, which was succeeded by acute uterine pain, headache, and great frequency of pulse. No remedies of any kind were employed until the 27th, when I was first called to see her. She had been delirious in the night. The pulse 130, soft and compressible. Hurried breathing, great prostration of strength. Tongue brown and furred; diarrhœa. Surface of the body of a deep sallow colour. The hypogastrium was painful on pressure. The abdomen generally neither swollen nor tender.

The symptoms became aggravated in the night, and she died on the morning of the 28th.

Dissection. — Dr. Sims and Mr. Rice were present. No trace of disease could be detected in the peritoneal coat of the uterus, intestines, or other abdominal viscera, and no effusion of fluid had taken place into the peritoneal cavity.

Both ovaria were enlarged and disorganised; being so softened in consistence as to resemble a rotten pear. Both fallopian tubes were of a deep red colour, and their cavities were filled with a thin purulent fluid. These morbid appearances were most remarkable in the right uterine appendages. The muscular coat of the greater portion of the body and fundus of the uterus, at the posterior part, was of a peculiar yellow colour, and so soft, that the point of the forefinger passed through it and the peritoneum covering it, though the parts were dissected out in the gentlest manner. On a careful examination of the uterus, it was found that the whole of the uterine parietes at the posterior part had undergone this morbid change of structure.

Case XIII. — Mrs. Clarke, æt. 35, No. 57, Monmouth-street. On the 12th of September, 1829, (the seventh day after parturition,)

she had a severe febrile attack, with intense pain across the forehead, redness of the eyes, increased sensibility to light, and distressing sickness at stomach. The respiration was hurried; the pulse 150, and feeble, and the skin hot. No tenderness in the region of the uterus. On the 18th, these symptoms continued without any remission, and a soft puffy swelling, about the size of a hen's egg, suddenly appeared over the back of the left hand, close to the wrist. Until the 17th it gradually enlarged, and was accompanied with considerable swelling of the forearm and the most excruciating pain. A deep incision was made by Mr. Copeland Hutchison into the swelling, and an ounce of pus was discharged.—*18th of September.* She has been violently delirious in the night; but though now more tranquil, is still incoherent. The countenance is sunk, pulse 150, and feeble. Tongue dry and brown. Diarrhœa. There is now considerable tenderness on pressure of the hypogastrium. An offensive discharge has taken place from the vagina. The swelling in the left hand and forearm is a little diminished. From the 19th to the 22d, when she died, there was delirium, with repeated severe fits of cold shivering. Pulse 150, tongue dry and brown. The left forearm continued swollen, and of a dusky red colour. The integuments on the back part of the hand were completely destroyed by sloughing, and the extensor tendons laid bare.

Inspection. — The uterus had entirely receded into the pelvis. The peritoneum covering its fundus, and the posterior part of the body was of a yellowish colour, and so soft as to be torn with the fingers in the removal of the parts from the body. The muscular and internal coats of the uterus, particularly at the superior and posterior parts, were disorganised, being reduced to a soft pulp of a dark red and ash-grey colour. The appendages of the uterus and bloodvessels exhibited no trace of disease, though they were carefully examined. The cellular membrane of the left forearm was loaded with pus; that over the left wrist and back of the hand was reduced to the state of a dark-coloured slough.

SECTION IV.

INFLAMMATION AND SUPPURATION OF THE ABSORBENT VESSELS OF THE UTERUS.

No pathologist in this country had observed a case of inflamed absorbents of the uterus before the month of July, 1829, when a fatal example of the disease occurred in St. George's Hospital. A woman, æt. 30, in an advanced stage of pregnancy, was admitted into that hospital on July the 1st, under the care of Mr. Cæsar Hawkins, in consequence of sloughing of the skin covering a diseased bursa of the patella. The removal of the bursa was followed by great constitutional disturbance; and on the fourteenth labour came on. Two days after, symptoms of uterine inflammation

made their appearance, and on the eighteenth day death took place. Though the pain was relieved by bleeding, she never rallied after the attack. On examining the body, some puriform lymph was found in the pelvis, but there was no increase of vascularity in the peritoneum. In the broad ligaments some fluid was also effused, and on each side numerous large absorbent vessels were observed passing up with the spermatic vessels to the receptacle of the chyle, which was unusually distended. All these vessels, and the reservoir itself, were filled with pus; but that in the receptacle was mixed with lymph so as to be more solid; the vessels themselves were firmer and thicker than usual. The thoracic duct was quite healthy. The uterus was scarcely contracted; and the internal surface of the lower half was soft and shreddy, and in a state of slough. The upper part, where no pus was found externally, was also healthy, or nearly so on its inner surface.*

Since the occurrence of the preceding fatal example of inflamed absorbents of the uterus, several cases of this affection have come under my observation, the histories of which I shall hereafter detail.

In the extensive collection of pathological drawings, made by Dr. Carsewell for the London University, there are several in which the appearances observed in cases of inflammation and suppuration of the absorbents in the vicinity of the uterus, of the receptaculum chyli, and of the thoracic duct, have been accurately represented. These beautiful drawings were made by him in Paris, and it has been proved, by the researches of Tonellé and Dupley, that inflammation of the absorbents of the uterus, of the receptaculum chyli, and thoracic duct, occurs not unfrequently in puerperal women, and that it gives rise to the same constitutional disturbance as uterine phlebitis. It appears, indeed, that these varieties of uterine inflammation are frequently combined; and it is probable that in both the purulent fluid is conveyed by the absorbents and veins into the mass of circulating blood. The local symptoms of this affection are often so obscure as to escape detection during life, while the constitutional symptoms, which sometimes resemble in a striking manner the effects produced by specific poisons, are so virulent as not to yield to any remedies, however early and vigorously employed.

SECTION V.

INFLAMMATION OF THE VEINS OF THE UTERUS, OR UTERINE PHLEBITIS.

In women who have enjoyed good health during pregnancy, and in whom the process of parturition has been easily accom-

* Med. Chir. Transac. vol. xv., p. 64.

plished, uterine phlebitis occasionally commences within twenty-four hours after delivery, with pain more or less acute in the region of the uterus, accompanied or followed by a severe rigor, or a succession of rigors, suppression of the milk and lochial discharge, acceleration of the pulse, cephalalgia, or slight incoherence, with most distressing sensation of general uneasiness, and sometimes by nausea, vomiting, and diarrhœa. These symptoms, after a short duration, are succeeded by increased heat, tremors of the muscles of the face and extremities, rapid feeble pulse, anxious and hurried respiration, great thirst, with brown dry tongue, and frequent vomiting of green coloured matters. The sensorial functions usually become much affected, and there is a state of drowsy insensibility or violent delirium and agitation, which is soon followed by symptoms of extreme exhaustion. The whole surface of the body not unfrequently assumes a deep and peculiar sallow or yellow colour, or a petechial or vesicular eruption appears on different parts of the body. The abdomen, also, sometimes becomes swollen and tympanitic, and some of the remote organs of the body, such as the lungs, heart, brain, liver, and spleen, or the articulations and cellular membrane, and muscles of the extremities, suffer disorganisation, from a rapid and destructive congestion and inflammation.

There is scarcely an organ which has not been observed to become secondarily affected from inflammation and suppuration of the uterine veins. The vessels of the brain sometimes become greatly congested, and lymph is effused upon the surface of the pia mater, or serum into the ventricles; portions of the cerebral pulp have become softened and disorganised, or purulent infiltrations have taken place into the cerebral substance.

In other individuals whose lungs had previously been healthy, a rapid and destructive inflammation of the pleura has taken place, or portions of the pulmonary texture have become condensed, of a dark red colour, or infiltrated with pus. In four cases which have fallen under my observation, where there had been only obscure pain during life, with slight cough and dyspnœa, a copious effusion of lymph and serum was found within the cavities of the thorax; the pleura was covered with false membranes, and portions of the lung had fallen into a state of complete gangrene. In one individual the pleura had given way by sloughing, and the right side of the chest was found distended with air. Gangrene, also, sometimes takes place rapidly in those parts of the body on which the patient rests, and the same process is established in other soft parts where no pressure has been made. In a case related by Cruveilhier, which did not prove fatal, the nose became black and gangrenous.

In uterine phlebitis, the mucous membrane lining the stomach has also been observed to be reduced to a pulpy state, and the substance of the spleen has been softened and disorganised. The eyes have also become suddenly affected with a destructive inflam-

mation, and the vision has been entirely lost many days before the termination of life. In two cases which came under my care, the conjunctiva of both eyes, without much pain, suddenly became intensely red, the cornea opaque, and the eyelids much swollen, and under their lining membrane a large serous deposition took place; lymph and pus were also effused into the anterior chamber, and in one the cornea ultimately burst.

Deposits or infiltrations of pus, of enormous extent, also take place into the cellular membrane, in the neighbourhood of the large joints, and between the muscles of the extremities, the cartilages of the joints themselves become ulcerated, and the pus is formed within their capsular ligaments. In a recent case of uterine phlebitis, the cartilage at the symphysis pubis had been removed by ulceration, and a quantity of purulent fluid deposited within the capsular ligaments between the naked extremities of the bones.

In other puerperal women, who have never been subject to attacks of rheumatism, severe pain is experienced in various parts of the body, more particularly in the joints and extremities, with an exhausting fever. M. Tonellé states, that the integuments covering the deep abscesses resulting from uterine phlebitis, are always of a violet colour, or present a peculiar characteristic tension and shining appearance. The inflammation is not confined to certain defined limits, so as to form circumscribed abscesses, but the pus is diffused, and disappears by an insensible transition into the surrounding parts. Where pus is deposited in the muscles, the fibres become of a grey colour and softened. M. Tonellé also states, that he has frequently seen the pus in little abscesses among the muscles, where their fibres were not altered in appearance.

All these affections have a common origin, and cannot be referred to any other cause than to the morbid condition of the veins of the uterus. The purulent, or other secretions, formed by inflammation within the cavities of these vessels, probably produce the whole of the injurious effects now described, by entering the system and contaminating the mass of blood, in like manner as poisons do when absorbed into the body. It may be true, as some have supposed, though it cannot be demonstrated, that a certain number of the purulent particles fix themselves in the muscles and other parts, like globules of mercury injected into the veins, and that they become the focus, or centre, of an inflammation exactly circumscribed, which speedily runs on to suppuration.

In some cases uterine phlebitis commences at a later period after delivery than above described, and in a much more obscure and insidious form, without pain or sense of uneasiness in the region of the uterus, or any other local symptom by which the affection can be recognised. The uterus may return to the reduced volume it usually assumes after delivery; the lochial discharge may continue; and the inflammation and suppuration of the veins, which have caused the whole of the violent constitutional disturbance,

and destructive lesions in distant parts of the body, may have been wholly overlooked.

Inflammation of veins rarely takes place in any part of the body, where it cannot be referred to a wound, or to some specific cause externally applied to the coats of the vessels. In uterine phlebitis, the inflammation cannot, it is true, be traced in all cases to the semilunar shaped orifices in the lining membrane of the uterus which communicate with the sinuses, where the placenta has adhered; yet, it scarcely admits of a doubt, that the frequent occurrence of the disease arises from the orifices of these veins in the lining membrane of the uterus being left open after the separation of the placenta, by which a direct communication is established between the cavities of these veins and the atmospheric air, in a manner somewhat analogous to what takes place in amputation and other extensive wounds. Such a condition of the uterine veins, in consequence of the separation of the placenta, must be favourable to the production of inflammation; and inflammation, once excited, is seldom limited to these veins, but extends with greater or less rapidity along the continuous membrane of the uterine veins, to the spermatic or hypogastric, and from thence to the vena cava and its principal branches, which return the blood from the lower extremities.*

In a subsequent part of this work, I shall adduce numerous facts to prove, that inflammation commencing in the uterine branches of the hypogastric veins, by extending to the iliac and femoral veins, invariably gives rise to all the phenomena of phlegmasia dolens in puerperal women.

Various alterations of structure are produced by inflammation in the veins of the uterus. Their coats usually become thickened and contracted, and their inner surface sometimes lined with lymph. in the form of a perfect tube. Depositions of coagula of lymph and fibrin of the blood, mixed with purulent matter, are also frequently formed within their cavities, which become completely obliterated. Coagula of the fibrin of the blood, which often extend a considerable distance into the uterine sinuses, are formed in their orifices after every labour, and are the principal means employed by nature, along with uterine contractions, for the permanent suppression of hemorrhage. These coagula may be distinctly perceived for several weeks after delivery, and both in their form and colour they differ from those produced by inflammation. In opening the body of a woman, who died four weeks after confinement, I observed distinct traces of these partially absorbed coagula in the muscular substance of the uterus, at that part where the placenta had adhered.

The inflammation may be limited to the veins of the uterus, but not unfrequently the contiguous muscular tissue participates in the

* See a paper by the author, in the Philosophical Transactions for 1832, on the Structure of the Human Placenta and its Connection with the Uterus.

inflammation, and becomes of a dark red, or blackish-brown colour, and of an unusually soft consistence. The peritoneal covering may also be affected, and the usual consequences of puerperal peritonitis then ensue.

The veins which return the blood from the uterus, and its appendages, may be either wholly or in part inflamed; generally, however, the inflammation attacks the spermatic veins alone, and for the most part the one only on that side of the uterus to which the placenta has been attached; and it may either confine itself to a small portion of the vessel, or extend throughout its whole course, from the uterus to the vena cava. The usual consequences of inflammation of veins are then apparent, viz., injection and condensation of the cellular membrane in which they are imbedded, thickening, induration, and contraction of their coats, and the deposition of lymph, mixed with pus and coagula of blood, within their cavities.

The same is the case with regard to the hypogastric veins, one only being generally affected. These veins are, however, rarely inflamed in comparison with the spermatic; and this would seem to depend on the latter veins being invariably connected with the placenta, to whatever part of the uterus it may happen to be attached.

But inflammation having once begun, it is liable, as I have before stated, to spread continuously to the veins of the whole uterine system — to those of the ovaria, of the fallopian tubes, and broad ligaments. The vena cava itself does not always escape, the inflammation spreading to it from the iliac, or from the spermatic veins. This occurrence seldom takes place to a great extent, through the medium of the spermatic, the inflammation usually terminating abruptly at the opening of the spermatic into it on the right side, or of the renal on the left. If it pursue, as it sometimes does, the direction of the kidneys, the substance of these organs, as well as their veins, may be involved in the disease.

Uterine phlebitis appears to result from the mechanical injury inflicted upon the uterus, by protracted labour, from the force required for the extraction of the placenta, in uterine hemorrhage, from retained portions of the placenta undergoing decomposition in the uterus, the application of cold, and perhaps of contagion, or from any of the causes which produce the other varieties of uterine inflammation. M. Dance considers deranged states of the lochia to be a frequent cause of the disease, but these are consequences and not causes of uterine phlebitis.

It is, perhaps, impossible to determine, for the most part, the precise period of its invasion, from the total absence of local pain, and of other symptoms; but it is probable that it most frequently begins soon after delivery, and remains stationary for a time around the orifices of the uterine veins, as phlebitis has been observed to do where it occurs after venesection. Of this, however, we can have no certain proof; nor can it be admitted to be a

general occurrence, from the rapidity with which the inflammation has been found to attack the uterine, spermatic, and renal veins. In one case, the disease proved fatal on the evening of the fifth day after labour, and on dissection all these veins were found disorganised.

Where the veins alone are inflamed, the peritoneal and muscular tissues remaining unaffected, there is often either no pain, or only a dull pain with a sense of weight in the region of the uterus, and no other local symptom by which the disease can be recognised. The uterus too, may return to its usual reduced volume, or nearly so; and it is only on the accession of the constitutional symptoms, viz., rigors, prostration of strength, rapid feeble pulse, low wandering delirium, attacks of vomiting and diarrhœa, with brown, parched tongue, and ultimately rapid and destructive inflammation of the eyes, and purulent deposits in the substance of the lungs, that the existence of this insidious and dangerous affection can be determined. If the substance of the uterus be affected, this organ remains, above the brim of the pelvis, large, hard and painful on pressure, as in puerperal peritonitis.

With regard to the lochial discharge, it has sometimes been observed to be fetid and puriform, and at other times in a perfectly natural state. Where the lochia have been offensive, in every case it appeared to be a consequence and not a cause of the disease of the uterus.

Inflammation of the veins of the uterus, though a dangerous disease, when pus is formed within the vessels, is not invariably fatal. That it often occurs in puerperal women, where it is not suspected to exist during life, and where the symptoms are referred to other causes, is clearly demonstrated by the fact, that in the spermatic and hypogastric veins of females advanced in years, calcareous concretions, and various other proofs of disorganisation, have frequently been observed, which must have been produced by attacks of acute inflammation at some remote period. In many cases, where the existence of uterine phlebitis was proved by the extension of the disease to the iliac and femoral veins, complete recovery took place.

SECTION VI.

HISTORY OF UTERINE PHLEBITIS.

Inflammation of the venous system was first described, in 1784, by Mr. John Hunter, in a paper read before a Society for the Improvement of Medical and Chirurgical Knowledge, and subsequently published in the year 1793, in the first volume of their Transactions. The fatal effects sometimes succeeding to venesection, he ascertained to depend on inflammation of the internal coats of the veins, which he observed to assume, in different cases, the

adhesive, suppurative, or ulcerative forms. The inflammation he perceived to extend both upwards and downwards from the wound, so as entirely to close the anastomosing branches, and thus destroy the circulation in the diseased veins. The passage of the pus to the heart along with the circulating blood, he considered to be a frequent occurrence, though it was sometimes prevented by the adhesive inflammation taking place in the vein between the heart and the place of suppuration. "In all cases," he observes, "where inflammation of veins runs high, or extends itself considerably, it is to be expected that the whole system will be affected. For the most part, the same kind of affection takes place which arises from other inflammations, with this exception, that where no adhesions of the sides of the vein are formed, or where such adhesions are incomplete, pus, passing into the circulation, may add to the general disorder, and even render it fatal." Mr. Hunter adds, "Many horses die of this disease; but what is that particular circumstance which occasions their death I have not been able to demonstrate. It may either be that the inflammation extends itself to the heart, or that the matter secreted from the inside of the vein, passes along the tube in considerable quantity to the heart, and mixes with the blood. I am inclined to believe, that the exposure of cavities of the larger veins in cases of accidents, and also of operations, is often the cause of many of the very extensive inflammations which sometimes attend these cases, and, indeed, may be the reason why inflammations extend or spread beyond the sphere of continued sympathy."*

Three years after Mr. Hunter's original and most valuable paper had been presented to the society, Paletta made the following striking observations on the remote consequences, or secondary effects, of inflammation of veins: "Grave adeo ac vehemens malum non videbatur in sanguineis pelvis vasis substitisse: sed humorem per venæ cavæ torrentem ad cor delatum, in remotiori aliqua parte depositum fuisse, jure suspicabamur. Quare reserato thorace in dentro pulmone, qui undique liber, colore et consistentia naturali erat, quatuor abscessus offendimus," &c.

. . . "Hæc enim (vasa) sive saniosam materiam ex ipso ulcere exceptam ad interiores partes deportarint, sive quod verosimilius, pus ob tunicarum inflammationem in earum lumine generatum a redeunte sanguine in humorum massam transvectum sit, certe utrovis modo ab extremis partibus ad interiores per hac vasa materia peccans delata est.

. . . . "Si itaque hac transvectio causa est apostematum in memoratis visceribus observatorum: nonne idem sentiendum est de abscessibus, qui post graves capitis lesiones in hepate, liene, pulmone, pericardio consequuntur? Possunt utique sanguineæ venæ ob ictus vehementiam et capitis concussionem, etc., inflammationi ut aliæ partes esse obnoxiæ,"† &c.

* Transactions of the Society for the Improvement of Medical and Chirurgical Knowledge, vol. i., p. 18. 1793.

† Exercitationes Pathologicæ, cap. iii. Observ. 1787.

In an epidemic puerperal fever which prevailed in the Store-street Lying-in Hospital, and which proved fatal to many women, Dr. John Clarke and Mr. Wilson, on examining the bodies, found the peritoneal coat and substance of the uterus inflamed, and its veins often containing large quantities of pus.* Dr. C. has offered no observation on the origin and extension of the inflammation of the uterine to the spermatic and hypogastric veins, nor has he given any description of the peculiar constitutional symptoms to which it gives rise. These symptoms, however, did not escape the observation of Meckel; for in a case of puerperal fever, the history of which he communicated to Sasse, he has not only accurately described the constitutional symptoms of uterine phlebitis, but has clearly pointed out the morbid alterations which take place in the coats of the veins. "All the veins," he observes, "which surround the uterus, the hypogastric trunks, and the vena cava inferior, were all greatly enlarged in volume. The place where the placenta had adhered was distinguished at the posterior part of the uterus by a fungous mass. The veins whose exterior appearance had arrested the attention, were examined with care; they were separated from the surrounding cellular substance, and in this state the whole system of uterine and spermatic veins presented an extraordinary augmentation of the calibre of the vessels and thickness of their coats. When opened, there escaped from them a true purulent fluid. The vena cava, where the right renal vein entered, presented a resisting tumefaction, and when laid open, its coats were double the natural thickness, and the cavity was filled with pus, and a polypus formed of pseudo-membranous and puriform concretions."

"Many circumstances might contribute to render the disease mortal;" but is it not fair, inquires Meckel, "to attribute the occurrence of the fatal termination of the case to the profound lesion of the veins?"†

Ribes describes a fatal case of puerperal peritonitis, in which the abdominal veins were filled with a sanious pus, and it is the presence of this purulent fluid in the veins, he thinks, which renders the diseases of the uterus in puerperal women so rapidly fatal.‡

Professor Burns observes, in the chapter of his work on inflammation of the uterus, "that pus is often contained in the ovaria and tubes, and sinuses of the uterus. Mortification is an extremely rare termination. This is a fact of which my dissections convince me, and it is further confirmed by the opinion of Dr. Clarke. Little or no serous effusion takes place into the abdomen. In some cases the veins participate very extensively in the disease, and become inflamed to a great distance. Thus, inflammation may spread to-

* Practical Essays on the Management of Pregnancy and Labour, and on the Inflammatory and Febrile Diseases of Lying-in Women, 1793.

† De Vasorum Sanguiferorum Inflammatione, Auctore Jo. Georg. Sasse. Halle, 1797.

‡ Memoires de la Société Med. d'Emulat., tom. viii., p. 604. Revue Medicale, 1825, tom. iii.

wards the heart or liver, or down along the veins of one or both thighs. This is attended with great and debilitating fever, and much pain in the course of the affected veins, which after death are found inflamed, thickened, or filled with pus."* Peritoneal inflammation, and inflammation of the uterus, are described by Dr. Burns as diseases essentially different from puerperal fever and ; the latter affection is not considered by him as connected with inflammation of the uterus; for, though sometimes the first seat of the pain, and occasionally found inflamed, he represents the uterus as "in general not more affected than the intestines." None of the more recent writers in this country on puerperal fever have even alluded to the subject of inflammation of the veins of the uterus.

Soon after my return from the continent, in 1826, I received the appointment of physician to the British Lying-in Hospital. About the same time, through the kindness of the physicians to the Middlesex Hospital, Benevolence Institution, and Westminster General Dispensary, I was permitted not only to witness the cases of difficult labour which occurred in the practice of these institutions, but to observe the numerous examples of acute disease which took place among the women in the puerperal state. In most of the cases of puerperal fever which came under my observation, in the earlier part of 1827, there was acute pain of the uterus, with strong febrile symptoms ; and where the antiphlogistic treatment was early and vigorously adopted, recovery almost invariably followed. I was induced to believe, from what I observed at this time, that inflammation of the peritoneum and puerperal fever were the same diseases, and that bloodletting and cathartics, as recommended by Drs. Gordon, Armstrong, and Mr. Hey, would generally succeed in procuring relief. But in the month of September of the same year four fatal cases occurred in rapid succession, and the symptoms and appearances on dissection in one of these cases completely overturned this view of the pathology of puerperal fever.

Case XIV. — A young woman, named Costello, residing in Church-court, near St. Martin's-lane, was delivered of a still-born child on the 2d September, 1827, and for four days seemed to recover in a favourable manner. On the 8th she had a severe rigor, which was followed by a rapid and feeble state of the pulse, and great prostration of strength. No pain or swelling could be discovered by pressure in the region of the uterus, and the lochial discharge was not suppressed. Low muttering delirium took place in a few days, with tremors of the muscles of the face and extremities ; the skin became of a dusky yellow hue, the eyes swollen and suffused, and the tongue of a dark brown colour, vomiting and diarrhœa followed, and she died on the 16th. During the whole progress of the disease there was no pain in the region of the uterus; but the abdomen became tympanitic twenty-four hours before death. Permission could not be obtained to examine the body, though I earnestly desired it.

* The Principles of Midwifery, by J. Burns. London, 1820, p. 524.

Five days after the death of Mrs. Costello, the case of Mrs. Somerville occurred; and from the new and important views which it opened up of the nature of puerperal fever, I immediately resolved to avail myself of the extensive opportunities which I enjoyed in public institutions fully to investigate the disease by morbid anatomy.

Case XV.—*Inflammation of Left Spermatic Vein, and Sinuses of the Uterus.*—September 21st, 1827. Mrs. Somerville, No. 4, Orange-street, Leicester-square, æt. 40, was delivered of her seventh child on the 18th instant, after a natural labour. Yesterday afternoon she was attacked with a severe rigor, which was speedily followed by acute pain in the hypogastrium and loins, suppression of the lochia, nausea, urgent thirst, and increased heat of skin. In the evening she was delirious, and slightly comatose. She is now roused with difficulty, and makes no complaint, but of pain in the left iliac region. The abdomen is unusually distended, but neither hard nor tense; and pressure produces no uneasiness, except between the left ilium and umbilicus. The uterus can still be felt above the brim of the pelvis, large and hard, and very painful on pressure. The milk and lochial discharge are suppressed. The countenance is pale and anxious; respiration hurried; pulse 130, weak and intermitting; tongue white and moist; bowels have been opened by castor oil.

During the 22d the stupor continued to increase, the abdomen was much more distended and painful, the respiration more hurried and laborious, and the pulse extremely quick, feeble, and intermitting. She became completely comatose in the evening, and died on the morning of the 23d.

Dissection.—Present, Dr. Auchinleck and Mr. Wade. The intestines were slightly distended with gas, but there was no trace of inflammation on any part of their peritoneal surface, and no fluid effused into the sac of the peritoneum. On turning aside the intestines, the left spermatic vein, from the uterus to its junction with the left emulgent vein, was seen distended to nearly the size of the vena cava itself. The cellular membrane surrounding it was highly vascular, and adhered closely to its external coat. On laying open the vein, a dark-coloured, firm coagulum of blood filled it throughout its whole course, but it did not adhere to its internal surface, except near its termination, where it was lined with a layer of lymph. The coats of the vein were thicker and firmer than usual, and the internal membrane was of a bright scarlet colour, as was that lining the veins of the uterus near the fundus on the left side; the part to which the placenta had been attached. The substance of the uterus in this situation was of a dark livid colour, remarkably soft in its texture, and easily torn with the fingers. The corresponding ovary and fallopian tube were also very soft and of a dark red colour, and shreds of coagulable lymph adhered closely to their surface. The left renal vein was in the same state as the spermatic, and the substance of the left kidney was soft and vascular. In other respects the abdo-

minal viscera were in a healthy state, and nothing unusual was perceived in those of the thorax. The brain was not examined.

Case XVI.—On the 25th September, 1827, Mrs. Cantwell, No. 15, Green-street, Leicester-square, who had been attended by the same midwife as the two former patients, was attacked on the 6th day after confinement with a violent rigor, and slight tenderness in the region of the uterus.

On the 26th there was no tenderness on pressure in the hypogastrium; but the pulse was above 140, and extremely feeble, and she had been delirious in the night. There was a constant tremulous motion observed in the face and extremities. On the 27th she was violently agitated and delirious. The tongue had become dry and brown, the pulse 160, and extremely feeble; pupils dilated, respiration hurried. Neither pain, swelling, nor tension in the region of the uterus. The lochia continued to flow. On the 28th the symptoms were aggravated, and resembled those which are observed in the worst forms of typhus. On the 29th she died, completely exhausted.

Though I urged every argument in my power to obtain permission to examine the body, it was obstinately withheld by the husband, and the real condition of the uterine veins was unfortunately not ascertained. I had no doubt, however, from what I had before observed, that the symptoms in this, as in the preceding case, arose from uterine phlebitis. The histories of these cases were related by me, at the time they occurred, to several professional friends who had enjoyed extensive opportunities of observing the acute disorders of puerperal women; but none of them had met with an example of inflammation of the spermatic veins, nor would they admit that any relation existed between the state of these vessels, which I pointed out, and the constitutional symptoms of what was usually termed low childbed or typhoid puerperal fever. With the observation of Meckel, I was at this time unacquainted. Dr. Carsewell, Professor of Pathology in the London University, paid a short visit to England in December, 1827; and on relating to him the particulars of the preceding cases, he informed me, that in the hospitals of Paris he had witnessed several examples of inflammation of the veins of the uterus in puerperal women. Though in constant communication with the best pathologists in Paris, Dr. C. distinctly stated his conviction that no physician in France had referred the peculiar symptoms of malignant puerperal fever to inflammation of the veins of the uterus. From the French journals, however, it appears that M. Louis observed a fatal case of this disease, in 1826, and that M. Dance the same year published the histories of several cases in his Inaugural Dissertation at Paris. As far as I have been able to ascertain, no copy of M. Dance's Thesis has been seen in England; and until the summer of 1829, when his valuable papers on phlebitis first appeared in the *Archives Générales de Medicine*, I was utterly unacquainted with the fact, that the subject which I had under-

taken to investigate, and in which I felt so deeply interested, had engaged the attention of other observers. In October, 1828, the cases which have now been related, and three of those which follow, with observations on uterine phlebitis, were read before the Medical and Chirurgical Society of London, and soon after published in the *Medical Gazette*. On the 23d of January, 1828, when examining the preparations of Dr. Davis, I observed a specimen of inflamed spermatic vein; the left spermatic and renal veins were both obstructed with coagulable lymph. On inquiring into the history of the individual from whom the veins were taken, Dr. D. informed me that he had preserved no details of the case, but that the diseased vessels were removed by him from the body of a woman who had died a few days after delivery from puerperal fever. So little importance had been attached by Dr. D. to this specimen, that it was never exhibited to his class in 1827; and prior to the period when I related the facts I had observed, no mention was ever made by him, in his lectures, of inflammation of the veins of the uterus. Dr. Davis does not even admit, that the inflammation of the iliac and femoral veins, which produces phlegmasia dolens, originates in the veins of the uterus; and he still maintains the opinion, "that there is no important distinction between puerperal peritonitis and the disease which has been exclusively called puerperal fever." "It is my opinion," he observes, "that the disease is precisely the same, though the opinions of authors of weight in the profession are different." (MS. Lectures.)

Case XVII. — *Severe Affection of the Joints after Parturition.* — Mrs. Pope, æt. 40, No. 7, Feather's-court, Drury Lane, a patient of the Westminster General Dispensary. She was delivered on the 26th of October, 1827, of her fourteenth child, after an easy labour, and appeared to recover favourably until the 3d of November. Without any obvious cause, she was then suddenly attacked with a severe rigor, which was speedily followed by intense headache, vomiting, general soreness of abdomen, and suppression of the lochia. — *November 6th*, 1827 (eleventh day after parturition). The symptoms now observed are, great prostration of strength, laborious respiration, with pain at the bottom of the sternum, and frequent hacking cough. Pulse 135, and extremely feeble; skin hot and dry; the lips parched, and teeth covered with brown sordes; tongue of a deep red at the edges, dry, chapped, and covered with a yellow fur in the centre. Occasional retching and vomiting. Bowels confined. Lochia suppressed. The abdomen is perfectly soft and natural, but feels generally sore on being pressed. She complains of acute lancinating pain in the vertex, and of pain and loss of power to move the left inferior extremity. On examining the limb, there are several hard lumpy cords found running up on the inside of the thigh, in the direction of the superficial veins, which are very painful to the touch. The integuments over these are not discoloured. The middle finger of

the left hand is also exquisitely painful, and, on examination, is perceived to be much swollen around the second joint, where the integuments are of a dusky-red colour. 7th. She has been delirious in the night, and is now incoherent, with a peculiar wildness of expression in the countenance. The general debility has greatly increased; the respiration is still more hurried, and the pulse is 140, soft and compressible. The tongue is brown and dry; the muscles of the face and extremities are affected with tremors; the whole surface of the body is covered with a deep yellow suffusion. 8th. She is in all respects worse. There has been violent delirium during the night, and she is now roused with difficulty. The respiration is still more oppressed, and the pulse so rapid and feeble as not to be counted. The countenance dejected and deeply suffused, as is the whole surface of the body. The swelling in the joint of the finger has increased, and another painful diffused swelling along the forearm has occurred in the night, with slight discoloration. The whole of the right superior extremity has also become stiff, and so painful that attempts to move it produce violent pain. The swelling and hardness in the course of the superficial veins of the thigh are diminished. 9th. The swellings in the leg have disappeared; complete collapse took place, and she sunk in the afternoon. Previous to death the abdomen became greatly distended. On the 10th I opened the body with Mr. Prout, Surgeon to the British Lying-in Hospital, who occasionally saw her with me during the progress of the disease.

Dissection. — The intestines were distended with gas. Their peritoneal coat had everywhere a healthy appearance, except a small portion covering the ileum, which was of a bright red colour, though it was not sensibly thickened. The lower part of the omentum and portions of the mesentery and mesocolon were also more vascular than usual, but no lymph was effused in these situations. The mucous membrane of the stomach, small and great intestines, was remarkably pale and bloodless. The left fallopian tube and fundus of the uterus were of a deep red colour, but the muscular coat and sinuses of the uterus were quite healthy.

Though no purulent fluid was found in the sinuses of the fundus uteri, and those in the lower segment of the uterus were not examined, I entertained no doubt at the time this case occurred, that the symptoms, which strikingly resembled those of typhus fever, arose from inflammation of the uterine veins. The hard, lumpy cords, found running up on the inside of the thigh in the direction of the superficial veins, and which were exquisitely painful, proved that the saphena veins were in a state of inflammation. How this inflammation of the saphena veins had originated, I was unable at the time to explain, as it was not until a much later period that I traced the inflammation of the iliac and femoral veins in phlegmasia dolens, along the trunk of the internal iliac,

to the uterus. It was also at a subsequent period, from the observations of Mr. Arnott, that I became acquainted with the fact that severe affections of the joints were symptomatic of phlebitis.

Case XVIII. — *Severe Febrile Affection with Painful Swelling of the Joints soon after Parturition.* — Mrs. Austin, æt. 30, was delivered on the 1st of June, 1828, in the British Lying-in Hospital, after a tedious labour. A portion of the placenta having been retained in the uterus several hours after the birth of the child; a profuse hemorrhage took place before it was extracted. Until the 10th, she appeared to recover in the most favourable manner, when a violent febrile attack was experienced, with delirium; and a painful diffused swelling soon after took place around the right knee-joint. On the 13th, when I first saw her, the febrile symptoms continued unabated. She was delirious, and there was a peculiar expression of wildness in the countenance. The muscles of the face and extremities were affected with tremors. The pulse was above 130, and very weak; respiration hurried and anxious, with frequent cough; the skin hot and dry; the tongue was of a glossy red colour, and moist. Thirst not urgent; bowels open. There was no sickness or vomiting. The abdomen was uniformly soft, and pressure over it produced no uneasiness. The right knee-joint was stiff and swollen, but the integuments were not discoloured. On the 14th, the symptoms continued, and, in the night, a painful circumscribed swelling had taken place in the middle of the calf of the right leg, where the integuments were hot, and of a dark red colour. On the 18th, there was a marked remission of all the symptoms, and for ten days it was hoped she would recover. From the 1st of July till the 24th, when she died, completely worn out with diarrhœa, fever, and the painful affection of the extremities, the right knee-joint had become much more swollen, and a considerable effusion had taken place into its cavity. Over the right radius and ulna, near the wrist, a painful diffused swelling also took place, without discoloration of the integuments, and for a week she suffered excruciating pain in the left ankle and right shoulder-joint; but in neither of these situations was anything except a slight puffiness to be perceived.

Permission to examine the body after death was not obtained.

The cases I shall hereafter relate render it more than probable that in the preceding case the symptoms arose from inflammation of the veins of the uterus.

Case XIX.—*Inflammation of the Left Spermatic Vein, with Gangrene of the Lungs.*—Ann Cromer, æt. 42, a patient of the St. James's Infirmary, a healthy woman, being taken in labour on the 22d of July, 1828, when eight months pregnant, was attacked with profuse uterine hemorrhage; this was found to be occasioned by the placenta being attached over the os uteri, which rendered it necessary to introduce the hand, and deliver by turning. Notwithstanding, she lost a great quantity of blood, which occasioned alarming exhaustion. On the evening of the following day her

pulse rose to 140, with headache, heat of skin, and intolerance of light; on that of the 24th, she had a slight rigor, and again, on the 25th, another exacerbation of fever, the pulse 140, and the breathing hurried. For some days subsequently she had less fever, and without evening exacerbations; the pulse ranged from 100 to 120; the last portion of urine (which it was necessary to draw off by the catheter), had a semi-purulent appearance, with a peculiar unpleasant smell. No pain was felt on pressure of the abdomen, although some mischief was evidently going on. On the 2d of August her breathing had again become much oppressed, with slight cough and no expectoration. The next day, after close questioning, she admitted that she had some pain in the left side of the chest, and sixteen ounces of blood were taken from the arm. On the 4th the pain was relieved, and on the 5th entirely removed; but the pulse remained at 120, the skin was hot and dry, there was expectoration of a little frothy mucus, and a disagreeable smell about her. On the 6th there was less fever, she was excessively weak, the features were sharp and anxious, and the breath was very offensive. On the 7th the expectoration was more free, thick, and purulent, and although the linen of her bed had been changed, the unpleasant smell was not diminished, and was evidently caused by her breath. Death took place on the 9th, eighteen days after delivery.

I examined the body with the late Mr. Baker, when the following appearances were observed.

Dissection.—On opening the chest an extremely fetid odour issued from its left cavity, in the lower part of which were contained between three and four pounds of a turbid serum, mixed with portions of coagulable lymph. Superiorly, the lung was glued to the parietes of the chest by recent loose adhesions; inferiorly, the pleura pulmonalis, and corresponding pleura costalis, were covered with a dense coating of coagulable lymph. In addition to this, there was, on part of the surface of the inferior lobe of the left lung, a quantity of the same substance in a loose, flaky form; on removing which, there presented itself a portion of the lung, in a state of complete gangrene; this, about the size of a walnut, formed a black, pulpy-looking mass, of insufferably fetid odour, was contained with some dark-coloured fluid, in a sort of cavity formed by its separation from the sound lung. On making a section of the parts, passing through the gangrenous slough, one half of this fell out of the cavity in which it was situated, the other remaining attached to the parietes by a few thread-like adhesions. The cavity itself was lined by a layer of coagulable lymph, having the appearance of a uniform membrane. Immediately beyond this, the substance of the lung was somewhat vivid in colour, but seemed to have undergone little change in its texture; elsewhere, it was quite healthy. On cutting through the uterus, which was of the usual size, a month after delivery, a few drops of pus flowed from one of the divided sinuses, which, being traced, was found

to communicate with an abscess in the left ovarium; the spermatic vein of this side was now observed to be diseased, and, on cutting it open at its lower part, was found to contain pus: its coats were much thickened, and its inner surface was lined with a layer of coagulable lymph, which nearly obliterated the cavity. These diseased changes occupied the whole course of the vein to its junction with the emulgent, the coats of which were also thickened and the cavity lined with lymph. The vena cava was perfectly healthy. No affection of the peritoneum, or effusion into its cavity, existed.

I was exceedingly struck with the appearances which the lungs presented in the foregoing case, and felt greatly at a loss to account for the production of so acute and destructive an inflammation of these organs, in an individual who had, previous to delivery, never suffered from any affection of the chest. I was disposed to attribute the attack to the general shock communicated to the system, by the operation of turning, and the hemorrhage which followed; and Dr. Allison, and other professional friends, to whom I related the case, considered this to be the most satisfactory explanation of the occurrence. The following observation of Laennec, which I accidentally met with at this time, proved that the foregoing explanation was not well founded, and that the inflammatory affection of the lungs was excited by the purulent fluid formed in the uterine and spermatic veins, and not by any shock communicated to the system, as I had supposed. "It is not uncommon to find the veins in the neighbourhood of a cancerous breast filled with pus, either pure or mixed with blood, sometimes fluid, at other times of the degree of consistence of an atheromatous tumour.

"An additional consequence of the presence of too much pus in the blood, is the production of inflammation in different organs, and especially the lungs, which runs rapidly into suppuration. It is from this circumstance, that the subjects of surgical operations, and those labouring under extensive suppurations, are frequently cut off by peripneumonies, which, according to the observations of M. Cruveilhier, are usually lobular, that is, commencing in several points at once. This, in my opinion, is the mode in which we must explain the occurrence of metastasis of pus, at least in the majority of cases."*

Being aware that Mr. Arnott was engaged in writing a Paper on Venous Inflammation, I related to him the cases of Somerville and Cromer, and pointed out the preceding observations of Laennec, on the remote consequences of phlebitis. Mr. Arnott then informed me, that the great object of his Paper was to establish this very point, and that he had been upwards of two years engaged in the investigation, and had collected seventeen cases, which all went to prove, that the suppurations which take place in different viscera after external injuries, surgical operations, &c.,

* Laennec on Diseases of the Chest, by Forbes, 1827, p. 652.

depend not upon any general shock communicated to the system, but upon the purulent matter formed in the veins mixing with the blood. Mr. Arnott stated to me, at the same time, that he considered this to be the true explanation of all Mr. Rose's cases, and of Dr. Marshall Hall's cases of suppuration of the eyes in puerperal women; and that the painful swellings in the joints and extremities of lying-in women arose from inflammation and suppuration of the veins of the uterus. Before hearing these important facts from Mr. Arnott, I was entirely unacquainted with the true cause of several of the most severe constitutional symptoms of uterine phlebitis.

Case XX.—*Uterine Phlebitis, with Ulceration of the Articular Cartilages, and Purulent Effusion within the Capsular Ligament of the right Knee-joint, &c.* — Mrs. Mayhew, æt. 33, was delivered in the British Lying-in Hospital, on the 2d of March, 1829, after an easy and natural labour. The placenta was expelled in a few minutes after the infant, and her situation seemed favourable until the third day after delivery, when a considerable discharge of blood from the uterus took place. From the 6th to the 20th of March, she made no complaint of uneasiness in any part of the body, though her strength rapidly declined. The countenance was of a dusky-yellow tinge; the heat of the surface slightly increased; the respiration was hurried, particularly on bodily exertion; and the pulse was above 130 and feeble; the tongue pale and glossy, with total loss of appetite, though at no period was there nausea and vomiting. Bowels open. The uterus gradually receded into the pelvis, and pressure over the hypogastrium produced no sensible uneasiness. The milk was secreted sparingly. The lochial discharge had a peculiarly offensive smell.

From the 20th to the 28th, when she died, the prostration of strength increased, and the pulse became still more frequent and feeble. The respiration was extremely hurried, and she was incessantly harassed with a hacking cough, and the expectoration of a frothy mucus. The abdomen continued soft and flaccid, and not affected by pressure. She, however, during this period, complained of excruciating pains in all the joints of the right superior extremity, and in the right knee-joint, which was observed to be considerably swollen, but not discoloured. This patient quitted the Hospital on the 23d, and was under the care of Mr. Armstrong, of Golden Square, from that time until the 28th. Dr. H. Davies and Mr. Armstrong were present when I examined the body.

Appearances on Dissection.— On laying open the abdomen, the intestines and other viscera presented a perfectly healthy appearance, and the uterus was found reduced to its ordinary size a month after delivery. On careful examination of the peritoneal coat of the uterus, a slight adhesion was observed between it and the rectum on the left side. The uterus being removed, and its cavity laid open, a portion of what appeared to be placenta, about the size of a large nutmeg, in a putrid state, was seen adhering to its inner surface, at the part corresponding with the adhesion, be-

tween the peritoneal coat and rectum. The muscular tissue of the uterus around this was of a dark colour, approaching to black, and as soft as sponge. On cutting into it, about a teaspoonful of purulent matter escaped from the veins, and a small additional quantity was forced out from them by pressure. Small coagula of blood and lymph plugged up the surrounding veins. The spermatic, and other abdominal veins, presented no morbid appearance, and the uterine appendages were healthy.

On opening the capsular ligament of the right knee-joint, where a fluctuation was perceived, about six ounces of thin, purulent fluid escaped, and the cartilages of the joint were observed to be softened and extensively eroded. There was no appearance, however, of inflammation exterior to the capsular ligament, and the femoral vein was healthy.

The right wrist was swollen, but the structure of the joint was not affected. The cellular membrane around it was unusually vascular and infiltrated with serum.

Case XXI. — Mrs. Keene, æt. 31, No. 6, Draper's-place, Euston-square, after a protracted labour of three days, was delivered on the 14th of July, 1829, by artificial aid, of a still-born, hydrocephalic child. Immediately after the expulsion of the child she was seized with a fit of the most intense shivering, which continued upwards of an hour, notwithstanding the exhibition of the most powerful stimuli; and the exhaustion which followed was so alarming that her life was despaired of. She rallied, however, and passed a quiet night. On the following, and two or three subsequent days, the shivering fits returned at irregular periods, sometimes in a slight form, at others in that of a severe rigor, followed by a flush of heat, and partial or general perspiration. During this time, the effects consequent to parturition proceeded as usual. The uterus slightly painful on pressure; lochia natural; bowels open; pulse from 133 to 140, and extremely feeble. No complaint of uneasiness, with the exception of a troublesome cough and hoarseness, with which she has been afflicted during the latter months of pregnancy. On the 4th day from delivery the secretion of milk appeared, for a short period, and afterwards receded. From this day to the 10th, the following were the symptoms: pulse rapid; skin universally of a dusky-yellow colour, and the heat of surface increased; respiration hurried; thirst; tongue dry, but not furred; great prostration of strength; sallow and haggard countenance; restless and sleepless nights; mental faculties undisturbed. The uterus had gradually subsided, and no pressure, however great, either on it, or on the parts in its vicinity, caused pain, except in the right iliac region, where some uneasiness was felt; the flow of lochia natural; bowels regular. At this period the hacking cough, which had so long troubled her, became more frequent, and it was with difficulty she expectorated the ropy mucus which followed it, and which in the day amounted to an ounce. From the 11th day the respiration became

more short and hurried; the pulse more rapid; occasional flushes of heat; thirst; extreme debility; diarrhœa. Pressure over the whole abdomen gave no uneasiness, nor was pain felt in any part of the chest, though auscultation plainly indicated the existence of disease, particularly on the right side. The patient made no complaint but of weakness, and of the cough. On the 12th, the dyspnœa increased, and she sunk exhausted in the evening.

Dissection. — Mr. Prout, Surgeon to the British Lying-in Hospital, who had carefully observed the progress of the symptoms from the period of delivery, was present with me when I opened the body. The uterus was of the size it usually is about the second week after delivery, and exhibited externally no vestige of disease. On laying it open, its internal surface, as well as its muscular tissue, appeared also healthy, and the veins being traced, the right spermatic alone was found greatly enlarged and indurated. The uterus being removed from the body, for more minute examination, an incision was made into the right superior angle, to which the placenta had been attached, and here its veins were discovered to be empty, and their internal surface of a scarlet colour. On tracing them towards the trunk of the right spermatic vein, they were found to contain a sanious purulent fluid, and were contracted in their diameters, and coated with false membranes. The veins of the right ovarium and fallopian tubes were all plugged up with firm coagula. The spermatic itself was lined throughout its whole extent with dense membranes of a reddish or of an ash-grey colour. Its coats, independent of these membranes, were of extraordinary thickness and firmness, and more like those of a large artery than of a vein. Its whole cavity was contracted; in some parts occupied by a dark-coloured fluid, in others quite obliterated by adhesions, formed between the surfaces of the membranous layers deposited within it. At the termination of the spermatic in the vena cava, its orifice was scarcely large enough to admit a crow-quill; traces of inflammation extended beyond this orifice, the vena cava being partially lined, from two or three inches above it, with an adventitious membrane, strongly adherent to its coats, which were at this part double their natural thickness. In its passage upwards, the inflammation had extended a short distance into the right emulgent vein, which, near its orifice, was coated with a pellicle of lymph. On opening the thorax, a stream of air escaped from the right side; the lungs were collapsed, and upwards of two pints and a half of a red-coloured serum were found in the sac of the pleura. The right inferior lobe was coated with lymph, and a portion of the pleura on the anterior surface was destroyed, and a black, gangrenous slough exposed in the substance of the lung. The pulmonary texture around was condensed, and of a deep violet or livid colour. The left inferior lobe was also partially coated with a thin layer of lymph, and the pleura at one point on the anterior surface was elevated, as if by a small, hard, globular body beneath it. When this was laid open, it

appeared to consist of a thick, yellowish-coloured cyst or capsule, containing a soft, black matter, like a gangrenous eschar. The substance of the lungs around was unusually dense, and of a dark livid colour.

Case XXII.—Mrs. Hickson, a middle-aged woman, delivered in the British Lying-in Hospital on the 14th November, 1829. On the 3d December, the day before her death, I first saw her; the hypogastrium was swollen and tense, and on the right side exquisitely painful on pressure; the pulse was 130 and feeble; respiration hurried; the countenance sunk; great prostration of strength; the tongue covered with a dark brown fur; nausea, and urgent thirst; the conjunctivæ of both eyes and the whole surface of the body of a deep yellow tinge. The milk, which was sparingly secreted, was observed to be of the same colour. I was informed that this patient had a very good labour, but that retention of urine took place a few days after she complained of some pain in the right side, which was relieved by leeches. She afterwards went on tolerably well, and was up and about till the middle of the third week; she took porter and animal food eagerly, till within two days of her death.

The body was removed from the hospital to Little Brook-street, Hanover-square, where it was examined by me on the 8th December.

The peritoneal surface of the abdominal viscera appeared at first sight in a healthy state, and the uterus had undergone the usual reduction of volume, at the same period after delivery.

The uterine appendages on the right side were found adhering to the caput coli, and to the peritoneum near the brim of the pelvis, by a firm, false membrane. The veins proceeding from the right side of the fundus uteri to the spermatic were filled with pus, and the coats of the right spermatic veins, to an extent of three inches from the uterus, were greatly thickened, and the cavity obstructed with lymph and pus. The veins in the left superior angle of the uterus also contained pus, and two small purulent deposits were found immediately under the peritoneum in the same situation.

Upwards of a pint of pure pus was contained in the cellular membrane at the brim of the pelvis on the right side, and had passed down into the cavity, exterior to the peritoneum, as low as the neck of the bladder. The mucous membrane of the bladder near its cervix was intensely red, and partially coated with a thin, false membrane of an ash-grey colour.

Case XXIII.—Mrs. Cox, æt. 19, Mary-le-bone-street, St. James's, was delivered after a severe and protracted labour on the 1st December, 1829.

On the 5th, she experienced an attack of acute pain in the right side of the hypogastrium, with rigors, sickness at stomach, and diminution of the lochia. Eight ounces of blood were removed from the arm, and leeches applied to the region of the uterus, after which the pain entirely subsided.

On the 7th (the 6th day after delivery), the pulse 130 and feeble, the countenance sunk, constant drowsiness or dozing, from which she was roused with difficulty. The abdomen soft, tumid, and no where painful on the strongest pressure. Tongue dry, occasional vomiting, bowels open.

8th. Vomiting continues, tongue foul, great thirst. She now complains of pain on pressure in both iliac fossæ; abdomen generally soft and puffy. Pulse 140 and extremely feeble; great prostration of strength.

From the 9th to the 11th, when she died, she was affected with a drowsy stupor, and occasional delirium.

Dissection.—Present, Mr. Knaggs. Peritoneal surface of uterus healthy. At the left superior angle were several small abscesses, under the peritoneum; and in the muscular tissue of the uterus the veins here contained pus; the placenta had adhered to the corresponding part of the inner surface; the ovaria were soft, and greatly enlarged; to the left the fallopian tube was adherent; the internal structure was converted into a dark, red-coloured, pulpy substance; the right ovarium had undergone a similar change.

Case XXIV.—*Inflammation of the Right Spermatic Vein after Parturition, the Peritoneal and Parenchymatous Tissues of the Uterus healthy.*—Mrs. Gilland, 30 years of age, was delivered in the British Lying-in Hospital, on the 24th December, 1829; the labour was natural, and she had previously enjoyed good health.

On the 28th December, the 4th day after her confinement, she had slight rigors, with headache, but made no complaint of uneasiness in any part of the abdomen. Headache, giddiness, with remarkable prostration of strength, and rapid feeble pulse, were the only symptoms observed until the 6th of January, the day I first saw her.

She was then perfectly conscious, and did not complain of pain in the head, or of vertigo. The face was flushed, the eyes red, considerable tremors were observed in the muscles of the face, tongue, and extremities; the articulation was indistinct; the pulse 150 and extremely feeble; respiration hurried; tongue dry and brown; thirst urgent; the bowels open. The abdomen was considerably distended, but not tympanitic. Firm pressure over the right side of the hypogastrium produced great uneasiness, though no unusual tension was perceived in this situation.

7th January. — Constant dozing in the night without delirium. Face more flushed, and eyes suffused; tongue parched; teeth and lips covered with dark sordes; slight tenderness on pressure in both iliac regions; abdomen more distended; bowels open; pulse rapid and feeble; tremors of the muscles much increased.

8th. Has been comatose in the night; aggravation of all the symptoms; sunk in the evening.

The body was removed from the hospital to No. 3, Great White Lion-street, where it was examined by me on the 10th January, with Drs. Sims and Hamilton.

Dissection. — The uterus had undergone the usual reduction of volume, and at first no morbid change could be discovered in any of the abdominal viscera; the whole peritoneal sac presented a perfectly healthy appearance, with the exception of a slight adhesion between the right ovarium and fallopian tube formed by effused lymph. The veins of this ovarium and fallopian tube, and the right spermatic vein, throughout its whole course, were contracted, and lined with an adventitious membrane, and partially filled with lymph and pus. The mouth of the spermatic vein was nearly closed, and the inner surface of the vena cava, about an inch above and below it, was covered with shreds of flocculent albumen. The placenta had been attached to the posterior surface and right side of the uterus, but no trace of inflammation could be perceived in the vessels either of this or any other part of the muscular tissue of the organ.

Case XXV. — Mrs. Messlin, æt. 22, a patient of the British Lying-in Hospital, delivered on the 13th of January, 1830, after a natural labour. During the whole of the following day she complained of an unusual sense of chilliness, with vertigo and slight headache.

15*th of January.* — She now complains of acute pain in the left side of the chest, with confined respiration and cough. There is also great tenderness in the region of the uterus. The body of the uterus is felt above the brim of the pelvis, large and hard, and pressure over it produces exquisite suffering. Pulse above 100, full and soft; countenance flushed; skin hot; lochia and milk suppressed.

V.S. ad ℥xvi. Hirud. xxiv. Calomel and opium every second hour.

16th. The uterine pain was immediately relieved by the bleeding, but it returned again in the night, when fourteen ounces more were drawn from the arm.

In the afternoon, the abdomen was found considerably distended, but soft. The uterus still large, hard, and painful on pressure. Pulse, rapid and feeble. Great prostration of strength. Has been drowsy — oppressed since the morning, and makes no complaint, but of distressing sickness at stomach.

During the 17th, the abdomen became more distended; the pulse more rapid and feeble; and she sunk on the morning of the 18th, the fifth day after delivery.

Dissection. — The lungs on the left side gorged with blood; pleura healthy.

The caput coli and transverse arch of the colon were preternaturally vascular, and here and there covered with patches of lymph. The uncontracted uterus filled the brim of the pelvis. The peritoneum of the anterior part of the fundus and body of the uterus was of a dusky-red colour. The veins, at both superior angles of the uterus, were gorged with pus. The spermatic and hypogastric veins on both sides were healthy. The muscular tissue

at the anterior and superior part of the uterus, where the placenta had adhered, was reduced to a soft, red-coloured, flocculent pulp.

Both ovaria were much enlarged, vascular, soft, and their parenchymatous structure infiltrated with pus and lymph. Both fallopian tubes were of a red colour, and contained pus in their cavities.

On the 16th of January, three days after the occurrence of the last case, another patient in the hospital was attacked, the day after delivery, with rigors, headache, and great tenderness of the uterus, with diminished lochial discharge. The pulse was 110, and weak. Skin hot. The countenance pale and depressed. The abstraction of ℥xx. of blood from the arm, and the application of xxiv. leeches to the hypogastrium, were followed by immediate relief of all the symptoms.

Another case occurred on the same day, which yielded to similar treatment.

Case XXVI. — On the 19th of January, 1830, with Mr. North of Upper Berkeley-street, I examined the body of a woman in Portman Mews, who had died twelve or fourteen days after delivery. It was stated by her medical attendant that the labour had been natural, and that she continued well till the fifth or sixth day after delivery, when tenderness of the abdomen came on, with fever, which soon assumed a low typhoid type. The pulse was rapid and feeble, and the tongue brown and parched. Sulphate of quinine and stimulants were liberally administered, but the symptoms assuming a more unfavourable character, Mr. North was called to see her. A puffy swelling of considerable magnitude had appeared over the left wrist, and another about the middle of the right thigh.

Dissection. — A copious sero-purulent effusion into the abdominal cavity. The uterus larger than usual at the same period after delivery. The peritoneum, covering its anterior part, highly vascular, and covered with a thick, albuminous layer. The veins proceeding from the left superior angle of the uterus, left ovarium, and fallopian tube, were fully distended with a purulent sanious fluid. The coats of the left spermatic vein, throughout its whole course, were greatly thickened and contracted; the lower half of the inner surface of the vein was lined with false membranes, and the cavity partially filled with pus. The superior half was blocked up with firm coagula of blood. The muscular tissue of the fundus uteri, to a considerable extent on the left side, was of a dull yellow colour, but the part preserved its natural consistence. The veins on the right superior portion of the uterus were filled with pus. The right spermatic and both hypogastric veins were healthy.

Case XXVII. — Mrs. Wall, æt. 32, No. 89, Berwick-street, delivered of her second child on the 1st of November, 1830. Labour protracted from deformity of the brim of the pelvis. On the morning of the 2d of November, the day after delivery, she was attacked with acute pain of the uterus, with complete suppression of the

lochia, and febrile symptoms. The uterus could be felt preternaturally large and hard in the hypogastrium, and very tender on pressure. The other parts of the abdomen were soft and flaccid, and not affected by pressure. The pulse was 100, soft and compressible. A pint of blood taken from the arm was followed by syncope and great relief of uterine pain. Eight leeches were applied to the hypogastrium, and calomel and antimonial powder administered every fourth hour. Warm cataplasms were applied over the leech bites.

3d November. — Pain of uterus now produces little uneasiness, except where pressure is made over the hypogastrium. The uterus can still be felt unusually large and hard above the brim of the pelvis. Pulse extremely rapid and feeble. Countenance pale and dejected. She is now affected with somnolence to so great a degree that she can scarcely be roused.

She became gradually more feeble, and sunk in the night.

Dissection. — Two pints of a dark brown, serous fluid in the sac of the peritoneum. The right ovarium enlarged to the size of a hen's egg, its surface of a bright red colour, and imbedded in lymph. Its structure disorganised, and the whole presenting the appearance of a soft cyst, distended with a purulent and gelatinous fluid. The left ovarium had lost all traces of its natural form and texture, being reduced to a broken-down flocculent pulp. The absorbents of the uterus, on the left side, and in the left broad ligament, were filled with pus. The veins and muscular structure were healthy.

From the time that the British Lying-in Hospital was reopened, in the course of the summer of 1830, for the admission of patients, no case of uterine inflammation occurred until the month of December, when the three following fatal examples of the disease were observed.

Case. XXVIII. — Mrs. Sexton, 30 years of age. Delivered on the 19th of December. Labour natural. On the 21st, had a severe rigor, followed by great tenderness of the region of the uterus, headache, and suppression of the lochia. Pulse 115, full and strong. Tongue white. Thirst.

V.S. ad ℥xx. Hirud. xxxvi. hypogastrio.
Hydr. Submur. gr. iij. Opii, gr. ¼. 4ta. q. q. hora.

22d. Blood cupped and buffed. Sensibility of the uterus but little diminished. Lochia and milk suppressed. Countenance of a dusky-yellow hue. Pulse 115, and feeble.

23d. Abdomen enormously distended, tympanitic, and exquisitely painful on pressure. Pulse rapid and feeble. Tongue foul. Urgent thirst. Somnolence and delirium. Died in the night. Permission could not be obtained to examine the uterus, but the symptoms led to the belief that the peritoneum and deeper seated tissues of the uterus were inflamed.

Case XXIX. — Mrs. Jones, æt. 24, on the 21st of December, was suddenly attacked, 24 hours after delivery, with sickness, vomiting, and severe headache and rigors. Lochia suppressed.

Soreness of the hypogastrium and both iliac regions; features collapsed. Hurried breathing. Pulse 120 and feeble.

On the 22d the pain appeared to undergo a remission in consequence of the bleeding and other remedies employed, but it again became aggravated, as well as all the other symptoms, and she died on the 24th.

Dissection. — The placenta had been attached to the left side of the fundus uteri, and the veins at this part of the uterus were lined with dark-coloured, false membrane, and gorged with pus. The lymphatics of the left broad ligament were distended with purulent fluid. Both ovaria were enlarged, and reduced to a soft, flocculent pulp.

Both the fallopian tubes were red and vascular, and their cavities full of pus. The peritoneal coat of the uterus, at the posterior part, was inflamed, and about four ounces of yellow serum were effused into the pelvis. A few inflamed patches were observed on the peritoneal surface of the small intestines.

Case XXX. — Cecilia Boyd, æt. 31, No. 32, Peter-street. — Was admitted into the hospital on the 25th of December, but the labour-pains having been feeble and irregular, they were considered spurious, and she was allowed to return to her home after two days. On the 28th the pains suddenly became so violent that she could not leave her own residence, where she was delivered. The labour was natural.

On the 31st of December she was attacked with pain in the uterus, rigors, and occasional delirium, and rapid, feeble pulse; the countenance pallid. The abdomen was tumid, soft. The hypogastrium and iliac fossæ painful on pressure.

1st of January. — Complete remission of pain, except on pressure over the region of the uterus. Constant dozing. Pulse 140. Tongue brown and dry in the centre.

2d. The symptoms have undergone little change; still complains of no uneasiness except on pressure. Drowsiness and delirium continue.

3d. Suddenly seized with excruciating pain of the abdomen and distressing flatulence. The belly became distended, pulse rapid, feeble, and irregular, and she died on the 4th.

The abstraction of eight ounces of blood from the arm, at the onset of the attack, produced complete syncope. In this case mercurial frictions, and calomel and opium internally, were employed to a great extent.

Dissection. — Abdomen distended with gas Six ounces or more of red serous fluid in its cavity. Peritoneal sac not inflamed, except that portion covering the posterior surface of the uterus and its appendages. The cellular tissue, connecting the peritoneal with the muscular coat, at the back of the cervix uteri, infiltrated with pus, as well as that between the folds of the broad ligaments, on both sides. Both spermatic veins contained pure pus in considerable quantities, as did also the venous branches at the angles,

and inferior portions of the uterus. The fallopian tubes enlarged and vascular. The muscular structure of the uterus healthy. No appearance of pus was observed in the orifices of the veins at the part to which the placenta had been attached.

Case XXXI. — Mrs. Holding, a middle-aged woman, residing at No. 4, Marshall-street, a patient of the Middlesex Hospital, was delivered on the 18th of December, 1830.

On the 21st, became affected with extreme soreness of the region of the uterus, repeated attacks of cold shivering headache, thirst, and suppression of the lochial discharge.

The uterus was large, hard, and exquisitely tender on pressure. The other regions of the belly were soft, flaccid, and wholly free from pain on the strongest pressure. The pulse 130; countenance pale; tongue white.

On the 22d and 23d, incessant vomiting; great prostration of strength. Respiration hurried. Pulse feeble and intermitting. Died in the afternoon.

Dissection. — Intestines distended with air. Peritoneal coat of the intestines, fundus, and anterior part of the uterus healthy. The peritoneum covering the posterior part of the uterus and upper part of the rectum coated with false membrane. Both ovaria large and softened to a pulp, the left highly vascular in the centre, the surface of the right covered with lymph. The substance of the uterus at the superior and anterior part, more particularly where the placenta had been attached, so soft as to be readily torn by the fingers, and of a dusky-yellow colour. The veins at the lower part of the uterus, on the left side, filled with pus. The absorbents of the left superior angle, broad ligament, and fallopian tube also filled with it.

Case XXXII. — Mrs. Baird, æt. 18, residing at 64, King-street, Seven Dials, a patient of the Middlesex Hospital, was delivered of a still-born child on the 16th of March, 1830. On the 18th she complained of great tenderness of the lower part of the abdomen, and had suffered from a succession of violent rigors. Dr. Ley saw her late in the evening of the 19th, when there was exquisite tenderness of the whole hypogastrium; the pulse was rapid, the countenance sallow and depressed; the lochia had not entirely ceased to flow. Leeches and warm cataplasms were applied to the region of the uterus, and calomel and opium administered internally. On the 20th, when I first saw her, the lower part of the abdomen was swollen, and so exquisitely tender that the slightest pressure could not be endured. The pulse 160 and feeble. The countenance of a deep sallow tinge, and expressive of great distress. Respiration hurried. Frequent cough. Slight incoherence. Occasional retching. Tongue covered with a thick, yellow fur. A vein in the arm was opened but no blood flowed, twenty-four leeches were applied to the hypogastrium, and four grains of calomel and eight of Dover's powder given every three hours. She continued to suffer most excruciating pain in the belly till midnight, when she gradually sunk.

Inspection. — On the morning of the 20th, Mr. Doby and Mr. Lane present. — Six ounces of sero-purulent fluid in the sac of the peritoneum. The omentum and peritoneal coat of the great and small intestines highly vascular and partially coated with lymph. Thick masses of lymph surrounded the ovaria and fallopian tubes on both sides, and also the fundus uteri. Both fallopian tubes of a deep red-colour, the left distended with pus. On laying open the coats of the uterus on the anterior part, pus, in considerable quantity, flowed from the uterine sinuses. These vessels, when traced toward the spermatic veins, were found to contain puriform fluid, and were lined with dark-coloured, thin, false membrane. The inflammation had not extended either into the hypogastric or spermatic veins.

Case XXXIII. — On the 5th of May I was called to a patient of the Southwark Lying-in Institution, who had nearly perished from uterine hemorrhage, in consequence of the placenta being attached to the os uteri. I immediately delivered by turning. Until the 11th, (the eighth day after her confinement,) she seemed to recover, when she was attacked with severe diarrhœa. The pulse was 150. The tongue dry and furred. Great thirst and heat of skin. No pain in any part of the abdomen. During the seven following days the debility was excessive, and every night there was a severe rigor followed by copious perspirations.

Inspection by Dr. Stephen Hall and Mr. Saunders, who had attended and witnessed the progress of the case. — The right spermatic vein, from its junction with the vena cava to its ramification immediately before entering the uterus, was irregularly enlarged to the size of a man's little finger, and of a florid-red colour. When laid open it was found filled with pus, a portion of which flowed into the vena cava when the spermatic was pressed, and also through the openings into the uterus; the coats greatly thickened. The left spermatic vein, and all the other abdominal viscera, healthy.

The histories of the remaining cases of uterine phlebitis which I have seen, it does not appear requisite for me to detail, as the preceding examples of this obscure and fatal disease are sufficient to illustrate its most striking phenomena.

CHAPTER III.

CAUSES OF UTERINE INFLAMMATION IN PUERPERAL WOMEN.

The causes of inflammation in the uterine organs of puerperal women are often involved in great obscurity. In some cases the inflammation is distinctly referable to the injury inflicted upon the

uterus by severe, protracted, and instrumental labour, to the forcible introduction of the hand into the uterus to rectify the position of the child, to exposure to cold and moisture, and various irregularities of diet soon after delivery. But frequently it arises in the most malignant form, where none of these causes have been applied, and where we are compelled to refer it to some peculiar noxious constitution of the atmosphere, or to the communication of contagious miasmata.

It is a point of great practical importance to determine how far contagion is to be considered as a cause of this disease. Dr. Hulme maintained that it was not more contagious than pleuritis, nephritis, or any other inflammatory complaint. Dr. Hull, of Manchester, is also of opinion that puerperal fever is not contagious. M. Tonellé, who has recorded the history of the most fatal epidemic which has ever occurred in Paris, asserts that the idea of contagion was clearly out of the question in the Maternité, for the women who were newly delivered there had each a separate apartment, and yet were attacked with the disease, whilst in the sick ward of the hospital no instance of the propagation of puerperal fever ever occurred.

The evidence of M. Dugés against the doctrine of contagion is not less strong; for he states, that in numerous instances pregnant women have been placed in the infirmary where they were surrounded by cases of peritonitis without being infected, and that still more frequently he has seen women newly delivered brought into the infirmaries on account of some other complaint, and who did not contract the disease. In no instance did he observe a midwife charged with the care of two women at the same time communicate peritonitis from a sick to a healthy individual, as is reported to have happened in London; and never has this inflammation been propagated from patient to patient in the wards set apart for the reception of healthy women.*

In the descriptions given by the earlier writers, however, of uterine inflammation, it is referred not only to the corrupted atmosphere of hospitals, but also to contagion. In the Dublin Lying-in Hospital, the Edinburgh Infirmary, the General Lying-in Hospital at Vienna, and in most of those in this metropolis, uterine inflammation has raged as an epidemic at different periods with great violence, and has appeared to be propagated by contagion. Dr. Gordon, of Aberdeen, states that he had unquestionable proof that the cause of the disease was a specific contagion, and not owing to any noxious constitution of the atmosphere. The disease seized such women only as were visited or delivered by a physician, or taken care of by a nurse, who had previously attended patients affected with the disease. "I had abundant proofs," he observes, "that every person who had been with a patient in the puerperal fever, became charged with an atmosphere of infection, which was

* Baudelocque, sur la Péritonite Puerpérale, 8vo. Paris, 1830.

communicated to every pregnant woman who happened to come within its sphere."*

Mr. Hey observes: "If the puerperal fever of Leeds was infectious, which by many it was thought to be, it was so in a very inferior degree to that at Aberdeen; for I have known instances of free communication, by the intervention of others, between women in labour or childbed, and those affected with the disease without any bad consequences. And, on the contrary, in many cases of puerperal fever, no channel whatever was discoverable whereby the disease could have been conveyed."†

Dr. Armstrong observed that most of the cases at Sunderland, forty out of fifty-three, occurred in the practice of one surgeon and his assistant. "It is hardly possible to prove," says Dr. J. Clarke, that it is not infectious, but it has also arisen, as far as we can judge, as an original disease where there had been no communication with infected persons."‡

It is difficult to reconcile this conflicting evidence; and the facts I have observed, though they have led me to adopt the opinion that the disease is sometimes communicable by contagion, yet they have not perhaps been sufficiently numerous, and of so decisive a character, as to dispel every doubt on the subject of its contagious or non-contagious nature. It is but proper to state, that it has occurred in many cases, in the most destructive form, where contagion could not possibly be supposed to have operated as the cause.

In the last two weeks of September, 1827, five fatal cases of uterine inflammation came under my observation. All the individuals so attacked had been attended in labour by the same midwife, and no example of a febrile or inflammatory disease of a serious nature occurred during that period among the other patients of the Westminster General Dispensary, who had been attended by the other midwives belonging to the institution.

On the 16th of March, 1831, a medical practitioner, who resides in a populous parish in the vicinity of London, examined the body of a woman who died a few days after delivery from inflammation of the peritoneal coat of the uterus. On the morning of the 17th of March he was called to attend a private patient in labour, who was safely delivered on the same day. On the 19th she was attacked with the symptoms of uterine phlebitis, severe rigors, great disturbance of the cerebral functions, rapid, feeble pulse, with acute pain of the hypogastrium, and peculiar sallow colour of the whole surface of the body. She died on the fourth day after the attack, the 22d of March; and between this period and the 6th of April this practitioner attended two other patients,

* A Treatise on the Epidemic Puerperal Fever, by A. Gordon, M.D., p. 51, *ante*.

† A Treatise on the Puerperal Fever, by William Hey, jun. p. 150, *ante*.

‡ Dr. J. Clarke on the Epidemic Disease of Lying-in Women, 1787 and 1788.

both of whom were attacked with the same disease in a malignant form, and fell victims to it.

On the 30th of March it happened that the same gentleman attended a patient, a robust young woman, seventeen years of age, affected with pleuritis, for which venesection was resorted to with immediate relief. On the 5th of April there was no appearance of inflammation around the puncture, which had been made in the median basilic vein, but there had been pain in the wound during the two preceding days. The inner surface of the arm from the elbow, nearly to the axilla, was now affected with erysipelatous inflammation. Alarming constitutional symptoms manifested themselves. The pulse 160, the tongue dry; delirium had been observed in the night. On the evening of this day the inflammation spread into the axilla. The arm was exquisitely painful; but in the vicinity of the wound, which had a healthy appearance, the colour of the skin was natural, and no hardness or pain was felt in the vein above the puncture. On the 6th, patches of erysipelatous inflammation appeared in various parts of the body; on the upper and inner surface of the left arm and in the sole of the left foot, all of which were acutely painful on pressure. The inflammation of the right arm had somewhat subsided. The pulse was 160, the tongue brown, dry, and furred. Restlessness, constant dozing, and incoherence. When roused, she was conscious. The face cold; heat of the surface irregular. On the 7th, pulse rapid; countenance anxious; teeth and lips covered with sordes; somnolence and delirium. The left arm above the elbow was acutely painful, and very much swollen. The right was but little painful, and the erysipelas had made no further progress. The patches of erysipelas on the forehead and sole of the foot had disappeared, but there was a slight blush of inflammation on the inner side of the calf of the left leg. The symptoms became aggravated, and she died on the 9th of April.

I examined the body with Mr. Prout on the 11th, and the following morbid appearances were observed:—

The wound in the median basilic vein was open, and its cavity filled with purulent fluid. The coats of this vessel and of the basilic vein were thickened so as to resemble the coats of an artery. The inner surface of these veins was redder than natural, and at the upper part had lost its usual smoothness, but there was no lymph deposited upon it. The mouths of the veins entering the basilic were all closed up with firm coagula of blood or lymph. The cellular membrane, along the inner surface of the arm, was unusually vascular, and infiltrated with serum. This infiltration was to a much greater extent along the situation of the erysipelatous inflammation of the left arm; but the veins of this arm were perfectly healthy.

In the autumn of 1829, a physician was present at the examination of the body of a woman who died soon after delivery from inflammation of the peritoneal and muscular tissues of the uterus.

He dissected out the uterine organs, and, after inspecting them carefully, assisted in sewing up the body. He had scarcely reached home when he was hastily summoned to attend a young lady in her first labour, who was safely delivered. In sixteen hours she was attacked with violent pain in the region of the uterus; unequivocal symptoms of uterine phlebitis soon after showed themselves, and she narrowly escaped with her life.

In December, 1830, two patients in the British Lying-in Hospital, who had both been attended by the same midwife, were attacked with the disease on the same day, and both died from inflammation of the absorbents and deep-seated tissues of the uterus. Another patient was admitted into the hospital two days after the death of the last of these women, and was examined by the same midwife to ascertain if labour had commenced. The pains were false pains, but she remained from Saturday till Monday in the expectation that labour would come on. The pains having left her, she returned home, and on the following day was suddenly taken in labour, and safely delivered before she could be sent to the hospital. She went on favourably for two days, and was then attacked with the most violent symptoms of inflammation of the veins of the uterus, and died in thirty-six hours.

The following statement has lately been published by Mr. Roberton, of Manchester, and it goes to support the opinion that puerperal fever is a contagious disease.* From December 3d, 1830, to January 4th, 1831, a midwife attended thirty patients for a public charity: sixteen of these were attacked with puerperal fever, and they all ultimately died. In the same month three hundred and eighty women were delivered by midwives for the institution, but none of the other patients suffered in the slightest degree. Mr. Roberton states that these sixteen were all cases of inflammation of the peritoneal surface of the uterus, and that in no instance did he meet with inflammation of the veins of the uterus.

I have since learned that the disease was prevailing extensively at Manchester at the same period as that described by Mr. Roberton, and that many cases occurred in private practice.

These facts point out the necessity of adopting every precaution to prevent the extension of the disease, by careful and repeated ablution, and changing the clothes after attending patients who are affected with it. They show, also, whether they be considered perfectly conclusive or not as to the communicability of the affection from person to person, that we ought not to expose ourselves beyond what is absolutely necessary in examining the bodies of those who have been cut off by the complaint. When *post mortem* examinations are required, they should be conducted by those who are not engaged in the practice of midwifery. We certainly owe

* Medical Gazette, No. 214.

it as a duty to our patients to act as if the contagion always existed.

Whatever conclusion we may arrive at, as to the contagious or non-contagious character of the disease usually termed puerperal fever, it cannot affect the view which has now been taken of its proximate cause or essential nature; for the symptoms, morbid appearances, and influence of remedies, all incontrovertibly prove, whatever the nature of the remote cause may be, that it acts by exciting inflammation of the uterine organs.

With regard to the nature of this inflammation, it is difficult to determine whether it be of a common or specific kind. It certainly arises where individuals are not exposed to the ordinary causes of inflammation; and it often rages as an epidemic, particularly in hospitals; and in this respect it resembles erysipelas, hospital gangrene, and other specific inflammatory diseases, which are generally supposed to depend on a vitiated state of the atmosphere. Like these diseases, too, it ceases without any assignable cause, perhaps for several years, and then reappears in the same hospitals, and is attended with the same destructive consequences.

Sporadic cases of uterine inflammation are met with in all seasons of the year, and in all the different ranks of life; and the disease is sometimes not less destructive when occurring in this form, than in hospitals during the prevalence of an epidemic.

Pouteau regarded the disease which appeared in the Hotel-Dieu, at Lyons, in the spring of the year 1750, and produced great havoc among puerperal women, as an epidemic erysipelatous inflammation of the peritoneum. The same opinion of the nature of the affection was maintained by Dr. Lowder, and Drs. Home and Young of Edinburgh, who saw the disease in the lying-in wards of the Royal Infirmary. Dr. Gordon observed erysipelas to prevail extensively at Aberdeen in 1795; but he has not inferred, from this circumstance, that the peritoneal inflammation which he so accurately described was of an erysipelatous kind, or different from common abdominal inflammation.

Dr. Abercrombie has lately described several cases of peritonitis which he considered to be allied to erysipelas. The great pathological character of this affection noticed by him is, that it terminates chiefly by the effusion of a serous fluid; without much, and often without any, of that inflammatory and adhesive character of the disease in its more common form. Pinel, Bayle, Gasc, and Laennec, to whom we are so much indebted for our knowledge of the effects of inflammation of the peritoneum, have traced no resemblance between the phenomena of puerperal peritonitis and erysipelatous inflammation, and it is still extremely doubtful if serous membranes are liable to attacks of erysipelas. Dr. Hodgkin has stated to me, in corroboration of my own observations, that the morbid appearances in puerperal peritonitis do not differ from those observed in ordinary peritonitis in either sex.

To establish the doctrine, that the uterine inflammation of puerperal women is of an erysipelatous nature, it is requisite that some decided difference should be perceptible in its products, in the changes of structure, in the progress of the symptoms, and the effects of the remedies employed. Of the numerous dissections which I have made of those who have died from the disease, I have not observed anything to justify this distinction. Instead of running a definite course, as erysipelas does when it appears on the external surface of the body, the inflammation of the peritoneum in puerperal women is in most cases completely cut short at the commencement, if the appropriate treatment be adopted. Erysipelas in other parts of the body cannot be arrested in this manner.

The following occurrences may seem, however, to prove that there is some connexion between erysipelas and puerperal fever. In the autumn of 1829, a short time before the epidemic broke out in the British Lying-in Hospital, which led to its being closed for several months, two children died of erysipelas. Another fatal case occurred in the course of the epidemic, and on examining the abdomen, I found the peritoneum extensively inflamed, with a copious effusion of sero-purulent fluid. A few days before the reappearance of the disease in the hospital in December, 1830, an infant died of erysipelas of the integuments of the abdomen and external organs of generation, and the peritoneum was also inflamed. Another infant was attacked with gangrenous erysipelas of the right forefinger, on the 28th of December, whose mother had died, on the 24th, from uterine phlebitis. Mr. Blagden related a similar case to me. A midwife of the hospital had a severe attack of erysipelas of the face, a few days after attending in labour a fatal case of inflammation of the absorbents and uterine appendages.

During the prevalence of uterine inflammation among the patients of the British Lying-in Hospital, in the winter of 1831 and 1832, two children died from inflammation and suppuration of the umbilical vein, and in both there were patches of erysipelatous inflammation on different parts of the body. In none of the hospital attendants did erysipelas show itself at any of the above periods, and cases of infantile erysipelas repeatedly occurred at different times when there were no cases of puerperal fever in the hospital.

CHAPTER IV.

TREATMENT OF UTERINE INFLAMMATION IN PUERPERAL WOMEN.

Like inflammation of other organs of the body, that of the uterus varies greatly in severity in different cases. At particular periods, I have remarked a disposition to the disease in some

puerperal women, evinced by tenderness of the uterus and acceleration of the pulse, but where it has taken place in so slight a degree as to yield readily to the exhibition of opiates, and the application of fomentations and cataplasms to the hypogastrium. Some physicians, and more particularly the late Professor Chaussier, have been so convinced of the advantages of employing these remedies, with the view of preventing attacks of the disease, that they have caused all patients recently delivered to take at intervals, more or less distant, small doses of Dover's powder, and applied emollient cataplasms to the region of the uterus.

In cases of intestinal irritation, after-pains and various spasmodic affections of the uterus and abdominal viscera, this plan of treatment will prove successful. In slight inflammatory affections of other organs, it is not unusual for the symptoms to subside without the employment of active remedies; and from what I have observed in many cases, it does not admit of doubt that, in the milder varieties of inflammation of the uterus, a spontaneous termination of the disease not unfrequently takes place.

But when inflammation of the peritoneal coat of the uterus is fully developed, and where the affection occurs in a severe sporadic or epidemic form, the soothing plan of treatment will prove wholly insufficient to arrest its course, and unless bloodletting, general and local, and other antiphlogistic remedies, be early and vigorously employed, it will in most cases proceed to a fatal termination. In the treatment of puerperal fever, the following are the principal objects we should keep in view. First, to subdue the local inflammation of the uterine organs: and secondly, to moderate the constitutional disturbance which the local inflammation invariably produces. In fulfilling these indications, no exclusive plan of treatment should be adopted; but we ought, according to the peculiarities of each case and stage of the disease, to employ bloodletting, mercury, opium, cathartics, diaphoretics, blisters, and whatever other means we can discover to possess any influence in controlling the disease.

In no inflammatory affection of the internal organs are the good effects of bloodletting, general and local, more strikingly displayed than in the first variety of uterine inflammation, peritonitis; but the results of my experience do not confirm the accuracy of the conclusions drawn by some authors; that in all cases, by the early employment of these means, we can succeed in curing the disease. It is always an affection attended with great danger, and it not unfrequently runs its course rapidly to a fatal termination, in spite of the most prompt application of remedies.

When the symptoms of puerperal peritonitis manifest themselves as before described and in a violent form, twenty or twenty-four ounces of blood should be immediately abstracted from the arm by a large orifice, and while the patient has the trunk and shoulders considerably elevated in bed. We should not be deterred from employing the lancet because the pulse is small and contracted,

provided it does not exceed 110 or 115 pulsations in the minute: for in many cases the pulse has become fuller and stronger during the time the blood has been flowing, or soon after, and there has been a marked relief from suffering. In all cases, if possible, a decided impression should be made upon the system, and where syncope or fainting follows the venesection, it increases the salutary effect. In no case of inflammation of the peritoneal surface of the uterus have I observed any bad consequence to result from depletion carried to this extent, and in many, from its early use, the force of the disease has at once been completely broken.

When the attack of inflammation is violent, and when the pain is but slightly relieved, the venesection should be followed without loss of time by the application of one, two, or three dozen of leeches to the hypogastrium, proportioning their number to the urgency of the symptoms. When the leeches have come off, the bleeding should be promoted by warm fomentations, or by a thin, warm, linseed-meal poultice applied to the hypogastrium. Poultices, if properly prepared, never occasion uneasiness, or an aggravation of the symptoms by their weight, but care should be taken to have them frequently renewed.

At the same time eight or ten grains of calomel in combination with five grains of antimonial powder and gr. iss. or gr. ii. of opium, or with ten grains of Dover's powder should be administered, and this should be repeated every three or four hours, until the symptoms begin to subside. Upwards of fifty grains of calomel have been given in many cases with decided benefit, and in two only out of 170 cases has the mouth been severely affected. I have never seen the mercury in such large doses produce those symptoms of alarming weakness, and that tympanitic state of the abdomen with vomiting and great irritability of stomach which some have represented. After the second dose of the calomel, I have often exhibited with advantage a strong purgative enema, or a cathartic draught of senna and salts, repeating it according to its effect. After the operation of the medicine, in some cases, the pain of the uterus, which had only been relieved, has completely subsided.

There are few cases in which it is necessary to have recourse to a second bleeding from the arm: and where the propriety of this is indicated by a recurrence of the acute pain, the quantity of blood taken away should not exceed ℥xii. or ℥xiv. However much the patient may complain of uterine pain, if the pulse exceed 120, and is feeble, and if the powers of the constitution have been much reduced by the previous treatment, blood should not be taken a second time from the arm. Should the pain continue undiminished six or eight hours after the first bleeding, or even later, and the pulse be full and not very rapid, and the strength of the patient little impaired, a second venesection to the extent above stated may not only be employed with safety, but with decided benefit. It ought, however, to be remembered, that much greater

caution is required in having recourse to the second than the first bleeding in puerperal peritonitis; and where we are not convinced that it is absolutely necessary again to abstract blood from the arm it is better to repeat the leeching. In no case of peritonitis which has fallen under my care has it appeared necessary or safe to bleed from the arm a third time, and in a very large proportion of cases only one bleeding has been had recourse to.

After the violence of the attack has been subdued, it is proper to continue the use of the calomel, but in diminished doses. Five grains of calomel, combined with the same quantity of Dover's powder, should be given every six hours, and this should be continued until the mouth become affected, or until the uterine tenderness be relieved. The great object we have in view, in the administration of mercury, is to remove the congested and inflamed state of the vessels of the peritoneum, and to prevent the termination of the complaint by effusion of sero-purulent fluid, subsequent to which all treatment is generally unavailing. In the epidemic which prevailed in the Maternité, at Paris, in 1829, mercury was not employed until the last stage of the disease; and it is to this and to the almost exclusive use of local bleeding and emetics in the first stage, when active antiphlogistic treatment only could have availed, that is to be attributed in a considerable degree the frightful mortality which ensued.

Where the symptoms do not indicate an attack of a formidable nature, depletion ought not to be carried so far, nor should mercury and opium be employed in the large doses I have now recommended. In many of the cases, one general bleeding has proved sufficient to overcome the disease; and in many the application of leeches alone, with five grains of submuriate of mercury, and an equal quantity of Dover's powder, with cathartics, have subdued the complaint.

Other means, besides those now described, have been recommended in the treatment of puerperal fever, such as oil of turpentine, ipecacuan, digitalis, colchicum, and camphor.

Since the oil of turpentine was recommended by Dr. Brenan, most contradictory statements have been published respecting its effects.* Dr. Brenan states, "that in the month of December, 1812, puerperal fever appeared in the Dublin Lying-in Hospital in great force, so that not merely great numbers of patients, but *whole wards, were swept away*. My manner of treating this disease has been so marked with success as to cause much astonishment. The exhibition of spirits of turpentine in a disease usually considered inflammatory," he adds, "was not without that tribute of censure, which a novelty in practice usually excites. However, its effects have borne it through." After a careful perusal of Dr. Brenan's cases I feel bound to state, that I do not consider any one of them

* Thoughts on Puerperal Fever, and its Cure by Spirits of Turpentine, by John Brenan, M.D. 1814.

as affording unequivocal evidence of the good effects of turpentine in puerperal fever, nor am I convinced that the lives of those to whom it was administered were saved by its use. I have seen many recover without turpentine, in whom the symptoms were more unfavourable than in the cases described by Dr. Brenan, and I have seen other patients in whom the disease appeared to be aggravated by its use. In the first of Dr. Brenan's cases, the patient had been bled to thirty ounces before the turpentine was administered.

"In addition to the usual routine of practice," observes Dr. Joseph Clarke, "numerous trials were made of the rectified oil of turpentine, in doses of from six to eight drachms; sometimes in plain water, sometimes combined with an equal quantity of castor oil. The first few doses were generally agreeable to the patient, and seemed to alleviate the pain. By a few repetitions it became extremely nauseous, and several patients declared they would rather die than repeat the dose. In more than twenty trials of this kind not a single patient recovered."*

In a Paper, published in the Dublin Hospital Reports, Dr. Douglas states, "that in the epidemical and contagious puerperal fever, ʒiii. of the ol. terebinth., with an equal quantity of syrup and ʒvi. of water, should be given three or four hours after the exhibition of the first dose of the calomel; and that, after the lapse of another hour, this should be followed by an ounce of castor oil, or some other briskly purgative medicine. In some instances, the oil of turpentine and castor oil may be combined in one draught. The internal use of turpentine is not to be repeated more than twice in any case whatever." "In several cases," Dr. Douglas adds, "where the debility is very considerable, the local bleeding may also be omitted; and in this case, a flannel cloth, steeped in oil of turpentine, should be applied to the abdomen, and allowed to remain for the space of fifteen minutes. The external application of turpentine, without either its internal use, or the aid of bloodletting, I have frequently experienced to be entirely efficacious in curing puerperal attacks; and, although I have hitherto omitted to speak of turpentine for the cure of the other varieties of this disease, yet I would not feel as if I were doing justice to the community, if I did not decidedly state, that I consider it, when judiciously administered, more generally suitable, and more effectually remedial, than any other medicine yet proposed. I can safely aver, I have seen women recover, apparently by its influence, from an almost hopeless condition, certainly after every hope of recovery under ordinary treatment had been relinquished." If the oil of turpentine is to be had recourse to at all, it is evident that it should only be when the antiphlogistic treatment has been freely employed, and the active inflammatory symptoms have been subdued.

* Dr. Joseph Clarke's Letter to Dr. Armstrong, *ante*.

In favour of the use of digitalis and colchicum in puerperal fever, little evidence has been adduced that is satisfactory.

Emetics. — Willis, White, and other physicians, employed emetics, and more particularly ipecacuan, in the treatment of puerperal fever, before the year 1782, when Doulcet recommended the exclusive use of these remedies, at the Hotel-Dieu. Most exaggerated reports of the success of his method of treatment were speedily propagated throughout Europe, and many considered the results at the Hotel-Dieu, as affording undoubted proofs of the power of emetics, to arrest the progress of the disease in the most malignant forms. Two hundred women were represented as having been saved in the course of one epidemic at Paris, by the administration of ipecacuan, and the other remedies. It appears, however, from the statement of Alphonse le Roi, that the recovery of so many individuals was attributed, without any just ground, to the peculiar treatment adopted; for the employment of ipecacuan and Kermes' mineral, according to him, was commenced by Doulcet, in the Lying-in Wards of the Hotel-Dieu, when the epidemic was ceasing; but these means were found wholly inefficacious in the months of November and December, and at the beginning of the following year, when the mortality was greater than in 1788, before the remedy of Doulcet was known. M. Tenon affirms, that in 1786 the complicated puerperal fever was curable by no means then discovered.

From the intense pain of the abdomen, aggravated by the slightest pressure, or by the action of the abdominal muscles, and from the early occurrence of nausea and vomiting, in the worst cases of the disease, emetics obviously appear to be little calculated for the relief of the symptoms, and few enlightened practitioners have employed them in this country for the last forty years. Some have gone so far, indeed, as to declare, that they are sufficient to produce inflammation where it does not already exist, and that their employment is not only useless, but dangerous and absurd.

Hufeland, Osiander, and Desormeaux, have, however, continued to employ emetics in the treatment of puerperal fever, and have supposed that they derived benefit from them. M. Tonellé states that M. Desormeaux first made trial of them about the end of 1828 with great advantage. During the following year they were again employed, but most frequently they entirely failed; but they never appeared to produce any aggravation of the pain or other symptoms. Another trial was made of them after this, and they were again followed by the most happy results. In the beginning of September, 1829, during a fatal epidemic, and a cold and moist season, emetics were again had recourse to; and for the two months this treatment was pursued, all the sick were not relieved, but a great number were delivered from their sufferings as "by enchantment," and "for an instant" there seemed to be a renewal of that brilliant success which had followed the adoption of this method by Doulcet and the physicians of the Hotel-Dieu."

But at the end of October emetics lost their influence; and towards the middle of November no advantage whatever was derived from them. In some of the successful cases related by M. Tonellé, it ought to be observed, that forty leeches and warm cataplasms had been applied to the hypogastrium before the emetic was given, and in those where the relief was most decided the ipecacuan either produced a profuse perspiration, or acted freely upon the bowels, causing numerous, copious, and bilious alvine evacuations. It is highly probable, from the histories of the successful cases, that the effects of the treatment were referable rather to the action of the ipecacuan on the skin and intestines than on the stomach, for the relief experienced did not immediately follow the vomiting. M. Tonellé admits, that where effusion or suppuration had taken place emetics were of no avail; and he also relates a number of cases in which the application of leeches to the hypogastrium, and the employment of other antiphlogistic remedies, were followed by speedy and complete relief where emetics had entirely failed.

In the milder forms of uterine inflammation, (of which description were many of the cases related by M. Tonellé,) it is highly probable that an emetic, which would produce a sudden determination to the skin and a free action of the intestinal canal, would relieve the congested and inflamed state of the uterus, and thus cut short the disease. In no case, however, have I considered it safe to administer emetics in any stage of the complaint, and I cannot conceive it possible for a case to occur in which the treatment should chiefly or exclusively be conducted on the plan of Doulcet.

Blisters to the hypogastrium and inside of the thighs and legs have often been found advantageous, where pain of the uterine region has continued severe, even after general and local bleeding. The external use of the oil of turpentine has also, in some cases, unquestionably been followed by relief of pain; and its effects is more rapid than that of a blister.

Both general and local warm baths have been recommended by some foreign practitioners. Where the skin was hot, the pain moderate, the strength of the patient not much depressed, the immersion of the whole body in warm water was often followed, they state, by a general perspiration and relief of all the symptoms. On the other hand, where the pains were excessive, when there was great anxiety, the skin moist, the strength much reduced, the respiration hurried and anxious, the face flushed with intense headache, the patient could not endure the warm bath, and derived no benefit from it whatever. The hip bath was found more generally useful, and was employed almost indiscriminately by M. Desormeaux in all the different varieties of the disease.

Recolin, Dance, and Tonellé, highly recommended the injection of warm water into the vagina and cavity of the uterus. These injections were repeated by them three or four times in the course of the day, and they state that they not only washed away the putrid

matters adhering to the internal surface of the organ, but that they appeared to relieve the irritation and inflammation of the organ itself. This practice appears to me to merit more attention than it has hitherto received in this country. I have tried it on several occasions with decided advantage.

In many cases of uterine inflammation, severe irritation of the stomach comes on in the progress of the disease, which is occasionally aggravated by anodynes and saline effervescing draughts. Ten grains of the subcarbonate of potash in an ounce of aqua menth. virid. given every two or three hours has sometimes allayed this distressing symptom, when all other remedies have failed. Should diarrhœa take place spontaneously, or follow the use of the mercury, it must be controlled by opium. The starch and laudanum glyster is by far the best mode of administering the anodyne.

During the first stage of puerperal peritonitis, cinchona, camphor, and stimulants are injurious; but when the inflammatory symptoms have been subdued, and the patient is in a state of great exhaustion, quinine, ammonia, wine, and other stimulants sometimes produce the happiest effects. I cannot too strongly urge the necessity of continuing to employ these remedies whilst the slightest hope of recovery is entertained. I have seen several patients restored to health, where the pulse had risen to 160, and was so feeble as scarcely to be felt at the wrist, where there was constant delirium, and the most alarming prostration of strength. Recovery has even taken place, in some cases which I have observed, where the abdomen has become tympanitic, and effusion to a considerable extent taken place into the abdominal cavity. In no acute disease is it of greater consequence than in this now under consideration, that the patient should be visited by the medical attendant at short intervals, and that the effects of the remedies he prescribes should be narrowly watched.

With regard to the treatment of inflammation of the uterine appendages, and of the deeper-seated tissues of the uterus itself, whether of the absorbents, veins, or of the muscular structure, the symptoms from the commencment are generally those which contraindicate the use of general bloodletting. In cases where the reaction at the invasion of the disease has been violent, and venesection has been employed, the relief obtained has only been temporary, and in some instances the abstraction of a small quantity of blood from the arm has produced alarming syncope. In many cases the blood will not flow in a stream when venesection has been performed, a few drops only trickling down the arm. Where the local pain is severe, leeches and warm fomentations seem to be the most appropriate remedies; but as far as my own observations extend, we are not at present in possession of any remedial means which effectually control those varieties of inflammation of the deeper-seated structures of the uterus which I have endeavoured to describe. The French physicians, however, are of a contrary opinion, and are satisfied that we possess a powerful

remedy, even in the worst cases, in mercury, employed so as to excite salivation. In several cases of uterine phlebitis, I have employed this remedy to a great extent, externally, and speedily brought the system under its influence; yet the progress of the symptoms have not been arrested, and the patients died as others had done where the mercury had not been administered. In other cases, I have employed mercury to a great extent, internally, without the slightest benefit; and it may justly be doubted, from the results of M. Desormeaux's practice, whether or not it possesses the influence M. Tonellé supposes; for, of forty-three cases where mercury was used by him as the chief remedy, only fourteen recovered. In the latter stages of inflammation of the deep-seated structures of the uterus, the great depression of the powers of the system renders the liberal administration of stimulants absolutely necessary, and in several cases of phlebitis the life of the patient appeared to be preserved by them.

Prophylactic Treatment. — Admitting, as we must do, that the greater number of cases of inflammation of the veins and other deep-seated structures of the uterus in puerperal women, prove fatal in spite of all the remedies we can employ, it becomes a most important object to prevent altogether the occurrence of this destructive disease. A puerperal woman ought to be as careful of herself for nine days after delivery, as an individual who is recovering from an attack of continued fever, or inflammation of some important viscus. While the uterus can be felt above the brim of the pelvis, and the lochial discharge continues to flow, the most fatal consequences may result from exposure to fatigue or cold, and the slightest imprudence in diet. The administration of acrid cathartics soon after delivery should always be avoided, and no unnecessary pressure of the abdomen should be made. The greatest care should also be taken in performing the operations of midwifery, to avoid inflicting an injury on the soft parts of the mother; the hand ought not to be passed into the cavity of the uterus but with the greatest gentleness, when the introduction of it is required to alter the position of the fœtus, or to withdraw the placenta; and portions of placenta should be prevented from remaining to become decomposed within the uterus. It is impossible to condemn too strongly the practice recently recommended by Dr. Gooch, in cases of flooding after the expulsion of the placenta, of passing the hand into the uterus for the purpose of compressing the part like a tourniquet, where the placenta was attached and from which the blood is flowing. The placenta is most frequently attached to the posterior part of the fundus and body of the uterus; it is impossible, therefore, even if the hand were fully as large and broad as the placenta, that the orifices of the uterine sinuses from which the blood is escaping, can be compressed between a hand placed over the hypogastrium and the other introduced within the cavity of the uterus. The tourniquet recommended by Dr. G. will be applied over the anterior part of the uterus, where there is

no bloodvessel to compress, and the bleeding orifices in the posterior surface will be left exposed.

I cannot conclude this important subject without pointing out the urgent necessity which there exists for a full investigation of the means best calculated to prevent the occurrence of puerperal fever or uterine inflammation in Lying-in Hospitals, where its dreadful fatality has been recorded by all writers since the foundation of these institutions. From the registers of the British Lying-in Hospital, the Maternité at Paris, the Dublin Lying-in Hospital, and the tables of M. De Châteauneuf, it is proved that the average rate of mortality greatly exceeds that of institutions, where individuals are attended at their own habitations; and if it should ultimately appear that all precautions are unavailing in diminishing the numbers attacked by the disease, it becomes a subject deserving of the most serious consideration, on the ground of humanity, whether Lying-in Hospitals should not be altogether abolished, as injurious rather than beneficial to society. From what has fallen under my own observation in the British Lying-in Hospital, and other similar institutions in this metropolis, where the utmost attention is paid to ventilation and cleanliness, and where the wards are not overcrowded with patients, I cannot hesitate to express my decided conviction, that by no means hitherto discovered, can the frequent and fatal recurrence of the disease be prevented in Lying-in Hospitals, and that the loss of human life thereby occasioned, completely defeats the objects of their benevolent founders.

CHAPTER V.

OF CRURAL PHLEBITIS, OR INFLAMMATION OF THE ILIAC AND FEMORAL VEINS.

I PROPOSE to treat of this inflammation, — first, as it appears in puerperal women; secondly, in women who have not been pregnant; and, thirdly, as observed in the male sex.

In a former chapter I have stated that inflammation sometimes commences in the uterine branches of the internal iliac, or hypogastric veins, and that it subsequently extends from them into the common external iliac and femoral veins, and thus gives rise to all the phenomena of phlegmasia dolens. Twenty-two examples of this disease in puerperal women have come under my immediate observation; and in all of these the great venous trunks which return the blood from the lower extremities have been inflamed and obstructed. As the swelling of the affected limbs in phlegmasia dolens, and all the other local and constitutional symptoms

of this affection, invariably depend on inflammation of the iliac and femoral veins, I propose, in the subsequent part of this work, to substitute the term crural phlebitis in place of *phlegmasia dolens*, *œdema acteum*, *depots laiteux*, and the other hypothetical names which have, up to the present time, been employed by authors to designate this disease.

SECTION I.

OF CRURAL PHLEBITIS IN PUERPERAL WOMEN.

In seven of the twenty-two cases of puerperal crural phlebitis which I have observed, the disease has commenced between the fourth and twelfth days after delivery, and in the remaining fifteen, it appeared subsequent to the end of the second week after parturition. In most of the patients there was either an attack of uterine inflammation in the interval between delivery and the commencement of the swelling in the lower extremity, or there were certain symptoms present, which I have before described as characteristic of venous inflammation, viz., rigors, headache, prostration of strength, a small, rapid pulse, nausea, loaded tongue, and thirst.

The sense of pain at first experienced in the uterine region has afterwards been chiefly felt along the brim of the pelvis, in the direction of the iliac veins, and has been succeeded by tension and swelling of the part. After an interval of one or more days, the painful tumefaction of the iliac and inguinal regions has extended along the course of the crural vessels, under Poupart's ligament, to the upper part of the thigh, and has descended from thence in the direction of the great bloodvessels to the ham. Pressure along the course of the iliac and femoral vessels has never failed to aggravate the pain, and in no other part of the limb has pressure produced much uneasiness. There has generally been a sensible fulness perceptible above Poupart's ligament before any tenderness has been experienced along the course of the femoral vessels; and in every case, at the commencement of the attack, I have been able to trace the femoral vein proceeding down the thigh like a hard cord, which rolled under the fingers.

A considerable swelling of the limb, commencing in the thigh and gradually descending to the ham, has generally taken place in the course of two or three days, and in some cases immediately after the pain has been experienced in the groin. In other cases the swelling has been first observed in the ham or calf of the leg, and has spread from these parts upward and downward until the whole extremity has become greatly enlarged. The integuments have then become tense, elastic, hot, and shining, and in most cases where the swelling has taken place rapidly, there has been no pitting upon pressure, or discoloration of the skin. In several well-marked cases, however, of crural phlebitis at the invasion of

the disease, the impression of the finger has remained in different parts of the limb, more particularly along the tibia; but as the intumescence has increased, the pitting upon pressure has disappeared, until the acute stage of the complaint has passed away. At the onset of the disease I have also observed, in several cases, a diffuse erythematous redness of the integuments along the inner part of the thigh and leg. In one individual only has suppuration of the glands taken place in the vicinity of the femoral vein; but in several, by an extension of the inflammation, the inguinal glands have become indurated and enlarged. In some women the inflammation of the femoral vein has appeared to be suddenly arrested at the part where the trunk of the saphena enters it, and the inflammation has extended along the superficial veins to the leg and foot. The swelling and pain in these instances have been greatest along the inner surface of the thigh, in the course of the saphena veins. In most cases of crural phlebitis, not only the whole lower extremity, but the nates and vulva, have been affected with a glossy, hot, colourless, and painful swelling, which has not retained the impression of the finger.

The power of moving or extending the leg has been completely lost after the disease has been fully formed, and the greatest degree of freedom from pain has been experienced by the patients in the horizontal posture with the limb slightly flexed at the knee and hip-joints. The severity of the pain and febrile symptoms has usually diminished in a few days after the occurrence of the swelling; but this has not invariably happened, and I have seen some individuals suffer from excruciating pain, and violent febrile disturbance for many weeks, or through the whole period of the acute stage of the disease.

The duration of the acute local symptoms has been very various in different cases. In the greater number they have subsided in two or three weeks, and sometimes earlier, and the limb has then been left in a powerless and œdematous state. The swelling of the thigh has first disappeared, and the leg and foot have more slowly resumed their natural form. In one case, after the swelling had subsided several months, large clusters of dilated superficial veins were seen proceeding from the foot, along the leg and thigh, to the trunk; and numerous veins as large as a finger were observed over the lower part of the abdominal parietes. In some women the extremity does not return to its natural state for many months, or years, or even during life. In the summer of 1831, a lady was placed under my care for an affection of the left lower extremity, who, forty years before, had suffered from an attack of puerperal crural phlebitis in the same side. The left thigh and leg had remained larger and weaker than the other during the whole of this long period, and was liable to suffer severely from fatigue, and slight changes in the atmosphere. This lady was attended in her confinement by a celebrated London accoucheur, who was so strongly impressed with a belief of the truth of the

doctrine of milky deposits in crural phlebitis, that he ordered the infant to be kept night and day at the breasts, lest the milk should make its way into the thigh.*

In four cases of this affection, after the acute symptoms had begun to subside, the same appearances were observed in the iliac and femoral veins of the opposite extremity and the other thigh, the leg and the foot became similarly affected. In two individuals only has the disease attacked the same extremity twice. In one woman an interval of twelve years elapsed between the first and second attack.

SECTION II.

CASES AND DISSECTIONS.

The following cases are added in order to illustrate the principal phenomena of inflammation of the iliac and femoral veins in puerperal women.

Case XXXIV. — Mrs. Jones, æt. 31, delivered on the 10th of March, 1827. On the 14th she began to experience a sense of pain in the left groin and calf of the leg, with numbness in the whole left inferior extremity, but nothing unusual was perceived in the appearance of the limb, except a slight tumefaction of the inguinal glands, where pressure occasioned great uneasiness. She had rigors; the tongue was furred, and there was much thirst. Bowels open. Pulse 80. The flow of milk and lochia natural. — 16th, (the sixth day after parturition,) the pain of the left thigh and leg continued with increased severity, particularly from the groin to the knee, along the inner surface of the limb, where a swelling of a glistening white appearance was observed. The pulse still 80, and the general functions but little deranged. 19th. The pain had diminished, but the swelling had greatly increased, and extended to the leg and foot, which were both very tense and did not pit upon pressure. There was no discoloration of the skin. The pain of the limb was relieved by placing it in a state of moderate flexion. 21st. The pain in the groin had abated, and the swelling appeared to decrease. 24th. Pain of the limb aggravated particularly on moving it. Pulse more accelerated, skin hot and moist; she was extremely irritable and desponding.

25th. (The fifteenth day after delivery.) When I first saw her, the whole extremity was much swollen, the intumescence being greatest in the ham and calf of the leg. The integuments wore a uniform, smooth, shining appearance, having a cream-like colour, and everywhere pitting on pressure, but more readily in some

* The Countess H. had an attack of crural phlebitis soon after delivery, at the same time with the above lady, and died of the disease. So much for the accuracy of those who have maintained that the disease was never known to be fatal till of late years.

situations than in others. The temperature to the touch did not differ from that of the other limb, though she complained of a disagreeable sensation of heat throughout its whole extent, and much pain was experienced in the upper and inner part of the thigh on moving it. Immediately below Poupart's ligament, in the situation of the femoral vein, a thick, hard cord, about the size of the little finger, was distinctly felt. This cord, which rolled under the fingers, and was exquisitely sensible when pressed, could be distinctly traced three or four inches down the thigh in the course of the femoral vessels, and great pain was experienced on pressure, as low down as the middle of the thigh in the same direction. The pulsations of the femoral artery were felt in the usual situation below Poupart's ligament; pressure over this vessel excited little or no uneasiness. Pulse 90 and sharp. Tongue much furred; thirst urgent; bowels confined. The lochia had nearly disappeared.

Leeches were applied to the left groin and upper and inner part of the thigh; these were followed by cold evaporating lotions to the affected parts, and mild cathartics, diaphoretics, and anodynes, were administered internally.

30th. The acute pain on pressure, and motion of the limb had subsided, and the extremity was universally œdematous. For two months after this period, the limb remained so feeble as to disable her from walking, and continued larger than the other.

Eleven months after the attack, the general health of the patient was restored, and she again became pregnant. On the 5th of November, 1828, she was delivered of a still-born child, and died soon after from uterine hemorrhage.

Dissection. — The whole of the left inferior extremity was considerably larger than the right, but no serous fluid escaped from the incisions made through the integuments, beneath which a thick layer of peculiarly dense, granular, adipose matter was observed. The common external iliac and femoral veins and arteries, enclosed in their sheath, were removed from the body for examination. The common iliac, with its subdivisions, and the upper part of the femoral veins, so resembled a ligamentous cord, that, on opening the sheath, the vessel was not, until dissected out, distinguishable from the cellular substance surrounding it. On laying open the middle portion of the vein, a firm, thin layer of ash-coloured lymph was found in some places adhering close to and uniting its sides, and in others clogging it up, but not distending it. On tracing upwards the obliterated vein, that portion which lies above Poupart's ligament was observed to become gradually smaller, so that, in the situation of the common iliac, it was lost in the surrounding cellular membrane, and no traces of its entrance into the vena cava were discernible. The vena cava itself was in its natural state. The entrance of the internal iliac was completely closed, and in the small portion of it which I had an opportunity of examining, the inner surface was coated with

an adventitious membrane. The lower end of the removed vein was permeable, but its coats were much more dense than natural, and the inner surface was lined with a strong membrane, which diminished considerably its calibre ; and here and there fine bands of the same substance ran from one side of the vessel to the other. The outer coat had formed strong adhesions with the artery and the common sheath ; the inguinal glands adhered firmly to the veins, but were otherwise in a healthy condition. No appearance of recent disease existed, and the density and firmness of the morbid textures evidently showed that the whole was the result of inflammation which had occurred at a remote period. An accurate drawing of the appearances was made immediately after the removal of the vessels from the body, and the morbid parts have been preserved in my collection of diseased veins.

The preceding case occurred in the practice of Mr. Grant, to whom I was indebted for the opportunity of examining it. The patient was visited by several physicians and surgeons during the progress of the affection, and none of them expressed a doubt as to the disease being phlegmasia dolens. The hard, painful cord in the groin was supposed by some to be an inflamed absorbent vessel, but the dissection proved this opinion to be incorrect. This case also clearly established the truth of what had before been disputed, that recovery may take place after the existence of extensive inflammation and obliteration of the iliac and femoral veins. At this period I was unacquainted with the important pathological fact, that the inflammation commences in the uterus, and I could obtain no satisfactory explanation of the cause, why the disease did not occur during pregnancy, or until a certain period had elapsed after delivery. Neither in this nor in the following case did I examine the internal iliac veins with a view to discover the commencement of the disease in the uterus.

Case XXXV.— *Inflammation of the Iliac and Femoral Veins after Delivery, extending to the Vena Cava, &c., and followed by the usual symptoms of fatal Phlebitis.* — Mrs. Edwards, æt. 35, No. 54, King-street, Long Acre, 16th of April, 1829, was delivered of her second child, three weeks ago, after a natural labour, and on the 9th instant was attacked suddenly with pain in the calf of the right leg, and loss of power in the whole right inferior extremity. On the 13th, a considerable swelling, without discoloration, had taken place from the ham to the foot, and great tenderness was experienced along the inner surface of the thigh to the groin. The extremity is now universally swollen, painful, and deprived of all power of motion. The temperature along the inner surface of the limb is increased ; the integuments are pale and glistening, and do not pit upon pressure. There is no pain in the hypogastrium, but pressure along the course of the crural vessels excites great suffering, and the vein from the groin to the middle of the thigh is indurated, enlarged, and exquisitely sensible. There is also great sensibility in the ham, and along the inner surface of the leg to

the ankle, and where some branches of the superficial veins are hard and painful on pressure. Pulse 80. Tongue much loaded; thirst. Bowels open. It is reported that there was no rigor or symptom of pyrexia at the invasion of the disease. Twelve years ago, after the birth of her first child, the patient and her relatives state that she experienced an attack similar to the present in the same limb, and that it remained in a weak condition for several months afterwards, but ultimately recovered its natural size and power.

18*th of April.*—The tension and increased heat along the inner surface of the limb are somewhat diminished, but the pain continues in the course of the vessels.—*May* 1*st.* Affection declining. The femoral vein cannot now be felt, but there is still a sense of tenderness in its course down the thigh. No pitting on pressure. She has suffered, during three or four days, considerable uneasiness between the umbilicus and pubis, as well as in the loins, and has had rigors, with quick pulse, loaded tongue, and thirst. The abdomen is soft, but tender on pressure around the umbilicus. 9th. The swelling of the limb is nearly gone, as is the tenderness in the course of the femoral vessels. For several days past she has experienced attacks of acute pain in the umbilical region, loins, and back, which have assumed a regular intermittent form. Every afternoon there has been a violent rigor of an hour's duration, followed by increased heat and profuse perspiration. In the course of the last and preceding nights there has been slight delirium. The skin is now hot and dry. Pulse 125; tongue brown and parched. Bowels open. The abdomen is neither tense nor swollen. On pressing around the umbilicus she complains of a deep-seated feeling of soreness. A strong vibratory motion corresponding with the pulsations of the heart is perceived in the epigastrium.

21st. The febrile attacks gradually declined in severity, and she appeared to be recovering until yesterday, when she had a long and violent fit of cold shivering. The pulse is extremely rapid and feeble, and the countenance expressive of deep anxiety. There remains no trace of the affection of the lower extremity. 23d. Has been vomiting at intervals ever since yesterday. Complains of great pain in the left side, increased upon taking a deep inspiration. Pulse 120. 24th. Great prostration of strength, and delirium. Surface of the body has assumed a peculiar sallow tinge. The conjunctiva of right eye has suddenly become of a deep red colour, and so much swollen that the eyelids cannot be closed. The cornea is dull, and she makes little complaint of pain of the eye, and there is no intolerance of light.

25th. Repeated attacks of vomiting. Debility rapidly increasing; respiration hurried; incessant hacking cough. Pulse 140, feeble; surface of the body cold and clammy. Tongue and teeth covered with dark sordes; diarrhœa. The left eye has also become red and swollen, without much increased sensibility. 26th. Great debility; when undisturbed she is delirious, but seems conscious

when roused, and complains of pain in the left side of the chest. Pulse 140. Tongue black and dry. Conjunctiva of left eye also affected with swelling and intense redness. The cornea is dull, and shreds of lymph have been effused over the left iris.

June 2d. Vision lost. Eyes swollen and pushed forward from the orbits. Great debility. A red puffy swelling has suddenly appeared over the right elbow-joint. Diarrhœa. Constant wandering. Hurried and laborious respiration. 15th. Died.

Inspection. — Thorax: In its left cavity were contained upwards of two pints of a thin purulent fluid, and extensive recent adhesions existed between the pleura covering the lower margin of the superior lobe and the pleura costalis. The substance of this lobe was of a dark colour, approaching to black, and soft in texture, so as to be readily broken down with the fingers. In its centre, about an ounce of cream-coloured pus was found deposited in the dark-coloured and softened lung. This was not contained in a cyst, or membrane, but infiltrated into the pulmonary tissue. In the right cavity of the chest, recent adhesions also existed at the inferior part. A portion of the right inferior lobe was entirely changed, from the healthy structure being converted into a dense, solid, dark-coloured mass. On the anterior surface of this lobe the pleura was elevated as if by a hard, irregular tumour, but when cut into, no pus escaped from this part, and it presented only the appearance of the surrounding portions of lung, with a greater degree of condensation.

Vena cava inferior. — Coats of the vessel considerably thickened, and the internal, where visible, of a scarlet colour; its whole cavity occupied by a coagulum, distending it to its utmost extent, and terminating in a loose, pointed extremity, about an inch below the entrance of the vena cava hepatica. The coagulum, covered with a membranous-like investiture of a bright red colour, throughout firmly, and in many places inseparably adherent to the inner lining of the vein; the substance within it varied in consistence and colour, in some parts it presented the appearance of coagulable lymph; in others, it was a pultaceous, dull yellow mass, made up apparently of pus and lymph, blended together. The exterior of the firmer portions were separated into layers, which gradually disappeared as they approached the centre. The mouths of all the veins emptying themselves into the cava were sealed up, the emulgents excepted; the coagulum, near the entrance of these vessels, hanging loosely within the cava.

Left common iliac, and its branches. — Its interior plugged up with a continuation of the coagulum from the cava, and differing inno respect from it, either as to consistence, colour, or the firmness of its adhesions to the inner tunic of the vein; it was continued beyond the entrance of the internal iliac, (which it completely closed,) and terminated in a pointed extremity about the middle of the external iliac; neither the remainder of this vessel, nor the femoral vein, exhibited any morbid changes. The internal iliac

was much contracted, and lined with a thick adventitious membrane.

Right common iliac, and its branches. — This vessel was contracted to more than one-half of its natural size; it was firm to the touch, and of a greyish blue colour; to its internal coat adhered an adventitious membrane of the same colour, containing within it a firm coagulum, made up of thin layers of dense lymph. The internal iliac was rendered quite impervious by dense, dark-coloured bluish membranes, and at its entrance into the common iliac converted into a solid cord.

The contracted external iliac, contained within it a soft, yellowish coagulum, similar to that in the cava; its coats were three or four times their natural thickness, and lined with dark-coloured membranous layers.

The femoral vein, from Poupart's ligament to the middle of the thigh, was diminished in size, and almost inseparable from the artery. Its tunics were thickened, and its interior coated with a dense membrane, surrounding a solid purple coagulum strongly adherent to it. The superficial, and deep femoral veins, were in a similar condition; and the saphena major, and minor, differed from the femoral veins only in the size of the coagulum they contained, which was slender, and had formed no adhesions with the layers of lymph lining their cavity. The cellular membrane, and other textures of the limb, were in a perfectly healthy condition, and in size and appearance, there was externally no visible difference between the two extremities.

The following account has been given by Mr. Wilson of the state of the veins, through which the circulation had been carried on, in a case of obstructed vena cava, which he had an opportunity of examining after death. The anastomosing branches of the veins, on the sides and back part of the pelvis, were much enlarged, as were also those between the vena saphena major, and the branches accompanying the deep-seated arteries, passing through the foramea magnum ischii, and the sciatic notch: large communications existed between the venæ pudicæ externæ, and the lower branches of the inferior mesenteric vein, which was enlarged to treble its natural size. The veins coming from the sinuses of the dura mater, in the vertebral theca, the sinuses themselves, and the veins entering them, were much enlarged; and the communication between them, and the sacral and lumbar were, by the blood contained in them, rendered very apparent. The lumbar veins anastomosed with the vena azygos, which was three times its natural size. The blood which entered the mesenteric vein, passed from thence to the vena portæ; it circulated afterwards through the liver, and passed through the small portion of the vena cava, which remained pervious to the right auricle.*

* Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii.

Case XXXVI.—*Puerperal Crural Phlebitis in a Patient who subsequently died of Tubercular Phthisis.*—Mrs. Foster, æt. 25, No. 27, Little Windmill-street, out-patient of the British Lying-in Hospital.

May 8th, 1829.—Previous to her confinement, six weeks ago, she had been affected for several months with pain in the chest, difficulty of respiration, cough, with copious expectoration of a matter tinged with blood, emaciation, and profuse perspirations in the night. During the last fourteen days, she had been suffering from attacks of pain in the bowels and diarrhœa.

On the 4th inst. she experienced a sense of soreness in the left groin, which gradually extended along the inner surface of the thigh to the ham, and from thence along the posterior surface of the leg to the foot. She stated, that for two days before the occurrence of pain in the groin, she had felt great uneasiness in the region of the uterus, that this suddenly quitted the hypogastrium and passed into the groin, and that from thence it extended downward along the inner surface of the thigh to the leg. The limb became swollen twenty-four hours after the invasion of the pain.

The whole left inferior extremity is now affected with a hot, painful, colourless swelling, nowhere pitting on pressure, except over the foot. The thigh is fully double the size of the other, and any attempt to move the limb produces excruciating pain along the inner surface of the thigh; and the pain excited by pressure along the tract of the femoral vein is so acute, that the condition of this vessel cannot be ascertained. Several branches of the saphena major above the knee are distended and hard. Pulse 120, respiration quick and laborious; tongue peculiarly red and glossy; diarrhœa continues. 10th. Pulmonary affection aggravated. The limb continues extremely painful, and is still more swollen. The groin is so tender, that she cannot endure the slightest pressure over it. The same is the case with the inner surface of the thigh. The branches of the saphena are still hard and painful. 11th. The femoral vein, under Poupart's ligament, can now be felt indurated and enlarged, and it is exquisitely painful when pressed, as is the inner surface of the thigh, the ham, and the calf of the leg. There is comparatively little tenderness along the outer surface of the limb. Pulse 120, skin hot.

17th. Diarrhœa, emaciation, colliquative sweats, and difficulty of respiration increasing. The left inferior extremity is still much swollen; but there is less pain in the groin and in the course of the femoral vessels. Died on the 24th.

Dissection. — Dr. Sims, Mr. Prout, and Mr. Perry, present. — Thorax. Adhesions between the pleuræ on both sides. Scarcely a portion of lung could be observed which did not contain tubercles, in various stages of their growth. The right and left superior lobes contained several large tuberculous excavations.

The vena cava and right common and external iliac veins were in a sound state. The left common external and internal iliac

veins were all impervious, and had undergone various alterations of structure.

The common iliac, at its termination, was reduced to a slender tube, about a line in diameter, which was lined with a bluish-slate-coloured adventitious membrane. The remainder of the common and the external iliac veins were coated also with a dark-coloured membrane, and their centre filled with a brownish ochrey-coloured tenacious substance, rather more consistent than the crassamentum of the blood.

The left hypogastric or internal iliac vein was in the same condition, but in some places reduced to a cord-like substance, and its cavity throughout completely obliterated. The branches of this vein, taking their origin in the uterus, and usually termed the uterine plexus, were found completely plugged up with firm, red coagula. From the commencement of the branches of this plexus of the hypogastric vein to the termination of this vein in the iliac, the whole had become thickened, contracted, and plugged up with coagula and adventitious membranes of a dark blue colour.

The same changes had taken place in the uterine plexus, and trunk of the right hypogastric vein, from the uterus to its unusual termination in the left common iliac vein.

The coats of the left femoral vein were thickened, and closely adherent to the artery, and surrounding cellular substance; its whole interior lined with an adventitious membrane and distended with a reddish coloured coagulum. The same morbid changes presented themselves in the deep and superficial branches as far as they were examined down the thigh.

Case XXXVII. — *Puerperal Crural Phlebitis, terminating Fatally seven weeks after Delivery.* — Mrs. Mason, æt. 42, No. 3, Little Vine-street, August 29th, 1829, four weeks ago, was delivered of twins, and before the expulsion of the placenta, had nearly perished from uterine hemorrhage. Uterine inflammation soon followed, but she appeared to recover until the 27th inst. (two days ago), when she had a violent fit of cold shivering, followed by pyrexia and pain in the right iliac region and groin. Yesterday morning the pain increased in severity, and extended down the inner surface of the thigh towards the ham, and in the evening the whole thigh and leg was perceived to be considerably swollen.

At present the whole right inferior extremity is affected with a general intumescence, and is completely deprived of all power of motion. The temperature of the limb, particularly along the inner surface, is much higher than that of the other, but the integuments retain their natural colour, and do not pit on pressure. The femoral vein for several inches under Poupart's ligament, is very distinctly felt enlarged, and very painful when pressed. Out of the course of the crural vessels little uneasiness is produced by pressure. In the right side of the hypogastrium there is also great tenderness: pulse 120; tongue furred; she appears pale and depressed, and

complains of deep-seated acute pain in the lower part of the back when she attempts to move.

31st. The pain continues in the groin, and along the inner surface of the thigh. The glands in the groin are painful and tumid. The limb is considerably swollen. Febrile symptoms continue.

September 14*th.* — The limb is now œdematous, and nearly free from pain. She has complained of tenderness in the left groin and thigh. During the last four days she had repeated attacks of cold shivering, and has suffered severely from diarrhœa, and deep-seated pain in the lower part of the back. Pulse 130 and feeble. Tongue white.

From the 15th to the 22d, when she died, she was occasionally delirious, and made no complaint of pain except in the back; pulse 140; tongue dry and furred; frequent attacks of diarrhœa and severe rigors. Both inferior extremities were œdematous.

Dissection. — The veins presented nearly similar appearances to those observed in the preceding cases. The divisions of the vena cava were in this instance both affected. On the left side, the cavities of the iliac and femoral veins were filled with a dark purple coagulum, their coats being not much thicker than natural; whilst on the right side, the coats of these veins were dense and ligamentous, and the cavities blocked up by adventitious membranes, or lymph of a dull yellow colour.

The lower part of the vena cava, for the space of two inches, as well as the right common iliac, was obstructed by a tough membrane of lymph surrounding a soft, semifluid, yellowish matter.

The right common external and internal iliac veins, were imbedded in a mass of suppurating glands, the purulent fluid of which had escaped into the adjacent cellular membrane, and forced its way downwards in the course of the psoas muscle, as low as Poupart's ligament.

The right hypogastric vein was reduced to a small, impervious cord, and its branches distended with coagula of lymph of a bright-red colour. The right femoral and its branches were in like manner impervious, their coats being greatly thickened, and their interior occupied by coagula. The cavities of the left common external iliac and hypogastric veins contained soft coagula, disposed in layers, which adhered to the inner tunic of the vessel.

The trunk of the left hypogastric vein was contracted, its coats somewhat thickened, as well as its branches filled with red coloured, worm-like coagula. The spermatic veins were healthy. The cellular membrane of both lower extremities was infiltrated with serum.

Case XXXVIII. — *Inflammation of Left Common, Internal, and External Iliac and Femoral Veins after Parturition.* — A lady, 26 years of age, was delivered on the 19th June, 1831. The labour was protracted, and the placenta, after having been retained in the uterus six hours, was removed artificially, with some difficulty. In the course of a few days after, great tenderness of the

uterus with pyrexia followed. The pain subsided after the application of leeches to the hypogastrium, but the fever, with remarkable prostration of strength, continued till the end of the third week. A painful sense of tension then came to be experienced in the brim of the pelvis, on the left side, and in a few days the whole left inferior extremity became affected with a hot, tense, painful, and colourless swelling.

On the 21st July, (four weeks after delivery,) I was requested by Mr. Cleland, her medical attendant, to see this lady in consultation with him. The pulse was 150, and very feeble. There was constant nausea, vomiting, and diarrhœa. Tongue of a dark-brown hue. Great debility. The countenance and whole surface of the body of a dusky colour. Respiration hurried, with frequent cough and expectoration. Occasional delirium. The whole left lower extremity was swollen to more than double the size of the other. The femoral vein, exquisitely tender on pressure, was felt indurated and enlarged in the upper part of the thigh, and there was fulness and tension above Poupart's ligament, in the situation of the iliac veins. The foot and ankle pitted upon pressure, but the integuments of the thigh were hot and tense, and did not retain the impression of the finger.

22d. Great prostration of strength. Pulse 160. Respiration laborious. Tongue dry and brown. Diarrhœa and vomiting continue. Is conscious at intervals, and then complains of great pain along the inner part of the left thigh and in the ham. There is also tenderness of the hypogastrium, and sense of throbbing in the direction of the abdominal aorta. Abdomen tympanitic. 23d. Sinking. Cold extremities. Pulse feeble and intermittent. Singultus. 24th. Died.

Inspection.—Present, Dr. Sims and Mr. Cleland.

The uterus had sunk down into the pelvis, and was as much reduced in size as it usually is four weeks after delivery. The peritoneum at first sight appeared everywhere healthy, but on closer inspection an adhesion by means of false membrane was found to exist between the posterior part of the uterus and rectum. More than a pint of purulent fluid was contained between the uterus and rectum. The peritoneal and muscular coats of the fundus and body of the uterus, were so soft as to be readily torn with the fingers, and of an inky-black colour. On laying open the uterus the placenta was found to have adhered to the posterior and inferior part of the womb, and the branches and trunks of the left internal iliac vein were all filled with purulent fluid, and their inner surface lined with a false membrane of a black colour. The coats of the common external iliac, and femoral veins, to the middle of the thigh, were all thickened, and their cavity filled with soft coagula of lymph and pus. The vena cava, to about two inches below the entrance of the hepatic veins, was completely blocked up with a coagulum of lymph, which partially adhered to the inner surface of the vessel. Several glands in the vicinity of the vena

cava and iliac veins were in a state of suppuration. The coats of the left internal iliac vein, at its termination in the common iliac, were in a soft, shreddy state.

The right common, internal and external iliac and femoral veins were all in a healthy condition.

I have preserved drawings and preparations of the inflamed veins described in all the preceding dissections, and they completely demonstrate the truth of the fact, that the disease usually termed phlegmasia dolens depends on inflammation of the iliac and femoral veins in puerperal women, which commences in the veins of the uterus.

Case XXXIX. — *Inflammation of both Hypogastric Veins, Vena Cava, and Left Common, External, Iliac, and Femoral Veins after Parturition. Abscess in the Muscular Coat of the Uterus.*— Mrs. Wildman, 30 years of age, was delivered, after a natural labour, in the British Lying-in Hospital, on the 27th January, 1832. Obscure, febrile symptoms took place a few days after delivery; but as there was no pain in the region of the uterus, and the patient would not admit that she was indisposed, I was not called to see her till the tenth day after her confinement. I was then informed that she had been incoherent in the night, and that she had suffered from a long and severe fit of cold shivering. The pulse was 130, and feeble. Tongue of a dark, glossy, red colour; lips parched. Tremors of the muscles of the face and extremities. The countenance of a dusky-yellow colour, and expressive of great exhaustion. There was no pain, tension, or swelling in the hypogastrium; but there was exquisite pain on pressure along the course of the iliac vessels on the left side, and down the inner part of the thigh. I now for the first time discovered that the whole left lower extremity was much swollen, hot, tense, and shining.

13th. The swelling of the left lower extremity, and pain in the course of the iliac and femoral veins relieved by leeches and warm fomentations. The pulse is 140, and extremely feeble. Tongue dry and brown, but there is no vomiting, diarrhœa, or distention of abdomen. The conjunctiva of both eyes have suddenly become intensely red and swollen, and the vision is much impaired, if not lost. Consciousness remains. The right-knee joint is now exquisitely painful when moved, but it is neither red nor swollen. A dark coloured gangrenous spot has appeared over the sacrum.

14th. Eyes red and enormously swollen, eyelids cannot be closed. Pulse rapid and feeble. Tongue, lips, and teeth, covered with sordes. Severe pain in the right knee and elbow-joints and right wrist. Left lower extremity less swollen. Died on the 18th. — The body was inspected at my desire by Mr. Prout, and the following is his report of the morbid appearances.

Inspection. — The uterus had subsided into the pelvis, and no trace of disease was perceptible in the sac of the peritoneum. Both spermatic veins were healthy. The coats of the left common, ex-

ternal iliac and femoral veins deep and superficial, were all thickened, and their cavities plugged up with firm coagula. The same was the case with the epigastric vein and circumflexa ilii. The glands in the vicinity of these veins were enlarged, red, and vascular, and closely adherent to the cellular membrane and outer surface of the vessels. The vena cava to a short distance above the entrance of the left common iliac vein, had its coats thickened, and a soft coagulum of lymph adhering to its inner surface.

The uterine, vaginal, gluteal, and most of the other veins which form the left internal iliac, were gorged with pus, and lined with false membranes of a dark colour approaching to black.

The uterine branches of the right internal iliac vein were also filled with pus and lymph; but the inflammation had not extended beyond the entrance of the trunk of the vessel into the common iliac, and the right common external iliac, and femoral veins, were all in a healthy condition.

In the muscular tissue of the cervix uteri on the left side was a cavity which contained ʒiii. of purulent fluid. The veins proceeding from this part of the cervix were filled with pus, and a large portion of the inner and muscular coats of the body of the uterus was as soft as lard.

The conjunctiva, which before death had been red and swollen, were now almost colourless, scarcely a vessel containing red blood being discernible. The deeper seated parts of the eye were not allowed to be examined.

The following interesting case has been recorded by Tommasini.

Case XL. — A lady, æt. 26, who had always menstruated with difficulty, and who had three times born dead children, on the third or fourth day from her last confinement experienced a sense of weight in the left inferior extremity, with tension and swelling of the thigh, and swollen and painful veins. There was anxiety in the chest indicating the existence of inflammation of the lungs or pericardium. The pulse was frequent, vibrating, and intermitting; countenance anxious; the limb became more swollen; the pulse more intermitting. Palpitation of the heart took place, and she died on the 29th day of the disease.

Dissection. — Brain healthy. The veins which arise from the uterus, and also the veins of both lower extremities were morbidly dilated, and filled with grumous blood, having a fleshy appearance; their coats much thickened, and the internal injected, so as to present a deep red or blackish appearance.*

Case XLI. — *Crural Phlebitis after Parturition. Symphysis Pubis destroyed by Ulceration.* — Mary Gane, æt. 20, was delivered on the 21st October, 1832, of her first child, at her residence near St. Thomas's Hospital. The labour was natural, and she

* Tommasini Saggio di Practiche Considerazioni fatte nella Clinica Medica di Bologna, &c. 1829, p. 320.

went on favourably until the third day, when she complained of pain and stiffness about the hypogastric and inguinal regions extending down the thighs, with pyrexia and headache. 25th. Increased pain on pressure over the region of the uterus, extending down the right thigh. Pulse frequent; rigors; offensive lochia. 30th. Rigors have been more frequent and severe, with great febrile disturbance. The pain of the uterus has never entirely gone off, and she now suffers severely from pain in the symphysis pubis. 31st. Pain of uterus diminished; but increased tenderness in the right groin extending in the course of the femoral vessels, which are felt hard and cord-like beneath Poupart's ligament, for a space of three inches down the thigh. The limb greatly swollen, and œdematous and free from discoloration, except below the ham, where it is of a dark hue from distention of the saphena veins.

November 1*st.* — The limb is immensely swollen, but the femoral vein can no longer be felt in the upper part of the thigh; pitting upon pressure in different parts of the extremity; pulse rapid and feeble; tongue foul; diarrhœa; surface covered with perspiration; countenance pale and depressed. 4th. Pulse 130 and feeble; tongue loaded; diarrhœa continues; pain in the uterine region gone. 13th. Pain and swelling have taken place in the course of the left saphena vein; swelling of right lower extremity diminished; pulse 130 and feeble; distressing diarrhœa. The soft parts covering the sacrum have become affected with gangrenous inflammation, and also the right outer ankle and foot, from which there is a dark ichorous discharge. Several large, dark coloured vesicles have also appeared over the limb. Delirium and pain of the chest ensued, and she speedily sunk.

The body was examined on the 14th by Mr. Macaulay and Mr. Dodd, two of the most intelligent pupils in my class, and I am indebted to them for the following account of the morbid appearances. "On examination of the pelvis, it was found filled with purulent fluid which had passed through the symphysis pubis, which was separated to the distance of an inch and a half, and its cartilages completely gone. The right femoral vein was found plugged up with fibrin, and the saphena major filled with pus. Permission could not be obtained to examine the left lower extremity, and to ascertain the condition of the internal iliac veins."

Bloodletting from the arm was had recourse to in the preceding case at the commencement of the attack, without any benefit. Leeches and cupping-glasses were also employed, with warm fomentations; and calomel, Dover's powder, &c., were freely administered.

SECTION III.

EXAMPLES OF CRURAL PHLEBITIS WHERE RECOVERY TOOK PLACE.

I subjoin the following cases of crural phlebitis in puerperal women, in order that I may illustrate more fully the phenomena of the milder forms of the disease.

Case XLII. — Mrs. P——, æt. 27, was delivered on the 8th December, 1827, after a tedious labour. In a few days, tenderness of the hypogastrium took place; and on the 20th, the pain which had remitted returned with increased violence; and on the 21st, rigors and other symptoms of pyrexia supervened, and the whole right extremity became stiff and swollen.

On the 22d (fourteen days after confinement) I first saw her. A considerable degree of tumefaction then occupied the extremity, it was however much greater in the leg than in the thigh; and in the former, the integuments were tense and elastic, but pitted slightly on firm pressure along the front of the tibia. In the thigh no effect was produced by pressure. The temperature of the limb was increased. There was exquisite pain, increased by pressure, in the course of the femoral vein, and in the groin this vessel was felt as if enlarged, rolling, hard and incompressible under the finger. The pain extended upwards through the iliac region, along the course of the great vessels, and through the thigh, ham, and back of the leg towards the foot; pulse 112; skin hot; tongue white; thirst and nausea.

On the 25th, all the symptoms were aggravated, and the tumefaction in the thigh increased. Right labium pudendi much swollen. The integuments pale and shining, and everywhere pitting upon pressure.

26th. A similar affection commencing in the left extremity, there is pain and sense of numbness in the whole pelvic region. The calf of the leg is slightly tumid and painful. 27th. Fulness and severe pain in the left iliac region. Swelling of the leg and temperature increased. Exquisite pain on pressure in the course of the femoral vein, through the groin and upper part of the thigh.

28th. Swelling in right extremity diminished. The left extremity is swollen, stiff, hot, and painful, and cannot be moved; its integuments are white and pallid, and pit on strong pressure. The left labium pudendi is similarly affected. The femoral vein is felt enlarged and indurated in its passage through the groin; intense pain marks its course down the thigh to the point where it leaves the ham; in this latter situation pressure produces much suffering, as it does down the whole posterior part of the leg. The parts of the limb out of the course of this vessel and of the great superficial veins, are comparatively much less painful than on the lower and anterior part of the thigh. The countenance is pale and sunk;

the pulse rapid. There is great irritability and prostration of strength.

On the 17th January, the tumefaction and pain had declined in both extremities. The feet were swollen and painful.

February 12th. — Has been gradually improving since the last report. There is great weakness in both extremities, but pain is nowhere felt; and the slight degree of swelling remaining is confined to the left ankle and leg. No induration is perceptible in the course of the femoral vessels.

The remedial means employed in this case were repeated, local abstractions of blood by leeches, anodyne fomentations and cold lotions. Purgatives and opiates were given according to circumstances, and low diet enjoined during the acute stage of the disease.

I saw this patient on the 3d of February, 1829, and from the state of the veins in the lower extremities, it was evident that both the great crural veins were impervious.

Case XLIII. — A young woman, under the care of Dr. Forbes, was attacked, on the 5th day after delivery, with acute pain in the region of the uterus, rigors, and suppression of the lochia. On the 7th, the pain extended into the left groin, and upper part of the thigh, and a considerable swelling took place in the calf of the leg.

On the thirteenth day, subsequent to delivery, (Oct. 5, 1829,) the limb was swollen to nearly double the size of the other; the integuments were hot, but of a pale, shining colour, and along the tibia, and upper surface of the foot, they pitted upon pressure. Great pain was experienced on pressing the inner surface of the thigh, ham, and calf of the leg; while no complaint was made of pressure along the outer surface of the limb. The femoral vein, for a space of three or four inches under Poupart's ligament, was painful when pressed, and felt like a hard cord. The branches of the saphena were distended, but not painful. Pulse 120. Great prostration of strength. Tongue white; thirst, nausea, and vomiting.

A similar affection took place a few days after, in the right inferior extremity, and the femoral vein was also distinctly felt enlarged.

November 1st. — The limbs are still swollen and painful, but the fever is gone, and her health is returning.

The most marked relief, in this case, followed the application of several dozen of leeches, along the course of the crural veins, and fomenting their bites with warm water.

Case XLIV.—On the 17th of January, 1831, I was called by Mr. Anson to see a puerperal patient, residing at No. 12, Dorset-street, Manchester-square, who had an attack of crural phlebitis on the left side. The whole extremity was swollen, tense, hot, and colourless. The femoral vein could not be distinctly felt, but there was exquisite tenderness on pressure in the left iliac fossa, and along the course of the femoral vein to the ham. There was

no pitting on pressure in any part of the limb, and the power of moving it was entirely lost. Pulse 120. Tongue foul. Anorexia.

She was delivered three weeks before the commencement of the attack. It was observed, that the pulse continued unusually quick from the time of delivery, till the appearance of the swelling of the limb, which took place on the 16th. The intumescence of the lower extremity was preceded by tenderness of the hypogastrium and left groin, sickness, and remarkable depression of strength and spirits.

The symptoms were speedily relieved by the repeated application of a number of leeches along the course of the iliac and femoral veins, warm fomentations, &c.

Case XLV—Mary Eggins, æt. 19, No. 20, Little Marylebone-street, a patient of the Middlesex Hospital, under the care of Dr. Ley, was delivered of her first child on the 26th of November, 1831. The labour was natural, and there was no enlargement of the veins of the lower extremities during pregnancy. On the sixth day after delivery, she was attacked with rigors, vomiting, great sensibility of the hypogastrium, and suppression of the lochia.

On the 9th day, pain was experienced in the left groin, and soon after a swelling took place in the calf of the leg and ham, which gradually extended over the whole limb. For seven weeks, the extremity continued swollen to double the size of the other, hot, and painful, and incapable of being extended, or moved.

January 25th, 1832. — The limb is still larger than the other, and pits. She suffers from occasional severe attacks of pain in the lower part of the abdomen, and along the course of the femoral vessels. The superficial veins of the lower part of the abdomen, and upper part of the thigh, are enormously enlarged. Around the ankle there are large clusters of varicose veins. Blisters, which produced extensive ulceration, were applied to the calf of the leg without benefit. The general health is much impaired, and she has only partially recovered the use of the limb.

About the same time, Dr. Ley informed me, that he had seen a case of crural phlebitis in a patient of the Middlesex Hospital, residing at Somers Town, who had been recently confined. The affection of the lower extremity was preceded by unequivocal symptoms of uterine phlebitis.

These cases sufficiently illustrate the phenomena of crural phlebitis in its less severe forms.

SECTION IV.

HISTORY OF CRURAL PHLEBITIS IN PUERPERAL WOMEN.

Mauriceau was the first author who described this disease, and he referred the swelling of the lower extremity to a reflux upon the

parts of certain humours which ought to be evacuated by the lochia, of which he says, "le gros nerf de la cuisse s'abreuve quelquefois tellement, qu'il en peut rester à la femme une claudication dans la suite." It is not improbable from this expression that he had felt with the finger the inflamed femoral vein in the upper part of the thigh, which he mistook, however, for a nerve, as some other observers seem to have since done for an inflamed absorbent. Where the disease was accompanied with great fever, difficulty of respiration, pain and tension of the abdomen, Mauriceau considered it dangerous, in proportion to the severity of these symptoms.*

A more full account of the symptoms of crural phlebitis was given not long after by Puzos and Levret, both of whom considered the swelling of the limb to depend on a deposit of milk in the part. Puzos states that it is a painful and protracted but not a dangerous disease, and that it most frequently occurs about the twelfth day after delivery, though sometimes as late as the sixth week. He also observed, that one limb only is at first affected, and that the pain and swelling commence in the groin, and superior part of the thigh, and descend along the course of the crural vessels to the ham, and thence along the calf of the leg to the foot. He observed, likewise, that the disease attacked the other limb, and that it presented the same appearances as the first affected. The extent of the mischief, he remarks, is always readily recognized by a painful cord, formed by the infiltration of the cellular tissue which accompanies the crural vessels. "C'est dans l'aine et dans la partie superieure de la cuisse, que le depot commence à donner des signes de sa presence par la douleur que l'accouchée y ressent; et la douleur suit ordinairement le trajet des gros vaisseaux qui descendent le long de la cuisse; elle est même plus vive dans tout ce trajet. On reconnoit l'etendue du mal par une espèce de corde douloureuse que forme l'infiltration du tissu cellulaire qui accompagne ces vaisseaux et l'enflure se joint presque toujours à la douleur.† Puzos recommended repeated venesection, cathartics, and sudorifics, and various local applications, as warm cataplasms, fomentations, and embrocations of oil of almonds with ammonia.

Levret's description of crural phlebitis strikingly coincides with that of Puzos. When the disease attacks one side, a tumour more or less considerable, he observes, is found on examination in the iliac fossa. The cord of crural vessels is also painful through a great part of its course, and then the swelling of the limb follows.‡

In the copy of Dr. William Hunter's Lectures, taken in 1775, no account is given of this disease; but from the following note, written by Mr. Cruickshanks to Mr. Trye, at the time he was engaged in the publication of his work on the subject, it is evident

* Traité des Maladies des Femmes Grosses, &c., tom. i., p. 446.
† Traité des Accouchemens, par M. Puzos, 4to. p. 350. Paris, 1759.
‡ L'Art des Accouchemens. Levret, p. 932.

that Dr. Hunter had seen cases of crural phlebitis, and was convinced that the opinions of Puzos and Levret had no solid foundation. "They have imputed the swelled limb, which happens after lying-in, to a *depot de lait*, but it is not: to something wrong in the constitution; the patient is first seized with pain in the groin, the pulse becomes smart, and the part becomes tender, the pain and tenderness get gradually lower down, and the muscles are stiffened into hard bumps, and an œdema frequently succeeds the inflammatory swelling. It is generally called a cold, but it is not. In some it is over in a short time, in others it will last some months; it generally does well."

In the year 1784, Mr. White, of Manchester, published an inquiry into the nature and cause of that swelling in one or both of the lower extremities which sometimes happens to lying-in women, and he suggested or adopted the opinion that the disease depends on obstruction or on some other morbid condition of the lymphatic vessels, and glands of the affected parts. Mr. White saw fourteen cases, but as none of them proved fatal, an opportunity was not afforded him to determine the truth of this hypothesis by an examination of the actual condition of the different textures of the affected extremities.

An Essay on the Swelling of the Lower Extremities incident to Lying-in Women, was published in 1792 by Mr. Trye of Gloucester, in which he referred the symptoms to rupture of the lymphatics as they cross the brim of the pelvis under Poupart's ligament. Six cases came under the observation of Mr. Trye, and in all recovery likewise took place. He clearly perceived, although he was not able to explain the fact, that an intimate relation subsists between puerperal fever and the swelled leg of lying-in women. Dr. Ferriar soon after maintained, without the slightest evidence, that there is a general inflammatory state of the absorbents in this disease.

Dr. Hull published an essay on Phlegmasia Dolens in 1800, in which he satisfactorily showed that it was impossible to account for the phenomena of the disease, on the supposition that the lymphatics were affected independently of a considerable primary affection of the sanguiferous system of the limb. He considered the proximate cause to consist in an inflammatory affection producing suddenly a considerable effusion of serum and coagulating lymph from the exhalants into the cellular membrane of the limb. All the textures, muscles, cellular membrane, lymphatics, nerves, glands, and bloodvessels, he supposed to become affected.

It is a remarkable circumstance in the history of crural phlebitis, that nearly a century and a half should have elapsed, from the time when it was first clearly pointed out by Mauriceau, until an opportunity was presented of ascertaining by dissection the precise nature of the disease. There had indeed been opportunities, as I have shown, to determine the accuracy of the different hypotheses

which had been advanced, but these were neglected, and the seat of the disease, and its commencement in the uterus, were imperfectly understood, until I ascertained, by dissection, the true nature of the complaint.†

In January, 1823, M. Bouillaud related several cases and dissections, in which the crural veins were obliterated in women, who had suffered from a swelling of the lower extremities after delivery; and M. Bouillaud distinctly stated, that he considered obstruction of the crural veins to be the cause, not only of the œdema of lying-in women, but of many partial dropsies.†

In May, 1823, the valuable Essay of Dr. Davis, on Phlegmasia Dolens, was read before the Medical and Chirurgical Society, and subsequently published in the twelfth volume of the Transactions. Although the cases of M. Bouillaud were published four months before Dr. Davis's Paper was read, it does not admit of dispute, that Dr. Davis was the first who proved, by dissection, that phlegmasia dolens depended on inflammation of the iliac and femoral veins. So early as 1817, a fatal case occurred to him, which was examined by Mr. Laurence, in which the iliac and femoral veins were inflamed and obstructed. Two other cases were recorded by Dr. Davis, and another by Mr. Oldknow, in all of which there were proofs of the previous existence of inflammation of the crural veins.

For six years after the publication of the cases of M. Bouillaud and Dr. Davis, pathologists remained in doubt, whether these cases should be considered as examples of genuine phlegmasia dolens, or be viewed as essentially different diseases, and analogous in their nature to those formidable attacks of phlebitis, which sometimes succeed to venesection and wounds. In opposition to the views of Dr. Davis, it was urged, that if phlegmasia dolens depended on inflammation of veins, three out of four patients would die; whereas, death does not take place in one case in the hundred, where that disease is distinctly marked. Dr. Davis has communicated no additional information on the subject since 1823, and he is still of opinion, that the inflammation commences in the common iliac, and not in the veins of the uterus, and that the disease is produced by the pressure of the gravid uterus during pregnancy.

In none of the cases of Dr. Davis does it appear that any attempt was made to trace the hypogastric veins to the uterus, though it is now certain, from what is known respecting the progressive changes witnessed in cases of phlebitis, that the alterations of structure which he has described in the common and external iliac, must have originated in the veins of the uterus.

Thus, then, none of the writers who have been hitherto quoted, have made *any* allusion to phlegmasia dolens commencing in the *uterine veins*, and even M. Velpeau, the *latest* continental author on the subject, has given it as his opinion, that the affection of

* Med. Chir. Transac., vol. xv., 1829.

† Archives de Medicine, tom. ii., January, 1823.

the veins is not the primitive disease, but is the consequence of the inflammation and suppuration of the articulations of the pelvis, with which he observed it to be frequently combined. The puriform fluid found within the veins, he supposes to have been introduced into their cavity by absorption, and not to have been the effect of inflammation, nor the cause of those affections of the articulations, which is now known to be the case. How far this opinion was incorrect, I need not now point out to the reader.

It is due to Mr. Guthrie to mention, that in a Paper on Inflammation of Veins after Amputation, published in the Medical and Physical Journal for 1826,* he suggested the importance of tracing the veins from the common iliac of the affected side down to the uterus, and expressed a suspicion that the disease would be found to originate in that organ.

All the authors who have treated of phlegmasia dolens, describe it as commencing, in the great majority of cases, subsequent to the tenth day after parturition, with symptoms of uterine irritation, and constitutional disturbance of a low typhoid character, and with pain and swelling in one extremity only. They have assigned various reasons for these remarkable peculiarities, in the period and mode of development of the disease, as pressure of the gravid uterus on the iliac veins during gestation, the change in the distribution of the blood from the sudden removal of this pressure, exposure of the extremity to cold, suppression of the lochia, deposits of milk in the limb; all of which, taken singly, or combined, are insufficient to account for the phenomena, and the occurrence of the disease after menstruation, abortion, and the malignant affections of the uterus proves, that these causes are neither necessary, nor sufficient for its production.

The facts which have been stated in this chapter offer a more satisfactory and, I trust, conclusive explanation of the phenomena. They demonstrate, that if inflammation be excited in the uterine branches of the hypogastric veins, it may continue to spread along these, until it reaches the common, external iliac, and femoral veins, and by the morbid changes induced in them give rise to all the subsequent symptoms.

SECTION V.

OF CRURAL PHLEBITIS IN WOMEN WHO ARE NOT IN THE PUERPERAL STATE.

The following cases will show that inflammation of the iliac and femoral veins is a disease not peculiar to women who have recently been delivered, but that it may also arise from suppressed menstruation, malignant ulceration of the os and cervix uteri, as well as some other organic diseases of the uterine organs.

* Archives de Medicine, tom. vi.

Case XLVI. — *May*, 1828. — I was requested by Mr. Prout to see a young woman, in whom violent fever had followed the sudden suppression of the menses. There was great tenderness of the hypogastrium and left thigh, a rapid feeble pulse, delirium, brown tongue, vomiting and diarrhœa, exquisite pain in several of the joints of both the upper and lower extremities, and some abscesses had formed in the muscular parts of the body. I was not permitted to examine the body after death, but from what I have since seen, I cannot entertain a doubt that the symptoms were produced by uterine and crural phlebitis.

Case XLVII. — In the autumn of 1831, I saw a young lady, in consultation with Mr. Jones of Carlisle-street, Soho, who was suffering from an attack of crural phlebitis of the left side. The whole left inferior extremity was swollen, tense, hot, and painful; but not discoloured. The femoral vein was felt under Poupart's ligament like a large, hard cord, and pressure over it and along the course of the iliac veins of the same side produced great suffering. The limb was completely deprived of the power of moving. The thigh did not pit upon pressure, but the integuments of the leg retained the impression of the finger. The tongue was white; the pulse rapid; and there was great irritability of stomach and depression of strength. This attack was referred to the sudden suppression of the catamenia from the application of cold and wet, which was followed by great uterine tenderness. The acute symptoms were soon subdued by leeches and warm fomentations to the limb; but the extremity remained weak for some months after.

A young woman under the care of Dr. Watson, last year, died in the Middlesex-Hospital from tubercular disease of the lungs. A swelling of the left lower extremity similar to phlegmasia dolens had taken place some time before death. The uterus was found on dissection to be diseased on the left side. The left common iliac and femoral veins had been inflamed, and the left internal iliac was converted into a solid ligamentous cord. It was evident that the affection of the vein had originated in the uterus.

Tommasini has related the following interesting case:—

Case XLVIII. — *Inflammation of the Iliac and Crural Veins, from Exposure to Cold during Menstruation.* — A lady, æt. 31, had the catamenia suddenly suppressed from immersion of the body in cold water. Headache and swelling of one of the limbs took place, and in three months she was attacked with great anxiety, prostration of strength and spirits, and other signs of a severe disease. The pulse was frequent and irregular, and there was great anxiety in respiration; the blood drawn was buffy. Phlebitis of the inferior extremity manifested itself. The pulse became intermittent, the veins of the limb painful and turgid, and the skin covered with spots of a dark colour. The sense of oppression increased, and death took place about four months after the suppression of the catamenia.

Dissection. — The lungs were inflamed. In the limb affected,

the saphena, sural, popliteal, crural, and iliac veins, had their coats thickened, injected and filled with coagula of blood, which in some parts of the crural veins appeared to be changed into a fleshy substance. The coats of the iliac above the crural arch to the bifurcation of the vena cava, were much thicker than the other veins, and more injected, without any manifest collection of purulent matter. The arterial system was healthy; the condition of the uterine veins the author has not, however, described.*

Case XLIX. — In the month of May, 1831, I saw a woman, æt. twenty-two years, in the Middlesex-Hospital, who was under the care of Sir Charles Bell. The superficial veins of the left lower extremity were greatly distended, and the thigh, leg, and ankle, were swollen and œdematous; there was great tenderness on pressure along the brim of the pelvis, and in the course of the femoral and saphena veins. The right inferior extremity was in the natural state.

About six months before she had experienced a fall, in which the lower part of the spine had violently struck the ground; since that time, there had been constant pain in the back, with irregular menstruation and prolapsus uteri. Soon after the accident, she also began to suffer from pain along the brim of the pelvis on the left side, extending downward under Poupart's ligament along the thigh in the course of the femoral vessels. The veins of the lower extremity in a short time began to enlarge, and also the whole limb became swollen, painful, and œdematous.

Case L. — On the 18th May, 1832, there was a young, unmarried woman in the Middlesex Hospital with varicose veins, and extensive swelling of the left lower extremity. The uterine functions had been irregular for many months. There was also great tenderness on pressure in the course of the iliac and femoral veins to the middle of the thigh, and little doubt could be entertained that these veins were inflamed and obstructed.

The following observation renders it probable that uterine phlebitis had followed an abortion. On the 27th October, 1831, I examined the body of a woman who had died of uterine inflammation seven days after delivery. In the veins proceeding from the cervix uteri on the left side, three phlebolites were found, and other evidences of previous inflammation of the coats of the veins. Seventeen months before death, abortion took place, which was followed by great tenderness of the hypogastrium, and the constitutional symptoms which characterise inflammation of veins.

Last autumn, Mr. Babington, Surgeon to St. George's Hospital, removed a polypus of the uterus by ligature. Symptoms of uterine phlebitis followed, and the woman died in a few days; and, on examining the body, the veins of the cervix uteri were seen distended with pus. I am indebted to Mr. Henry Johnston, House Surgeon to the Institution, for an account of the case, and for an opportunity of examining the uterus and polypus.

* Tommasini Saggio di Pratiche Considerazioni fatte nella Clinica Medica di Bologna, 1829, p. 317.

Case LI. — Last September a lady, about forty years of age, who was under the care of Dr. Copland, after being exposed to cold, had a violent attack of inflammation of the bowels, for which copious venesection was required. Great tenderness in the hypogastric region with pyrexia continued for some time after, when she began to suffer from pain in the situation of the left crural veins. The whole lower extremity became affected with a hot, tense, and painful swelling, as in puerperal crural phlebitis. The affection had scarcely begun to subside in the left extremity when she began to experience pain and tension above Poupart's ligament, on the right side, and the right thigh and leg became also affected with a hot, painful, colourless intumescence. I saw this lady in consultation with Dr. Copland, when the right extremity had become affected, and the disease did not differ in any respect from the crural phlebitis of lying-in women. By the repeated application of leeches, fomentations, &c., the acute symptoms were soon subdued, but the feet and ankles are still weak and œdematous.

SECTION VI.

CRURAL PHLEBITIS FROM MALIGNANT ULCERATION OF THE UTERUS.

Case LII.— *Inflammation of the Uterine Veins, with Carcinomatous Ulceration of the Os and Cervix Uteri.* — A lady, who had been suffering for some time from cancer of the os uteri, was seized on the 9th May, 1829, with frequent vomiting, diarrhœa, and unremitting severe pains in the uterus. She became sallow and emaciated, aphthous ulceration of the mouth took place, and she died at the end of June. The body was inspected by Mr. Griffith.

The anterior lip of the os uteri and a part of the cervix had been destroyed by a malignant ulcer. The upper part of the vagina was also ulcerated. The uterine branches of the left hypogastric vein were distended with coagula of lymph, and their internal surface was of a bright red colour. The left spermatic vein, to a distance of two inches from the uterus, was coated with a thin, false membrane, and plugged up with coagula of lymph, in the centre of which was a yellow, pultaceous matter. The veins running along the side of the body of the uterus, and forming the communication between the spermatic and hypogastric veins of the left side were in the same condition, and distended like hard cords. The veins of the right side of the uterus were similarly affected, but in a much slighter degree. All the other viscera were healthy.

I was indebted to Dr. Ley, who had been consulted in this case, for an opportunity of examining the parts after death, at the Middlesex Hospital. I was not before aware of the fact that uterine

phlebitis might be excited by malignant ulceration of the os uteri, nor have I since been able to discover that any writer had previously mentioned the circumstance. Soon after, the following case occurred, which clearly proved not only that inflammation of the veins of the uterus might be produced by this cause, but that the inflammation might extend along the internal to the common, external iliac, and femoral veins, and give rise to the same symptoms as those observed in cases of puerperal crural phlebitis.

Case LIII. — *Inflammation of the Left Iliac, and Femoral Veins, with Phagedenic Ulceration of the Uterus.* — On the 27th of July, 1829, I was invited by Dr. Girdwood, of Paddington, to be present at the examination of the body of a woman, æt. 60, who had died two days before of a malignant disease of the uterus, of several years' duration. Five weeks before her decease, symptoms of crural phlebitis had appeared in the left inferior extremity. She complained of great pain in the thigh, and the limb had become swollen to nearly double the size of the other, without any discoloration of the integuments.

On opening the abdomen, the peritoneum covering the intestines and liver was found to be severely inflamed with an effusion of sero-purulent fluid into the abdominal cavity. The os, cervix, and a great part of the body of the uterus, had been destroyed by phagedenic ulceration, and extensive openings formed in the bladder and rectum. On the left side, between the remaining portion of the uterus and the pelvis, to the brim of which it firmly adhered, was a spongy, cancerous mass, inclosing within it the branches and trunk of the hypogastric vein and artery, and a considerable portion of the common and external iliac veins. When cut into, it presented a spongy texture, and a thick, whitish, purulent fluid escaped, as if from numerous cells, but which were subsequently ascertained to be cavities of veins. A portion of the common and external iliac veins, was lost in removing the parts from the body; what remained of the common iliac was reduced to a slender tube, which was partially coated on the inner surface with an adventitious membrane of a black colour.

The commencement of the external iliac was also contracted, so as to be impervious, and lined with a dark-coloured, false membrane. The common, superficial, and deep femoral veins, were all plugged up with firm, red coagula, the coats thickened, and the inner surface lined with adherent false membranes. The cellular texture of the limb was loaded with serum, but in other respects it was healthy, as were the other tissues.*

Case LIV. — *Inflammation of the Vena Cava, Left Common,*

* Soon after the occurrence of the preceding case, which I related to Dr. Merriman, he pointed out to me the following passage, in which Dr. Willan has stated, on the authority of Dr. Sims, "that the schirrus, or cancer of the uterus, which produces an offensive discharge from the vagina, is sometimes attended with an œdema similar to that in puerperal cases."—*Willan's Reports of the Diseases of London.*

Internal, and External Iliac, and Femoral Veins, produced by Malignant Ulceration of the Uterus. — On the 25th of March, 1830, with Dr. Girdwood and Mr. Prout, I examined the body of a woman, æt. 50, who had died of carcinoma uteri, in whom, four weeks previous to her decease, the usual symptoms of phlegmasia dolens had appeared in the left lower extremity. There was great tenderness in the course of the femoral veins, and along the inner surface of the thigh and leg to the ankle, and the whole extremity had become tense and swollen. The temperature of the surface was increased, but there was no unusual redness of the skin, and pitting on pressure could only be produced around the ankle, and on the upper surface of the foot.

The upper part of the vagina, os and cervix uteri, were destroyed by cancerous ulceration, and a large opening formed between the vagina and rectum.

The trunk and branches of both internal iliac veins were partially inclosed in masses of indurated cellular and adipose substances, and inflamed through their whole extent. On the right side, the inflammation terminated abruptly at the junction of the internal with the common iliac vein. The right common and external iliac veins were healthy.

The left internal, common, and external iliac, and femoral veins, were all plugged up with firm coagula, and lined with false membranes. The vena cava, from the junction of the common iliac veins to the entrance of the venæ cavæ hepaticæ, was occupied and distended with a soft coagulum, which at the upper part had the appearance of a clot of blood, and did not adhere to the lining membrane of the vein. The inferior half of the vena cava was filled with a firm coagulum of lymph, which closely adhered to the vessel. This coagulum, which was soft and pultaceous in the centre, was continuous with that in the left common iliac vein.

Other three cases of crural phlebitis from malignant ulceration of the os uteri have since been observed by me; and Dr. Blundell has related to me the particulars of a fourth, which occurred in a lady at Clapham, who had a malignant fungous growth of the uterus. A ligature had been applied around the root of the tumour, but the progress of the disease was not arrested, and the affection of the lower extremity took place soon after.

In the sixteenth volume of the Medical and Chirurgical Transactions, p. 59, 1830, another well-marked example of this affection has been related by Mr. Laurence, under the following title: "Case of Phlegmasia Dolens, caused by Inflammation of the Veins of the Lower Extremity, excited by Malignant Ulceration of the Cervix Uteri." Mr. Laurence observes, "As the following case confirms the interesting and important observations respecting the nature and causes of phlegmasia dolens, lately communicated to the Society by Dr. Robert Lee, I sent the particulars to him. They were too late for insertion in his Paper, which had been

already printed; at his request, therefore, I present them to the Society in a separate form.

Case LV. — "Anne Dawson, forty years of age, a married woman, who had borne several children, was received into St. Bartholomew's Hospital under my care on the 12th November, 1829. Her complexion was sallow, and the expression of the countenance altogether very unhealthy. She had pain in the loins, frequently shooting towards the hypogastric region, which was tender on pressure, costive bowels, restlessness, and sanious discharge from the vagina. She had not menstruated for several months. For the last six months she had laboured under incontinence of urine, she had perfect use of her legs, and full power over the sphincter ani. There was no tenderness in the region of the spine. Instead of the os tincæ and cervix uteri, a large, irregular, ulcerated excavation was found at the posterior end of the vagina. Anodynes and the occasional use of castor oil were directed, and afforded some relief.

"About the 20th November increased uneasiness was experienced in the lower part of the abdomen, with feverish symptoms not of a severe description; the pulse was sharp and frequent; the tongue white; the skin warm, and the countenance slightly flushed. The right lower extremity swelled in its whole extent, with some increase of heat and pain on motion, which was performed with difficulty. The colour of the limb was not altered; the swollen part of the thigh was tolerably firm; the lower part of the leg and foot pitted upon pressure. There was pain in the course of the femoral and iliac vessels; and the internal saphena vein could be traced at the upper part of the thigh by a hardened, knotty feel. I considered the disease to be essentially the same as phlegmasia dolens occurring in women recently delivered; there could be no doubt that the large veins of the thigh were inflamed, and the observations I had heard from Dr. Lee led me to conclude that inflammation had been excited in the veins of the uterus by the disease in its cervix, and had extended from them to the iliac and femoral venous trunks. Violent hemorrhage from the uterus came on early in the morning of the 18th December, which was speedily fatal.

"*Examination.* — When the body was examined, the second day after death, the fundus of the uterus was found moderately enlarged and firm; the cervix had been destroyed by that kind of phagedenic ulceration which is usually called cancer of the uterus. The rectum and sigmoid flexure of the colon adhered firmly to the uterus; and, but for this adhesion, the ulceration would have penetrated the cavity of the abdomen. The cellular and adipose substance round the lower part of the uterus and neighbouring portion of the vagina were thickened and indurated, particularly on the right side. The hypogastric vein, involved in this diseased mass, was closed, in consequence of previous inflammation of its

coats; and the same change had occurred in the internal iliac, the common iliac, the external iliac, the femoral and profunda veins, as well as in the internal saphena; all of which were completely impervious. The affection terminated above at the junction of the common iliac vein, with that of the opposite side; the latter vessel and the inferior cava being quite natural. The saphena was closed for a length of about four or five inches, beyond which it was natural. The profunda was cut through near the femoral vein, and the latter was divided as it passes the tendon of the triceps. The disease extended in both these vessels beyond the situations where they had been divided; but its inferior limits were not ascertained. The right spermatic vein was closed in its lower half. The coats of the affected vessels and the surrounding cellular substance were a little thickened, and their cavities were plugged by a closely adherent and tolerably firm substance of a light brown colour. At some parts, the vessels and their contents were of a dark livid hue. The examination of this case fully confirmed the opinions which had been entertained during the patient's life; viz., that the swelling of the lower extremity arose from inflammation of the large venous trunks, and that the latter affection was owing to extension of disease from the hypogastric veins in which it had been excited by ulceration of the uterus. Although the inflammation of the veins had been extensive, it yielded readily to mild antiphlogistic means; and the inflamed vessels had already advanced considerably towards that natural cure which is accompanied by obliteration of the cavity. This progress is interesting in another point of view: it shows that the disease of the vessels, although excited by a specific malignant affection, was simple or common inflammation."

SECTION VII.

OF CRURAL PHLEBITIS IN MEN.

It has been ascertained that this disease, in the male sex, may commence either in the hemorrhoidal, vesical, or in some of the other branches of the internal iliac veins, in consequence of inflammation or organic changes of structure in one or more of the pelvic viscera. Crural phlebitis in men arises much more frequently, however, from inflammation being excited in the superficial veins of the leg, extending upward and involving the great venous trunks of the thigh and pelvis. External injuries, exposure to cold and moisture, and ulcers, are the most frequent causes of inflammation of the saphena veins. Amputation may also excite crural phlebitis, both in the veins of the same side and in those of the opposite extremity. Tumours, by pressing upon the vena cava and iliac veins, may also give rise to the disease.

The following cases will illustrate, though in a less perfect man-

ner than might be desirable, this interesting part of the pathology of veins.

Mr. Laurence examined the body of a man who died in Saint Bartholomew's Hospital of cancer of the rectum, and he found the iliac veins inflamed and obstructed.

In two cases of crural phlebitis, related by Mr. Holberton, the patients died of phthisis, with diarrhœa and ulcerations of the bowels. In the first case the examination was imperfect, but in the second, the left hemorrhoidal veins, the commencement of which I traced close to the spots of ulceration in the mucous membrane of the rectum, contained phlebolites, and exhibited other marks of previous inflammation.*

In Dr. Forbes's case of phlebitis, the patient also died of phthisis, and he suffered severely from diarrhœa. The internal iliac veins were not traced to the rectum; but Dr. F. has recently stated to me his belief, that the mucous membrane of the lower bowels was ulcerated.†

Dr. Cheyne observes, in his report of the Whitworth Hospital, which contains an account of dysentery, that "it is worthy of remark, that a swelling occurred in several of the patients, both males and females, resembling the phlegmasia dolens in all respects but in its connection with parturition."

Dr. Tweedie has related cases of fever which were followed by painful swelling of the lower extremities; which also, in all essential circumstances, resembled phlegmasia dolens, but no opportunity occurred to examine the veins by dissection in these cases.‡

Drs. Graves and Stokes have also related cases of painful swellings of the lower extremities after fever, which presented all the usual symptoms of phlegmasia dolens, and were considered by them to be identically the same diseases. In both, they remark, œdema occurred, unattended by redness, but accompanied by increase of heat, with great tenderness and pain, and followed for a considerable time by impaired motion of the limb. In both diseases the swelling and the other symptoms are frequently not confined to any one portion of the extremity, but extend uniformly over the leg and thigh. In both diseases, however, we have also often observed, that the pain, heat, and swelling, occupied particular parts of the limb while the rest was comparatively free from disease. Thus, in some cases, a portion of the thigh was extensively engaged, while the leg and foot remained in the natural state; and, after some days, the diseased action seemed to change its place, and successively attacked the other portions of the limb, without, however, any precise order in the mode of succession.§

In Dr. Cheyne's cases of dysentery, it is highly probable, the

* Med. Chir. Transac., vol. xvi., part i., p. 70.
† Med. Chir. Transac., vol. viii., p. 293.
‡ Edin. Med. and Surg. Journal, No. 97.
§ Dublin Hospital Reports, vol. v., p. 29.

disease commenced in the hemorrhoidal veins; and from the frequent occurrence of inflammation and ulceration of the intestines in continued fever, I am disposed to think the affection had the same origin in the cases of Drs. Tweedie, Graves and Stokes.

A man, whose case is recorded by M. Cruveilhier in his eighth fasiculus, p. 16, had a sound introduced into the bladder for retention of urine, occasioned by a swelling of the prostate. Pain came to be experienced in one of the lower extremities, the veins were observed to be painful and distended like hard cords. The patient died, and all the different degrees of phlebitis were observed in the veins of the limb. There can be little doubt, M. Cruveilhier observes, that inflammation of the prostatic or vesical veins had been induced by the introduction of the instrument in this case, but the examination not having been conducted with a view to ascertain this point, it was not positively determined.

In the following cases, crural phlebitis in the male and female commenced in the saphena veins. The first case I saw in consultation with Sir Gilbert Blane and Mr. Copland Hutchinson, and there could be no doubt that the great veins of the extremity were inflamed and obstructed. Mr. Hutchinson has given the following history of this interesting case in the fifteenth vol. of the Medical and Chirurgical Transactions.

Case LIV. — October 19th, 1829, Mr. B. lately returned from the Isle of France, where he had resided upwards of twenty years, received a blow on his right shin, immediately over a branch of the saphena vein, by a small piece of timber accidentally falling upon it. The scar is very slight, though the injury and its results appear to have been severe, and the patient states that the accident was followed by considerable swelling and inflammation all over the limb, and that the abraded surface was very long in healing. Mr. B. says he felt pain in the direction of the upper third of the saphena before it actually dips to unite with the femoral vein. The whole leg and thigh soon became enlarged and inflamed, the former partly œdematous; and although the patient states the disease to be slowly on the decline, yet the enlargement of the leg and thigh still continues, and he has pain from the groin to the heel and sole of the foot, principally in the direction of the branches of the saphena, with a slight blush of redness over the fore part of the leg, where the original injury was received: but while the member is kept in the horizontal position he is nearly free from pain.

I have traced the upper portion of the saphena vein, and find it to be a complete ligamentous cord for eight or ten inches, but the femoral vein seems to me to have hitherto escaped the diseased action. The patient has no pain or uneasiness within the pelvis, and his general health is good. It should be stated, however, that the testis of that side is slightly enlarged, but not indurated.

Sir A. Cooper performed an operation for varix of the saphena

vein, which was followed by inflammation of the coats of the vessel and all the symptoms of phlegmasia dolens.

Case LV. — The following fatal case has been related by Drs. Graves and Stokes. A young man of a strong habit was employed for two successive days in working in a ditch, and was consequently obliged to stand in water above his knees during that time. On the following day he became affected with lassitude, vertigo, and general weakness, and complained of severe pain in the right thigh. These symptoms continued for seven days, when he was admitted into the Meath Hospital. His countenance was anxious and depressed. The tongue furred, thirst, headache, urine scanty, turbid, and high coloured. Pulse 96. Skin mottled with petechiæ. In addition to these general symptoms, the respiration was laboured and unequal, with some cough; face very livid. But his chief complaint was a severe pain in the upper and anterior part of the right thigh, which was greatly aggravated by motion or pressure. He had also severe pain in the left hypochondrium.

At this time no swelling of the limb whatever could be detected, but in the course of two days the upper portion of the thigh became evidently swollen, the part being extremely tender, but not at all red. The pain of the side continued, and extensive bronchial and pneumonic inflammation was detected. General bleeding and very free leeching to the limb was employed. The blood was not inflammatory, and no relief was experienced by the patient. The swelling of the thigh increased, calomel and opium were freely exhibited, but without any effect. The typhoid symptoms increased, and the patient died on the fourth day after his admission.

On dissection the right lower extremity was found to be tense and swollen in its superior portion, while the leg and foot were slightly anasarcous. The sac of the pericardium contained some sero-purulent fluid, and that portion covering the auricles and great vessels was vascular, and in many places covered with coagulable lymph. Both lungs were in a state of extreme sanguineous congestion, with commencing solidity in their posterior inferior portion, and general inflammation of the pleura. The bronchial mucous membrane was universally red, and the tubes filled with frothy mucus.

The vena cava contained a few portions of a substance of a granular appearance, friable, and of a yellowish colour. This did not adhere to the vessel, which otherwise appeared healthy. In the external iliac vein, however, just above Poupart's ligament, a large concretion of a similar nature, nearly plugging up the vessel and extending into some of the minute collateral branches. The lining membrane red, and in one point adhered to the coagulum. No puriform matter could be detected. The femoral and popliteal arteries were healthy. The cellular tissue of the limb was œdematous.

The condition of the saphena vein where it enters the femoral

is not described, although the inflammation most probably originated in the superficial vessel.

On the 2d of February, 1832, the body of an aged man was brought into the dissecting-room of the school of Webb-street. The whole left inferior extremity was much swollen, and a chronic ulcer was observed over the tibia. The coats of the saphena vein, along the leg and thigh, were found, on examination, to be much thickened, and plugged up with coagula of blood and lymph. The left common, and external iliac, and femoral vein to the ham, were all completely obstructed with coagula of blood and lymph, and lined with adventitious membrane. The lower part of the vena cava, to the extent of three inches, was filled with a soft, yellowish, coagulum of lymph, which adhered to the inner coat of the vein. The coats of the principal arteries of the left lower extremity were ossified.

On the 30th April, 1832, Sir Henry Halford read an interesting account, at the College of Physicians, of crural phlebitis, as observed in the late Earl of Liverpool. The attack commenced many years ago, and it is probable, from a circumstance stated to me by Sir A. Cooper, that it was induced by exposure to a current of cold air, which passed through an open window and fell upon the lower extremities, when but thinly clothed, while his lordship was attending a crowded levée. Dr. Pemberton and Sir A. Cooper, who were in attendance, treated the case with leeches, and the usual antiphlogistic remedies. After Dr. Pemberton's death, Sir H. Halford was consulted. He found the disease affecting the left groin and thigh, and extending into the leg. Nothing further was found remarkable except the slowness of the pulse, making about forty-four beats in a minute. On communicating the fact to Sir A. Cooper, that eminent surgeon ingeniously conjectured that this anomaly was due to the obliteration of the iliac vein. His lordship subsequently found the sight of the left eye affected, and soon after he had a series of attacks of apoplexy, one of which proved fatal. The *post mortem* examination, Sir Henry Halford observed, afforded a curious confirmation of Sir A. Cooper's conjectures, for the left iliac vein was found completely impervious. On examining the brain, a large cavity filled with serum was found over the right ventricle. Sir Henry related other two cases of phlegmasia dolens in men. They were similar to the case of the Earl of Liverpool, and were succeeded by marked tendency to head affection.

Sir A. Cooper gave me an opportunity to examine the iliac veins, and they appeared to have undergone similar changes of structure as in crural phlebitis of puerperal women. I have never observed any remarkable slowness of the pulse even in cases where the vena cava has been completely plugged up. It is probable that the slowness of the pulse in Lord Liverpool was produced by the disease of the brain, and not by the obstruction of the iliac veins.

Case LVI.—*Inflammation of the Saphena and Femoral Veins terminating fatally.*—Mrs. Mills, æt. 30, a patient of the British Lying-in Hospital, was delivered of her fourth child on the 7th instant, after a natural labour. During the latter months of gestation, she had suffered much from œdema, and a varicose state of the veins of the lower extremities. Two days after her confinement, she began to complain of pain in the superficial veins of both legs, and during the subsequent week a diffuse swelling and erysipelatous redness of the surface took place in the calf of the left leg, and in a less degree in that of the right. This was accompanied with violent febrile disturbance.

I first saw her on the 16th inst., the seventh day after the commencement of the disease. The pulse was 100; tongue red; countenance flushed; skin hot; and respiration hurried, with much jactitation and delirium.

The left lower extremity, now chiefly affected, presented the following appearances: — From the knee to the ankle, on its inner surface, the integuments were hot, swollen, and tense, and in several places, large patches of a dark red colour observed over the veins, which, being laid open in two places, a considerable quantity of purulent fluid was discharged. Where the swelling and tension were least, the superficial veins could be felt distended like hard cords, as could also the saphena, through its whole course upward, from the ham to its junction with the femoral vein. In the course of this vein there was considerable swelling, and the integuments in this situation, as far as the middle of the thigh, were hot and of a dark red colour.

The right leg was similarly affected, but in a very inferior degree to the left.

October 17th.—Pulse 120. Little marked change in the general symptoms. Left thigh much more swollen, and the saphena vein now painful, indurated, and enlarged. Above the ankle, other two abscesses have formed, and been opened. A small abscess has also formed above the knee of the right extremity, which in other respects is improving.

19th. The left extremity, from the ankle to the groin, is in its surface more swollen and painful, and the saphena vein can be felt still more enlarged. The abdomen is tympanitic, and exquisitely sensible on the left side, when pressed. Pulse 160; subsultus tendinum; urgent thirst; tongue brown and parched; skin hot; countenance flushed and anxious; delirium diminished. During the succeeding three days, there was a gradual exacerbation of all the symptoms, and she died on the 23d instant, being the fourteenth day from the commencement of the symptoms.

My friend, Dr. Sims, assisted me to inspect the body on the 24th, when the following morbid appearances were observed.

The extremity was very much enlarged. The cellular and adipose membranes, from Poupart's ligament, along the inner surface of the thigh and leg to the ankle, were indurated, vascular,

and infiltrated with a red coloured, serous fluid. Several abscesses were observed in the cellular membrane immediately beneath the skin in the calf of the leg, and an extensive collection of pus had formed in the interstices of the gastrocnemic muscles. The branches of the saphena in this situation were converted into solid, impervious cords, and the coats of this vein, to its junction with the femoral, were thickened and contracted, and in the lower part the cavity was nearly obliterated. The saphena vein was lined with an adventitious membrane of considerable thickness, which was easily separated from the inner coat. Its opening into the femoral vein, though reduced in size, was pervious, and the coats of the deep femoral vein, from this point to the ham, were thickened and contracted. The inner membrane was rugous, and of a deep red colour; but no deposit of lymph was observable, and its canal was pervious.

The femoral vein above the termination of the saphena, and the whole of the external iliac, were thickened and slightly contracted in their diameters, and lined with a thin coating of lymph. These vessels were pervious, and the common and internal iliac exhibited no sign of disease.

The intestines were inflamed, and on the ascending colon there was a small part in a state of sphacelus.

Case LVII. — *Inflammation of the Saphena Veins of the left Lower Extremity, extending into the Iliac and Femoral Veins, excited by a Superficial Ulcer over the Internal Malleolus.* — Mrs. N——, æt. 37, July 1st, 1830. Three months ago a small ulcér appeared above the left internal malleolus, with much inflammation of the surrounding integuments. A varicose state of the veins of the leg had existed some time before. The ulcerations were healed in three weeks; but the saphena veins, along the inner surface of the leg, knee, and thigh to the groin, became hard and exquisitely painful. This painful condition of the veins has been gradually increasing, and a general, hot, and colourless intumescence of the whole limb has taken place. The veins around the ankle can now be felt, indurated and knotted, and in three points, along the front of the tibia, there is a circumscribed hardness, with intense redness of the integuments. There is exquisite pain on pressure, along the whole course of the saphena vein in the thigh. The femoral vein, three or four inches under Poupart's ligament, is hard and painful, and pain is experienced on pressure along the brim of the pelvis. The hypogastrium, more particularly on the left side, is tense and swollen, and she complains of a distressing sense of pulsation, or throbbing, in the lower part of the abdomen. For several days there has been retention of urine. The countenance is anxious and depressed. There are tremors of the muscles of the face and extremities. Tongue furred. Occasional retching. Urgent thirst. Respiration hurried. Slight cough. Pulse 120.

4th. The limb is less swollen, but there is still great tenderness

in the left side of the hypogastrium, and along the inner surface of the limb. Constitutional symptoms somewhat relieved. Great prostration of strength.

27th. Leeches, &c., have been repeatedly applied along the course of the affected vessels, and the tenderness is now much relieved. Sickness, with foul tongue and quick pulse, continues.

May 14th, 1830. — Health improved. There is considerable enlargement of the affected extremity, and there are large clusters of purple veins around the ankle. There is now a hard tumour of considerable size in the situation of the left ovarium, and she has lately suffered much from prolapsus uteri, and uterine irritation, with leucorrhœa. She menstruates regularly. The right lower extremity natural.

October 18*th*, 1831. — There is much hardness and tenderness, on pressure, in the situation of the left femoral vein. The extremity is still swollen, of a deep purple colour, and the foot and ankle covered with enlarged veins. The abdomen is swollen, but no fluctuation is perceptible.

I was indebted to the kindness of Dr. Ashburner for the opportunity of observing the progress of the preceding case.

Case LVIII. — *Inflammation of the Vena Innominata and Subclavian Vein.* — In a young woman, affected with an organic disease on the right side of the lungs, who was under the care of Dr. Sims, a swelling took place in the corresponding superior extremity, which he informed me had all the characters of genuine crural phlebitis. On examining the body after death, Dr. Sims found an extensive malignant disease connected with the right superior lobe of the lungs. The coats of the vena innominata and subclavian vein were thickened from inflammation, and their cavities plugged up with lymph The inflammation had not passed into the internal jugular, but had stopped at the valve placed near the entrance of this vein into the subclavian.

Sir Charles Bell has informed me, that he has observed upwards of twenty cases of painful swellings of the superior extremities in women afflicted with cancer of the mammæ. He has been accustomed to refer these swellings to obstruction of the lymphatics or to compression of the veins by the induration and enlargement of the glands of the axilla. No opportunity has yet occurred to determine by dissection whether or not the painful swelling of the arms is to be attributed in such cases to inflammation and obstruction of the veins; but this has been rendered probable by the facts already related respecting the effects produced on the iliac veins by malignant ulcerations of the uterus. It is rendered still more probable by the following observation of Laennec: —"That it is not uncommon to find the veins in the neighbourhood of a cancerous breast filled with pus, either pure or mixed with blood; sometimes fluid, at other times more or less inspissated, and occasionally of the degree of consistence of an atheromatous tumour."*

* Laennec, Forbes's Translation, 2d. Edit. p. 652.

SECTION VIII.

TREATMENT OF CRURAL PHLEBITIS IN PUERPERAL WOMEN, ETC.

Puzos recommended repeated and copious venesection for the treatment of this disease; but in all the cases which I have witnessed there has been so much feebleness of pulse, and prostration of strength, that I have not ventured to draw blood from the arm. There are cases, however, occasionally met with, where the symptoms are immediately relieved by a general bleeding. An example of severe crural phlebitis after delivery recently occurred in the practice of a medical friend, where the abstraction of twenty ounces of blood seemed at once to break the force of the attack. In a great proportion of cases venesection is not required, and we are to trust for the relief of the inflammation to the repeated application of leeches above and below Poupart's ligament in the course of the crural veins. From two to three dozen of leeches should be applied immediately after the commencement of the disease, and the bleeding should be encouraged by warm fomentations, or by a bread-and-water poultice to the part. Should the relief of the local pain not be complete, it is requisite soon to reapply the leeches in numbers proportioned to the severity of the attack, and to repeat them a third or even fourth time at no very distant intervals, should the disease not yield.

Some patients experience greatest relief from the use of warm cataplasms to the limb, others derive most advantage from the application of cold, or a tepid evaporating lotion.

The bowels are often much disordered in this disease, but the employment of strong acrid cathartics is always injurious. Repeated small doses of calomel and antimonial powder should be given with some mild purgative, not only with the view of correcting the disordered state of the bowels, but to subdue the local inflammation and the great constitutional disturbance usually present. It is of importance also to administer saline and diaphoretic medicines, and to procure rest and relief from pain by anodynes, until the acute symptoms pass away; the diet should be the same as that usually allowed to patients who are labouring under inflammatory and febrile diseases. I have seen no advantage derived from the use of digitalis in any stage, either of uterine or crural phlebitis.

When the acute inflammatory symptoms have passed away, the limb remains in a weak and œdematous state, and great uneasiness is often experienced from congestion of the blood in the veins. Until the collateral branches which are to carry back the blood to the heart become enlarged, it is impossible by any means we possess to afford complete relief. Much benefit may, however, be derived in this stage of the complaint from the occasional appli-

cation of a few leeches to different parts of the limb, and by preserving it in the horizontal position. I have seen mischief produced by having recourse too early to remedies intended to promote the absorption of the fluid effused into the cellular membrane. Blisters, frictions, stimulant embrocations, and bandages to the limb, are only useful when the inflammation of the veins has wholly subsided, and other vessels have become so much enlarged as to carry on the circulation of the blood in the extremity without interruption.

I have not perceived any sensible benefit accrue from the use of mercurial ointment and iodine in crural phlebitis, and I consider the local abstraction of blood at the commencement of the attack to constitute by far the most important part of the treatment.

A TABULAR VIEW OF ONE HUNDRED CASES OF UTERINE INFLAMMATION IN PUERPERAL WOMEN, WHICH OCCURRED FROM MARCH, 1827, TO MAY, 1831.

No	Name, Residence, Date of Delivery.	Date of Attack and Progress of Symptoms.	Treatment.	Result.
1	Groom, 13 Little Coram-street, Natural Labour, 6th March, 1827.	First day after delivery; pyrexia, uterine pain, lochia suppressed, diarrhœa, vomiting, tympanites.	Opiates and hot foments. at the commencement. V.S. to ℥xii. late in the dis., cathar.	died.
2	E. Marshall, 3 Crown-street, Soho, nat. lab., 1st March.	2 d. Uterine pain, rigors, milk and lochia suppressed, vomiting, diarrhœa, tympanites, delirium.	V.S. ℥xiv., third day after attack, hirud. xxx. hypogast.; cal., antim., cathar., opiates.	died.
3	Mary Pascour, nat. lab., 15th March.	2 d. Violent rigor, and uterine pain, tongue red and moist, lochia suppressed.	V.S. ℥xvi., hirud. xxx.; calomel, antimony, cathartics.	cured.
4	Mary Sullivan, 16 Denmark-street, ted. lab., 25th March.	3 d. Uterine pain, rigors, p. 96, sharp, lochia suppressed.	V.S. ℥xv., hirud xi.; cal., antim., cathar.	cured.
5	Wilson, 4 Pitt. Place, ted. lab., 2d April.	8 d. Rigors, uterine pain, headache, lochia suppressed.	V.S. ℥xiv.; calomel and cathartics.	cured.
6	Sarah Oulton, 8 Haughton-street, cross birth, 9th April.	3 d. Uterine pain, p. 110, lochia suppressed, abdominal tenderness, vomiting, tympanites.	Stimulants and opiates at the commencement, copious v.s., and digitalis late.	died.
7	Leeder, 24 Brownlow-street, nat. lab., 13th April.	5 d. Severe rigor, headache, pain of back, loins, and left iliac fossa.	V.S. ℔ij., hirud. xx.; cal. and cathar.	cured.
8	Haman, 2 St. Ann-place, nat. lab., 20th April.	3 d. Intense headache, uterine pain, p. frequent, t. white, breasts flaccid.	V.S. ℔iss.; cal. and antim., cathar.	cured.
9	Richards, 20 Stacey-street, cross birth, 2d May.	1 d. Rigors, intense uterine pain and headache, lochia suppressed.	V.S. ℥xxiv., hirud., cal., opium, cathar.	cured.
10	Hunn, Crown-street, Soho, nat. lab., 1st May.	6 d. Severe uterine and abdominal pain, lochia suppressed, p. 120.	V.S. ℥xx., hirud. xxx.; cathar. and opiates.	cured.
11	Carr, Tash-court, Gray's-inn Lane, n. l., 12th May.	3 d. Rigors, uterus large and painful, p. frequent and soft, t. white and moist, countenance pale and anxious.	V.S. ℔ij.; calomel, cathartics.	cured.
12	Maunay, 6 Charles-street, Drury Lane, n. l., 27th May.	2 d. Uterine pain, nausea, and headache, lochia diminished, p. 80.	V.S. ℥xii.; fomentations and cathartics.	cured.
13	Eliza Corey, 50 King-street, Soho, n. l., 17th June.	3 d. Pyrexia, exquisite uterine pain with great depression and headache, lochia suppressed, p. 140.	V.S. ℥xxiv., hirud. xviii.; cal. and cathar.	cured.
14	Groundswell, Ham-yd., n. l., 10th July.	3 d. Rigors, uterine pain and headache, loch. suppressed.	V.S. ℥xviii., hirud. xii.; cal., antim., cathar.	cured.
15	Shepherd, 39 St. Martin's-street, convulsions, 13th August.	5 d. Violent pain of uterus, rapid pulse, t. loaded, severe pain and swelling of the left leg.	V.S. twice ℥xxiv., hirud. xxiv.	cured.

No	Name, Residence, Date of Delivery.	Date of Attack and Progress of Symptoms.	Treatment	Result.
16	Costello, 13th September.	4 d. Slight uterine pain, rigors, rapid feeble pulse, brown tongue, delirium, tympanites, vomiting.	Hirud. x.; stimulants, opiates.	died.
17	Somerville, Orange-street, nat. lab., 21st September.	Dull uterine pain, headache, delirium, rapid feeble pulse, great debility.	V.S. ℥viii.; warm fomentations, opiates.	died.
18	Cantwell, Green-street, nat. labour, 23d September.	2 d. Violent rigor, and uterine pain, p. 140, headache, sickness, tremors, delirium, great debility, painful and distended abdomen.	V.S. ℥xii.; calomel, Dover's powder, cathartics, blisters.	died.
19	Foster, 11 Ogle-street, natural labour, 6th October.	6 d. Uterine pain gradually increasing from delivery, p. 140, debility, hurried respiration.	V.S. ℥xvi., hirud. xxiv.; calomel and antimony.	cured.
20	Cooper, 6 Moore-street, natural labour, 3d October.	10 d. Rigors, pain of uterus and right iliac region, p. 100, lochia suppressed.	V.S. ℥xvi., hirud. xxiv.; cal. and antim.	cured.
21	Wellington, 16 Tower-st., Seven Dials, 16th October.	3 d. Severe uterine pain, vomiting, p. 100, lochia suppressed.	V.S. ℥xvi., hirud. xviii.; cal. and antim.	cured.
22	Hill, 464 Strand, natural labour, 15th October.	4 d. Severe pain in iliac region, t. white, p. 96.	V.S. ℥xiv.; calomel, antimony, cathartics.	cured.
23	Hughes, 22 Short's Gardens, nat. labour, 29th October.	2 d. Uterine pain from the period of delivery, rigor, loch. suppressed, p. 140.	V.S. ℥xii.; calomel, pulv. Jacob. cathar.	
24	Pope, Feather's-court, Drury Lane, n. l., 26th October.	5 d. Rigors, headache, intense uterine pain, lochia suppressed, p. 135, feeble, t. dry and brown, vomiting.	Huridin. xxiv.; powerful diffusible stimuli, quinine, &c.	died.
25	Desmond, 15 Crown-street, nat. labour, 16th November.	4 d. Rigors, headache, acute uterine pain, lochia suppressed.	V.S. ℥xx., hirud. xvi.; calomel, antimony, and cathartics. Cataplasms.	cured.
26	Manning, 131 Drury Lane, cross birth, 3d December.	3 d. Exquisite uterine pain, rigor, thirst, cough, rapid strong pulse.	V.S. at twice ℥liv., hirud. xxiv.; fomentations, cal., antim., opium, cathartics.	cured.
	1828.			
27	Mayes, 5 Vere-street, nat. labour, 10th January.	3 d. Rigors, headache, acute pain of hypogastrium, pulse 110, t. white, lochia and milk not suppressed.	V.S. ℥xvi., hirud. xxiv.; fomentations, cal., pulv. Jacob. āā gr. v.; 4ta. qq. h., cathar., saline draughts.	cured.
28	Adams, 10 Ely-court, Holborn, nat. lab., 16th January.	3 d. Severe after pains; uterine region exquisitely painful on pressure, p. 90 and strong, t. white, thirst, loch. flow.	V.S. ℥xxx., hirud. xviii.; cataplasms, cal., antim., cath., pulv. Dover.	cured.
29	Atkinson, 5 Shelton-court, nat. lab., 25th January.	2 d. Excessive tenderness of uterus, hypogastrium tumid, p. 100, weak, no rigor or headache, lochia and milk flow, retention of urine.	V.S. ℥xviii. V.S. ℥x.; hirud. xxiv.; hirud. xxiv.; calomel to salivation, cathartics, cataplasms, blisters.	cured.

30	Malton, 5 New Compton-street, natural labour, 1st February.	3 d. Rigors, uterus large, and on the right side exquisitely painful, intense pain in the forehead, t. white, nausea, prostration, lochia flow.	V.S. ℥xvi.; hirud., cal., antim., cathartics, opiates.	cured.
31	Laurens, 6 Cumberland-street, Middlesex Hospital, dropsy of amnion, hydrocephalic child, 12th Feb.	2 d. Intense pain of hypogastrium, rapid feeble pulse, vomiting, foul tongue, prostration of strength, tympanites, lochia suppressed.	Hirud. xxiv.; calomel, Dover's powders, cataplasms, effervescing draughts.	died.
32	Parkhurst, Marylebone lane, hemorrhage and retained placenta, 6th March.	3 d. Acute pain of uterus, lochia suppressed, rigors, rapid pulse, loaded tongue, nausea, yellow suffusion of countenance, crural phlebitis on left side.	Copious venesection, hirud., fomentations, opiates, cathartics, &c.	cured. after 5 w'ks.
33	Case, 5 Monmouth-street, nat. lab., 20th March.	2 d. Acute pain of hypogastrium, rigors, p. accelerated, lochia suppressed.	V.S. ℥xviii., calomel, cathartics, fomentation.	cured.
34	A patient in the British Lying-in Hospital, nat. lab., 12th March.	15 d. Violent pain of lower part of abdomen, vomiting, rapid feeble pulse, extremities cold.	Opiates, fomentations, hirud. xii.; vesication, calomel and opium late.	died.
35	——, 61 High-street, St. Giles's, nat. lab., 16th April.	4 d. Rigor, quick strong pulse, hot skin, great sensibility of the hypogastrium, lochia suppressed.	Copious v.s., cal., antim., cathar.	cured.
36	M. Jenkins, 11 Charles-street, Strand, nat. lab., 15th April.	3 d. Exquisite tenderness, but no fulness or hardness in the region of the uterus, headache, rigors, lochia suppressed, pulse quick, not feeble.	V.S. ℥xx.; calomel, pulv. antimonii, haust. sennæ, cataplasms.	cured.
37	Buck, White Horse Yard, Drury Lane, nat. lab., 8th July.	2 d. Severe rigor, uterus large, hard, and painful, lochia flow, p. 130, tongue loaded, bowels costive.	V.S. ℥xxv.; cal., cathartics, cataplasms.	cured.
38	Austin, British Lying-in Hospital, natural labour.	7 d. Severe fever, headache, delirium, p. 130, tremor of tongue and extremities, diarrhœa, swellings of joints.	Hirud. xii. capiti, diaphoretics, opiates, stimulants, &c.	died.
39	A patient, British Lying-in Hospital, nat. lab.	3 d. Acute pain in the iliac regions, rapid pulse, rigors, lochia suppressed.	V.S. ℥xx.; calomel, cathartics, fomentations.	cured.
40	Ann Cromer, St. James's Infirmary, uterine hemorrhage, 22d July.	2 d. Headache, p. 140, hurried respiration, no pain of abdomen, pain in the chest, followed in a few days by cough, and fetid expectoration.	V.S. 8th day to ℥xvi.; blisters to the thorax, &c.	died 18th d
41	A woman in the British Lying-in Hospital, nat. lab., 8th August.	6 d. Rigors, intense soreness of the hypogastrium, tongue loaded, bowels open, pulse quick, skin hot.	V. S. ℥xx.; calomel, pulv. antim., cathar.	cured.
42	——, 26 Little Windmill-street, nat. lab., 3d November.	10 d. Violent pyrexia, uterus large, hard, and painful, gradually increasing from delivery, lochia suppressed.	V. S. ℥xx., hirud. xxxvi.; calomel, pulv. antim., gr. v., 3tia. qq. hora, haust. salin.	cured.
43	Mrs. Turner, 92 Berwick-street, premature labour, 10th December.	2 d. Acute pain in the hypogast. before delivery; severe vomiting soon after took place, with pyrexia, tension of abdomen, suppression of urine, and tympanites.	V.S. ℥xxiv., hirud., cataplasms.	died.

No	Name, Residence, Date of Delivery.	Date of Attack and Progress of Symptoms.	Treatment.	Result.
44	Vernon, 11 Chapel-street, dropsy of the amnion, hemorrhage, 1st November.	2 d. Violent rigor, sudden attack of acute pain of the uterus, which became large and hard, lochia suppressed.	V.S. ℥xx., hirud. xxxvi. immediately after; cal., pulv. antim., āā gr. v., 3tia. qq. hora. haust. efferves.	cured.
	1829.			
45	Gibbs, 41 Broad-street, Golden Square, nat. lab., 15th January.	3 d. Acute pain of uterus, pyrexia, p. rapid and feeble, suppressed lochia, followed by great tenderness in the left iliac and femoral veins, and general swelling of the whole left lower extremity of short duration.	Moderate v.s. twice at the onset, hir. xxxvi., fomentations, mild cathar., opiates.	cured.
46	A patient of Middlesex Hospital, 20 Ogle-treet, nat. lab., February.	4 d. Pyrexia, acute pain increased by pressure in the left iliac region, lochia diminished, t. white, headache, surface hot and moist.	Hirud. xviii. twice, cataplasm, opiates.	cured.
47	Greenwood, 4 Stafford-street, protracted lab., 21st February.	3 d. Acute pain in the uterus and forehead, rigors, great sensibility of the left iliac region, p. 116, loch. dim., t. loaded, urgent thirst.	V.S. ℔ij. syncope, calomel and opium, hir. xxiv., cathartics.	cured.
48	} Cases in the practice of Westminster	Notes of these cases mislaid.	Copious venesection employed.	cured.
49	} Dispensary.			
50	Davies, Orange-street, Leicester Square defor. pelvis, embryotomy, 27th Mar.	2 d. Great pain, swelling and tension of hypogastrium, rapid feeble pulse, brown tongue, vomiting, delirium.	Hirud. xxiv.; cal., pulv. ipecac., co. cata.	died 7th d.
51	Case, British Lying-in Hospital, nat. lab., 1st March.	5 d. Pain in left side of hypogastrium, followed by rigors and headache, p. 120, skin hot, t. red and glossy, exquisite tenderness of the whole uterine region.	V.S. ℥xx., hirud. xxiv.; calomel, gr. iii., pulv. Dover, gr. v., 3tia qq. h. The relief from v.s. instantaneous.	cured.
52	Case in Queen Charlotte's Lying-in Hospital, nat. lab., March.	4 d. Slight abdominal pain, diarrhœa, brown t., vomiting, rapid feeble pulse, great prostration of strength.	Hirud., vesication, &c.	died 14th d
53	Mayhew, British Lying-in Hospital, nat. lab., 2d March.	4 d. Pyrexia, p. 130, great debility, delirium, dusky yellow complexion, no pain of abdomen, cough, excruciating pains in the joints of the extremities.	Powerful diffusible stimulants, opiates.	died 22d d.
54	Aldridge, British Lying-in Hospital, nat. lab., 25th May.	3 or 4 d. Severe uterine pain, pyrexia, suppressed lochia, became maniacal.	V.S. ℥viii., cathartics, fomentations.	cured.
55	Airey, 43 Clipstone Street, nat. labour, 23d May.	2 d. Severe uterine pain, no general abdominal tenderness, p. 100, t. white, lochia suppressed.	V.S. ℥xvi., calomel, pulv. antim., cathartics.	cured.
56	Case observed, with Mr. Lane, Bloomsbury Market, nat. lab., 15th June.	5 d. Vomiting within 24 hours after delivery, rapid feeble pulse, no pain of abdomen, or swelling, headache.	Head shaved, cold lotions, cathartics (uterine appendages inflamed).	died 5th d.

57	Tiffin, 18 Mercer-street, Long Acre, nat. lab. 7th July.	2 d. Uterus large, hard, and exquisitely painful, lochia scanty, p. 100; pain gradually diffused, sickness, vomiting, delirium, rapid pulse and breathing.	V.S. ℥xv., hirud. xii. V.S. ℥xxiv., hirud. xviii., calomel, opium, cathar. blisters.	died. 4th d.
58	M'Sweeney, Falconberg Court, nat. lab., 6th July.	4 d. Slight uterine pain, delirium, rapid feeble pulse, great debility, vomiting, yellow skin, offensive lochia.	No remedies were employed, the case was hopeless when first seen.	died.
59	Stockin, 4 Tottenham Court Road, nat. lab., 8th July.	3 d. Pain increased by pressure, lochia scanty, p. rapid and soft, saphena veins of right side hard and painful.	V.S. ℥xii., hirud. xii.; cal., pulv. antim.	cured.
60	Millam, 4 Tudor Place, nat. lab., 12th July.	2 d. Rigors, and headache, followed by excruciating pain of uterus, pressure cannot be endured, lochia suppressed, p. 160, t. white and moist.	V.S. ℥xxiv., cal., pulv. antim., hirud. xviii., fohu., cal. and opium, with marked relief.	cured.
61	Keene, 6 Draper's Place. Protracted l. hydrocephalic child, 14th July.	2 or 3 d. Rigors slight ut. pain, p. 133, sallow skin, respiration hurried, cough, great debility.	V.S. not employed, anodynes, diaphoretics, blister to the chest.	died.
62	Luff, British Lying-in Hospital, nat. lab., 11th August.	Sudden acute pain of the uterus, right side exquisitely tender on pres., uterus large and hard, p. 112, small; rigors, lochia scanty.	V.S. ℥xxvi., hirud. xxxv., cal. gr. vi., pulv. antim. gr. v. 3tia qq. h., Dov's. pow.; the relief from v.s. most striking in this case.	cured.
63	Mary A. Hale, British Lying-in Hospital, nat. lab., 25th July.	2 d. Severe rigor, followed by great tenderness of hypogastrium, rapid pulse, white tongue.	V.S. ℥xviii., syncope, hirud. cal. pul. Dov.	died 5th d.
64	M'Creevey, British Lying-in Hospital, nat. lab., 29th August.	2 d. Vomiting during labour, recurred a few hours after delivery, with pyrexia and severe abdominal pain, tympanites, rapid pulse.	V.S. ℥xiv., hirud. xxiv.; cal., opium, &c. (Strangulation of intes. from omentum).	died 3d d.
65	——, Chelsea, nat. lab., 29th August.	4 d. Diarrhœa, rapid feeble pulse, yellow tinge of the skin, prostration of strength, foul tongue.	Stimulants.	died.
66	Clarke, 57 Monmouth-street, nat. lab., 6th September.	7 d. Pyrexia, headache, vomiting, no uterine pain, p. 150, swellings around the joints, delirium, rigors, brown t. great debility.	Stimulants.	died.
67	Mason, 3 Little Vine-street Piccadilly. Twins, flooding. August.	A few days after delivery, pyrexia, with great uterine pain, rapid p., loaded t., diarrhœa, delirium, crural phlebitis in both lower extremities.	Hirud., diffusible stimulants.	died.
68	——, 7, Denmark-street. Protracted labour, embryotomy, 14th Sept.	2 d. Pyrexia, acute abdominal pain, swelling of labia, quick pulse, tympanites, gangrene of external parts.	V.S. ℥xvi., hirud. xxiv.; cal. and opium, &c.	died.
69	Ryan, 4 Richmond-street. Deformed pelvis, embryotomy, 5th December.	2 d. Exquisite pain of uterus, lochia suppressed, p. 100 and strong, great heat of skin.	V.S. copious and repeated, hirud. xxxvi., calomel, cathartics.	cured.
70	Cox, Marylebone-st, St. James's, Protracted labour, 1st December.	5 d. Pyr., acute uterine pain, vomiting, rigors, loch. sup., stupor, delirium, foul t., abd. puffy, p. 140, feeble.	V.S. ℥viii., hirud. xxiv.; cal., opium, &c.	died.

No	Name, Residence, Date of Delivery.	Date of Attack, and Progress of Symptoms.	Treatment.	Result.
71	Hickson, British Lying-in Hospital. nat. lab. 14th November.	18 d. Late in the disease, exquisite uterine pain, p. 130, breathing hurried, features sunk, vomiting, brown t., yellow tinge of the skin.	Hirud., stimulants.	died.
72	Gilland, Brit. Ly.-in Hos., n. l. 24th Dec.	5 d. Pyr., ut. p., p. 150, headache, vomit., tymp.	Hir. x. tempor., cinchona, wine, brandy, opi.	died.
73	Long, Brit. Ly.-in Hos., n. l. 18th Dec.	4 d. Heada., p. 130, delir., great tym., t. dry and br.	V.S. at twice, ℥xx., cathartics.	died.
74	Mrs. Allan, 11 Noel-street. Convulsions, December. 1830.	4 d. Great ut. tenderness, loch. suppressed, p. rapid, delirium, vomiting, sallow skin, crural phlebitis.	V.S. ℥xiv., hir., cal., antim., fomentations.	cured.
75	P. Robins, 224 Holborn, t. l. 10th Jan.	3 d. Great pain, pyrexia, p. strong and quick, loch. supd.	V.S. ℥xvi., calomel, opium, hirud. xxiv.	cured.
76	Marchant, Hosp. nat. lab. 11th Jan.	3 d. Pain of uterus, p. 100, rigors, headache.	Hirud., xii., calomel, cathartics.	cured.
77	Leaney, Hosp. nat. lab. 11th.	3 d. Heada., pyr., ut. p., p. 120, loch. sup., vomit.	V.S. ℥xiv., hir. lx., cal. and opi., cathartics.	cured.
78	Messlin, Hosp. nat. lab. 13th.	2 d. Cough, uterine pain, rigors, headache, lochia suppressed, p. 100, pulmonary affection.	V.S. ℥xvi. V.S. ℥xiv.; cal., opium, &c.	died.
79	Meaden, Hosp. nat. lab. 15th.	2 d. Headache, rigors, uterus painful, large and hard, anxiety, breathing hurried, pulse 110, lochia.	V.S. ℥xx., hir. xxiv.; opium, fomentations.	cured.
80	Case in Hosp. nat. lab. 28th.	3 d. Pyrexia, great uterine pain, rigors.	V.S. ℥xx, calomel and opium, fomentations.	cured.
81	Case seen with Mr. North, nat. lab. Jan.	6 d. Low fever, brown tongue, abdom. pain, swellings of the extremities, sallow skin.	Sulphate of quinine, and stimulants.	died.
82	Williams, Middlesex Hospital, nat. lab. 13th January.	8 d. Vomiting, rigors, severe uterine pain, foul t., offensive loch., p. 120, soft.	V.S. ℥xvi., hirud. xii.; calomel, antimony, and opium.	cured.
83	Honeyman, Angel-street City, nat. lab. 12th February.	4 d. Acute uterine pain, violent rigor, headache, lochia suppressed, p. 115, strong, respiration hurried.	V.S. ℥xxx., hirud. xxiv.; calomel, antimony and cathartics.	cured.
84	Jones, 48 Marshall-street, nat. lab. 11th February.	3 d. Pyrexia, acute uterine pain, loch. suppressed, rigors, pain and swelling of left iliac region, cough, suppuration at the brim of the pelvis.	Hirud. often repeated, cataplasms, bark, stimulants.	cured 5 mth.
85	Hadden, 3 Castle-street, c. b., May 22d.	4 d. Ut. p., loch. sup., rig., p. in right groin, p. 100, t. w.	V.S. ℥xii., hirud. xvi.; cal. and antim. cata.	cured.
86	Sears, 23 Church Lane, n. l. 20th June.	4 d. Great uterine pain, p. 103 full, loch. sup., rigors.	V.S. ℥xvi., hir. xxiv.; cal. et ant., foment.	cured.
87	Allen, Phœnix-street, ted. labour, 10th June.	4 d. Ut. pain, p. frequent and full, loch. sup., t. brown, vomiting, pain in right groin, p. 130, respiration hurried.	V.S. ℥xxvi., hirud. xxxvi.; calomel, antim., opium, cathartics.	cured.
88	Sankey, 35 Wardour-street, protracted labour, June.	Sudden pyrexia and pain in left groin and thigh, rigors, t. loaded, vomiting, suppuration in groin.	Hirud. xxiv., repeatedly, cataplasms, cal., opiates, &c.	cured.
89	Phillips, 2 Sussex-street, 30th July.	5 d. Ut. pain, violent headache, delirium, rigors, p. 130.	V.S. ℥x., hir. xii.; cal., antim., opi., cathar.	cured.

90	Chapman, 9 Belton-street, Long Acre, nat. lab., 19th August.	5 d.	Sudden ut. pain, headache, delirium, p. 120, weak, t. dry and brown, constant diarrhœa, and vomiting.	Hirud. xii., repeated, calomel and opium, fomentations.	died.
91	Keene, 2 Little Earl-street, ted. labour, 2d September.	3 d.	Uterus large, hard, and painful, headache, slight rigor, p. 132.	V.S. ℥xvi., hirud. xii.; calomel, antim., opi., cathartics.	cur'd
92	A patient of Benevolent Institution, Long Acre, 5th October.	3 d.	Great uterine pain and dyspnœa, tympanites.	Copious v.s., hirud., foment., &c.; dying when first seen.	died.
93	Wall, 89 Berwick-street, deformed pelvis, 1st November.	3 d.	Acute uterine pain, loch. sup., p. 100, soft, pain in left groin; p. rapid, countenance dejected, debility.	V.S. ℔s., hirud. xx.; cal., opium, cathar., cataplasms.	died.
94	Sexton, British Lying-in Hospital, hemorrhage, 19th December.	3 d.	Great uterine pain, loch. suppressed, headache, rigor, countenance dusky, p. feeble and quick.	V.S. ℥xix., hirud. xxxvi.; cataplasms, cal., antimony and opium, cathartics.	died.
95	Jones, Brit. Lying-in Hosp., nat. labour, 20th December.	2 d.	Intense pain of ut. and both groins, loch, sup., rigors, headache, vomiting, features collapsed and ghastly.	V.S. ℥xii., hirud. xxvi.; cataplasms, cal., antimony and opium.	died.
96	Cecilia Boyd, 32 Peter-street, nat. lab., 28th December.	4 d.	Great pain of uterus and groin, rapid pulse, rigors, delirium, tympanites.	V.S. ℥viii., hirud. xxxvi.; cal., antim., mer. frictions, cathar., potass carb.	died.
97	Holding, patient of Middlesex Hospital, nat. lab., 18th January, 1831.	3 d.	Severe uterine pain, rigors, and headache, loch. sup., p. 130, features pallid, enlarged painful veins at the top of left thigh, great debility, vomiting.	V.S. ℥xvi., hirud. xlviii. thrice, cal., cathar., &c., stimulants.	died.
98	A patient in the New Road, nat. lab., 7th February.	3 d.	Violent pain and enlargement of uterus, p. 140, feeble, vomiting incessant, delirium, tympanites.	V.S. ℥xvi., hirud. liv.; blisters, mercurial friction, cal., antim., and opiates.	died.
99	A patient of Middlesex Hospital, Compton Place, nat. lab., 22d Feb.	5 d.	Slight ut. p., headache, pain and swelling of groin, loch. sup., delir., trem., pale and sunken countenance.	V.S. ℥xvi., hirud., cataplasms, stimulants; dying when first seen.	died.
100	Mrs. Crampton, 75 Gray's-inn Lane, nat. lab., 16th May.*	5 d.	Acute uterine pain, severe pyrexia, &c. On the 12th day hectic fever, a large abscess pointing at the groin, from which a quantity of pus was discharged.	Hirud. xxiv. three or four times, cataplasms, cathartics, opiates.	cur'd

* I might add eighty more Cases, of which Reports have been preserved, but the preceding appear to me to present every variety of this affection, and are sufficient to illustrate its pathology and treatment. It is necessary to add, that many of the patients who died were in a hopeless condition when I first saw them, and that the treatment of these and some other cases which ended favourably was not directed by me, nor was such as I have recommended.

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