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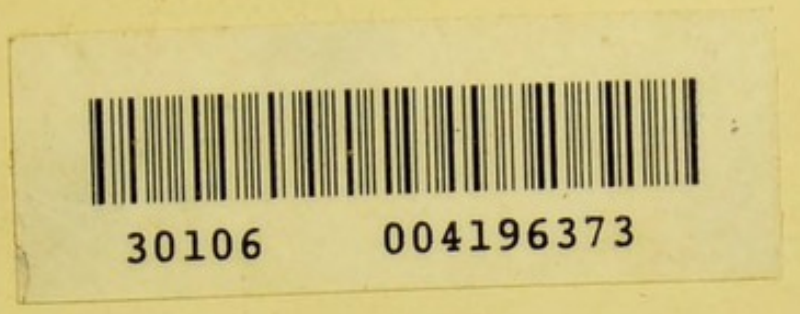
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DISEASES OF THE RECTUM.

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THE DIAGNOSIS AND TREATMENT

OF

DISEASES OF THE RECTUM:

BEING

A PRACTICAL TREATISE ON FISTULA, PILES, FISSURE AND PAINFUL ULCER, PROCIDENTIA, POLYPUS, STRICTURE, CANCER, ETC.

BY

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PREFACE TO THE SIXTH EDITION.

THIS work having now been some time out of print, the authors beg to reissue it with only such alterations and emendations as the advance of surgical knowledge seems to require.

The essential of the book being an endeavour to teach practically how to treat diseases of the rectum, it is hoped that this edition may prove in all respects as worthy of favour with the profession as its predecessors.

WILLIAM ALLINGHAM.
HERBERT WM. ALLINGHAM.

25, GROSVENOR STREET,
GROSVENOR SQUARE, W.
March, 1896.

METROPOLITAN & WESTMINSTER
MEDICO CHIRURGICAL SOCIETY

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LOS ANGELES
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DISEASES OF THE RECTUM.

CHAPTER I.

INTRODUCTORY.

Commonness of rectal diseases.

RECTAL DISEASES are among the most common that affect civilized humanity. They are of rare occurrence in barbarous countries. From information obtained in South Africa we have reason to believe that the natives of that part of the world very seldom suffer from these affections, but medical friends practising in India, and also in China, state that the natives of those countries are not exempt, and that severe cases of various kinds of rectal disease are not uncommon. Improper food and alcohol, sedentary indoor occupations, and defects in clothing, have much influence in the causation of these maladies, which, though not actually dangerous to life, certainly give rise to a vast amount of suffering, and also the distress arising from inability to work for daily bread. Both laborious and sedentary occupations are often rendered almost unendurable.

Some of their causes.

It is true that the majority of these affections are very amenable to proper treatment—the amount of benefit that can be conferred by a well-skilled surgeon is really remarkable—but there is the opposite proposition to be considered. When diseases of the rectum are neglected, or when the surgeon prescribes confection of senna and gall-ointment in every case, failure to cure is frequent.

Importance of thorough examination.

An accurate diagnosis in rectal diseases is all-important, and to prescribe for patients suffering from these maladies, without examining them both ocularly and digitally, is not only false delicacy, but radically wrong, and is likely to bring the treatment of these diseases into contempt.

We constantly see patients who have been for a long time under treatment by qualified practitioners, and for whom medicine and ointment have been plentifully prescribed, yet no digital examination has been made; perhaps only a look has been vouchsafed, and the disease has been diagnosed and treated as piles, whereas fistula, or ulceration, or even malignant disease, has been present.

Some forms of rectal disease are much more common than others, notably fistula and piles. The popular mind seems, indeed, to recognise the existence of only these two diseases of the rectum, for all affections of this part are generally classed by the public under one or other of these heads.

In hospital practice fistula is more common than piles, but in private practice hæmorrhoids of various kinds are more frequently met with.

In earlier editions of this work there was a table showing the relative proportions found in some thousands of cases seen at St. Mark's Hospital. But the great discrepancies between private and hospital practice induce us to withdraw the Table, as it was very misleading. For there are several diseases to which hospital patients pay little or no attention, but which in well-to-do people are a source of great trouble. Thus, one can see how a table made up only from hospital reports totally differs from one compiled from private practice. Again, it is not uncommon to find several rectal diseases in one patient, for instance, piles and fissure, or piles and fistula, etc. This shows the difficulty in arriving at any statistics of value in setting forth the relative frequency of rectal diseases.

CHAPTER II.

EXAMINATION OF PATIENTS.

THERE are certain questions which it is desirable to ask the patient when investigating a case of rectal disease, in order that nothing may be forgotten or overlooked.

It should be remembered that we have not done enough when we have discovered that a patient has a certain malady; it is our duty then to find out if any other disease coexists. Thus, a correct diagnosis is often made as far as regards piles, but at the same time a fissure, or fistula, or ulceration, or even malignant disease of the bowel, has escaped observation.

History. A patient naturally wishes to tell the history of his case, and this is good and reasonable provided that the sufferer keeps strictly to the malady about which he is consulting. This may be soon found out, and if the relater be brief and to the point, the history may be of great value in assisting in the diagnosis; but should he wander from the subject it is better to proceed at once to the following questions, which should always be asked:

I. Is there any pain? If so, of what character?

Where is it?—at the verge of the anus, or up the bowel? Does the pain exist always, or is it intermittent or paroxysmal? Is the pain set up or increased by defæcation? Does it come on as the bowels are acting, or does it follow immediately or some time after the action? How long does the pain last? does it pass away entirely, only to recur on again going to stool? Affirmative answers to these questions will refer respectively to fissure, inflamed piles, ulceration, abscess, or malignant disease. Questions as to local symptoms.

II. Does anything protrude on the bowels acting, or on making exertion? Does the protruding part go back spontaneously or has the patient to return it? This protrusion will refer to piles, polypus or polypoid growths, procidentia.

III. Is there any discharge? If so, what is its nature? Is it pus, mucus or blood? Is it of offensive odour? If it is pus, the diagnosis will lie between abscess, fistula, ulceration; mucus will refer to piles, ulceration, or malignant disease. The discharge of blood may result from any rectal complaint, and therefore does not assist in forming a differential diagnosis. Is the patient constipated, or does he suffer from diarrhœa? If he is afflicted by diarrhœa, how frequently does he go to stool? Is the diarrhœa more frequent in the morning when rising or during the day? Is there a sense of relief when the contents of the bowels are evacuated? Is there much straining? what are the results of this? Has the patient incontinence of wind or fæces? What

is the character of the fæcal evacuation, as to size, form, etc. ?

Questions as to general condition.

Having asked the local symptoms, a few questions as to the general condition of the patient, or as to any hereditary complaint, may be instructive. Is there any hereditary tendency to rectal disease ? Does the patient cough, or is there any proclivity to chest affections ? Has he had syphilis ? Is the liver deranged ?

Importance as to state of urine.

If an operation be in view, one should never fail to examine the urine, for any advanced disease of the kidneys will in all probability render an operation inadmissible. But it should be remembered that a little sugar or albumen in the water should not negative an operation, for these conditions may be set on foot by the rectal disease from which the patient is suffering. For example, should it be piles that are frequently bleeding, this loss of blood may give rise to changes in the kidneys, and these latter be greatly benefited by prompt operative procedure. It is not an uncommon occurrence to see patients who have been warned by medical practitioners on no account to have these bleeding piles removed, because they are in such a bad condition of health, but have been advised to wait until their strength improved. Such advice is unwarrantable, for the only treatment that can do good is to stop the hæmorrhage by removing the piles ; to wait simply makes the operation more dangerous when the sufferer at last submits. This is a most important point, and although we wish to warn our readers against operating upon patients

with grave functional disease, yet we would also impress upon them the necessity of prompt treatment in suitable cases. No one would hesitate for one moment to amputate a limb in which the joint was destroyed by suppuration—lardaceous kidneys a probable result—and the patient fast sinking. We know that after such a source of irritation and drain has been removed, the sufferer usually begins at once to recover. The same rules as in general surgery should be applied to rectal cases.

At the present day much is ascribed to gout, and it is well to bear in mind that a gouty person suddenly confined to bed is liable to get an attack which may, at all events unpleasantly, complicate the case. Lastly, inquiry should be made into habits, especially with reference to the consumption of alcoholic drinks. A moderate indulgence in beer or light wine is in no way damaging to the hard-worked man, but a patient saturated with alcohol is the worst subject a surgeon can have to deal with. In such a case a period of total abstinence should be insisted upon, and at the same time the patient should be subjected to preparatory treatment before anything in the way of operation is attempted.

Bladder.

It is not uncommon for stone, cystitis, prostatitis, or urethral stricture to give rise to *rectal* symptoms, which may be the most prominent, leaving the patient to imagine that his troubles are in the rectum, while all the time it is his urinary apparatus that is at fault.

Women.

In women inquiry into the condition of the uterus is necessary.

Position for examination.

When verbal interrogations are concluded, an examination must be made. There are various postures and methods in which this examination can be conducted. Some surgeons prefer the patient to kneel on a chair and lean over the back; others to kneel on a sofa, the head being lower than the buttocks; others the lithotomy position; but, on the whole, the most comfortable and delicate position for the patient, and that most generally convenient for the surgeon, is to lie on the right side, the face and chest turned downwards towards the couch, the right arm behind the back, and the knees drawn up to the abdomen. This places the buttocks in an oblique position, and enables the surgeon to obtain a good view of the anus.

In special examinations to discover growths or strictures, we often direct the patient to stand up and bear down; in this manner the diseased parts will be brought nearer to the anus, and so enable one to reach nearly a couple of inches higher than is possible when the patient is lying in the usual position, even if he strain down.

Great gentleness is highly desirable when examining a patient. He will then be less nervous; the anus will not be forcibly contracted, and will allow of a more thorough inspection than would be the case if he were handled roughly.

Examination externally.

To commence. Externally, what is to be seen? Note any discoloration, the condition of the anus,

patulous, contracted, or nipple-shaped. Look for tumours, ulceration, or fistulous orifices ; feel around outside the anus with the forefinger for induration. If there be any, where is it situated ? Is it tender, hot, or fluctuating ? If there be any opening or openings, does matter exude on gentle pressure ? Can a probe be passed into them ? if so, in what direction ? Next, pressure should be made on the very verge of the anus, for a painful spot may be found, perhaps indicating the position of a fissure. Then, with the hands placed upon the buttocks and the fingers quite close to the anus, firmly separate the former, at the same time telling the patient to bear down ; such a procedure everts the anus, and so exposes to view the orifice and the mucous membrane for half an inch up the bowel. By this means one may discover a fissure, piles, or polypoid growths. Finally, examine the interior of the bowel with the finger, which should be well anointed, and the patient told to bear down while it is being inserted. By bearing down, the sphincters are relaxed and the entrance of the finger effected without pain. Much information—to the initiated generally all that is needed—is to be obtained by passing the instructed and practised finger into the rectum ; internal fistulous orifices, polypi, minute ulcerations, fissures, etc., can all be easily detected.

Ocular and digital.

Internal examination with finger.

At first the finger should be passed just into the entrance of the anus, the tightness and breadth of the sphincters observed, and a careful examination made in the space between the internal and external

sphincters, as this is the most common position for openings of fistulæ, ulcers, etc. These, however, may be passed by if the finger is at once inserted high up the bowel, as is so frequently done by the unskilled in these matters. The finger should now be passed higher, the prostate examined, and the upper parts of the rectum thoroughly explored. If a tumour can be felt, it can be indented by the finger; scratch slightly with the nail, to detect what matter comes away in it, for impacted fæces may give rise to symptoms of cancer, and the fact of being able to indent the mass or remove a small portion of it with the finger may settle the diagnosis, and frequently prevent the surgeon from arriving at an erroneous conclusion—also it is well to observe whether the discharge upon the finger be blood, pus, or mucus.

In examining a patient, we use the right forefinger for the front wall of the rectum, but prefer the forefinger of the left hand for the posterior aspect of the gut. By so doing the pulp of the finger can with ease be swept over all the mucous surface.

All this may be done without previously giving the patient an enema, but should, upon insertion of the finger, the rectum be found filled with fæces and the diagnosis obscured, an enema is imperative. By its use growths may be made to protrude, and the upper part of the bowel investigated.

With speculum.

Although personally we very seldom use a speculum in diagnosis, yet in some cases it is a valuable aid if an anæsthetic has had to be administered. For a speculum to be of any service as a means of

diagnosis, it must be large, and to use this without an anæsthetic causes great pain. Many varieties of speculum have been constructed, to be used with or without artificial light; but for ordinary use, when an anæsthetic is not employed, that is to say, when it is used to apply medicaments to lessen pain, the plated metal speculum employed at St. Mark's Hospital is perhaps the best, because it is small in size, is less painful to be passed, and is not likely to damage the anus. It is open up one side and at both ends,

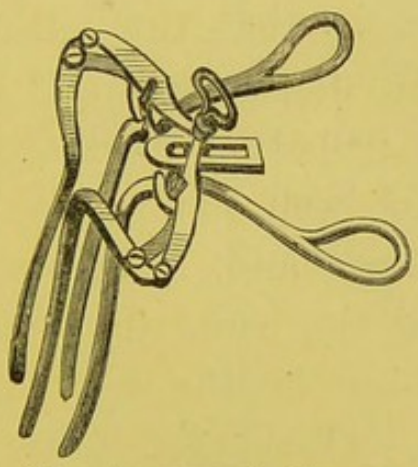


FIG. 1.—MR. ALLINGHAM'S FOUR-BLADED SPECULUM.

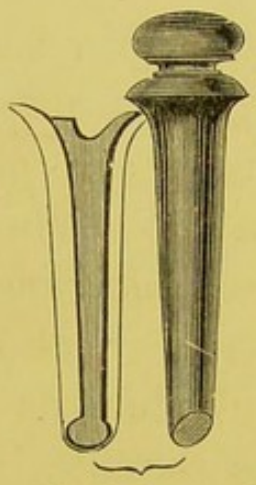


FIG. 2.—SPECULUM ANI.

and has a well-fitting wooden plug; the whole is so shaped as to resemble, as much as possible, a forefinger. Some surgeons prefer the bi-valve speculum, and we like it also, if it is quite small; its only drawbacks are some difficulty of introduction, and the risk of injuring the mucous membrane during withdrawal.

When it is desired to explore the rectum high up, one may, with advantage, use a long metal tube with the interior 'nickelled,' one end being trumpet-

shaped and larger. The smaller end may be about three-quarters of an inch in diameter, and it is very easily introduced into the bowel by using as the plug a small indiarubber bag, which can be inflated with air by means of a syringe. Useful as the above is, still, to make a thorough examination of the rectum for the purpose of diagnosing the existence of ulcerations, malignant or other growths, too high up the bowel to reach with the finger, it is best to place the patient under the influence of an anæsthetic, and in the prone position, with the hips well elevated upon hard pillows, so that the intestines will gravitate towards the diaphragm, and then gradually and gently by palpation to dilate the sphincters. When this has been thoroughly done the rectum is opened to view, and, if one or two retractors are also used, and the bowel drawn down by vulsellum forceps, nothing in the rectum can escape careful observation. Obviously, before any thorough examination is made, the bowel must be well cleared out by aperients and injections, and the surgeon must be provided with sponges mounted on holders to wipe away all discharge that would impede the view.

Use of retractors.

Should nothing be found in the lower bowel to account for the symptoms detailed by the patient, an examination of the highest part of the rectum and lower part of the sigmoid flexure may be effected by one of the following bougies (see Fig. 3), with or without the employment of an anæsthetic.

With bougies.

We always first try the gum or the indiarubber

bougie (Figs. A and B); these failing to pass, the pewter one (C) should be used. It must be bent into the shape of a long S slightly cork-screwed. On account of its firmness, it can with greater ease be manipulated beyond the promontory of the sacrum and enter the sigmoid flexure. By a practised hand, with the use of one of these bougies, a stricture can be discovered with the same facility as one can be detected in the urethra.

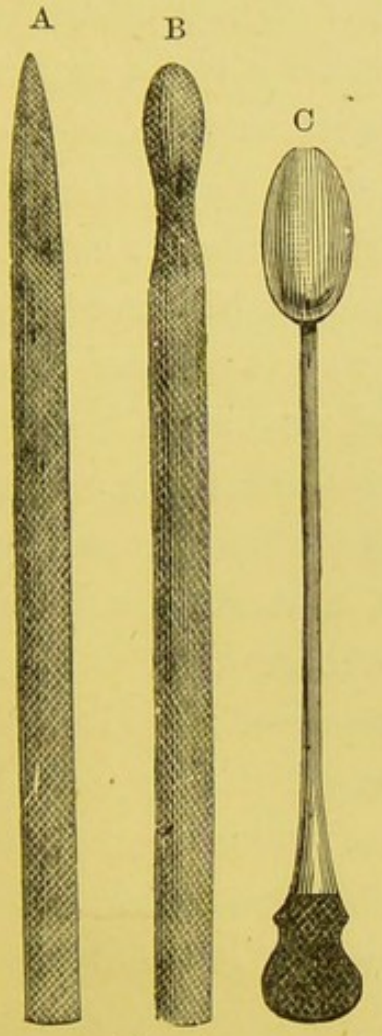


FIG. 3.

If a growth or ulcer be felt so high up in the bowel as to prevent a satisfactory ocular examination, it is best to put the patient under ether and use a vulsellum. We have thus been able to draw the upper part of the rectum right outside the anus; in fact, have intussuscepted the upper into the lower part of the bowel, and have so obtained a good view of the diseased portion.

Examination under ether.

Much has been written as to the importance of passing the hand into the rectum as a means of diagnosis in cases of disease high up in the sigmoid flexure. This has been done by the late Professor Simon of Heidelberg, Mr. Walsham, and several others. As to its value we have great doubts. To

Introduction of hand.

begin with, it can only be effected when the pelvis is very large and the hand small. Unless these conditions exist, there is great danger of rupturing the rectum. Moreover, as is known, at the junction of the sigmoid flexure with the rectum there is considerable narrowing of the gut, so that any attempt to pass the hand beyond this point is almost certain to cause rupture of the gut at the seat of narrowing. When, however, the rectum is very capacious, with the sphincter very freely dilated, the hand may be introduced, clenched, but with the first finger extended; in this way the finger may be pushed beyond the natural contraction, and so the lower part of the sigmoid flexure be reached.

Eversion by fingers in vagina.

In examining the rectum in women, Dr. Horatio Storer, Boston, U.S., has recommended eversion by the fingers passed into the vagina. This method is useful in women who have borne children, but not in the young and unmarried. Moreover, it is only the anterior wall of the rectum, and that not high up, that this method enables one to examine; by putting the fingers into the vagina it is not possible to bring down the posterior wall of the rectum.

Importance of anæsthetic in obscure cases.

Finally, we must impress upon the reader the importance of giving an anæsthetic, administering an enema, forcibly dilating the sphincters, and examining the abdomen, pressing deeply into the left iliac fossa, in all cases in which the symptoms are obscure and the diagnosis difficult.

CHAPTER III.

ABSCESS AND FISTULA IN ANO.

Fistula is, at all events in hospital practice, the most common rectal disease affecting the adult. Out of 4,000 cases, taken consecutively and without selection at St. Mark's Hospital from the out-patient department, there were 1,057 persons suffering from fistula, and 196 from abscess, of which 151 subsequently became fistulæ, so that more than one-fourth of the cases treated were fistula. The records of the in-patients at St. Mark's Hospital during several years showed that two-thirds of those operated upon were cases of fistula, as mentioned above. There is one source of obscurity in making deductions from statistics which deserves notice; it is due to the fact that many patients suffer from more than one malady. It constantly happens that a fistula is found in connection with hæmorrhoids either as the substantive disease or as a complication. Again, a fissure or circular ulcer often has a sinus running from it, so that it may fairly be considered as the opening of an internal fistula, and the case called a fistula, or the sinus is

not detected and the case is called ulcer or fissure, and so error creeps in.

Men are more subject to fistula than women.

This disease is most frequently met with during middle age, but it is by no means restricted to that period of life. Infants in arms have been operated upon, and even patients over eighty years of age.

Causes of abscess and fistula.

The causes of fistula, or abscess ending in fistula, are many and various, and several causes may combine to produce the result.

These may be generally specified: injury to the anus, exposure to wet or cold, and particularly sitting upon damp seats after exercise when the parts are hot and perspiring. Many cases of rectal abscess may be traced to sitting on the outside of an omnibus after active exertion. Here it should be observed that sudden and deep-seated suppuration is often found to occur after severe itching in the part, with only erythematous redness on the surface. It may result from the violent irritation caused by any of the forms of parasites which frequent the anus and its immediate neighbourhood. Abscess or fistula may also be caused by the laceration of the mucous membrane resulting from costive motions and straining at stool. Foreign bodies, such as fish or rabbit bones, which have been swallowed and have reached the anus in an undigested state, are not an uncommon cause of fistula—not only from the irritation and injury to the mucous membrane, but also from the septic influences which they exert. As a parallel may be instanced whit-

low, which often follows from a scratch inflicted by gamebones or fishbones.

Other predisposing causes are thrombosed veins and suppurating piles.

Abscesses and fistula may likewise supervene on fevers and certain depraved conditions of the blood such as frequently give rise to boils or carbuncles.

Lastly—a matter which should always be prominent in our minds—abscesses or fistulæ may proceed from a tubercular or strumous tendency, inherited or acquired.

Causes in children.

Fistula in *children* generally results from injury to the anal region or from worms, which should always be asked about and carefully sought for.

Place of commencement of abscess and fistula.

Fistula, in the majority of cases, commences by the formation of an abscess immediately beneath the skin just outside the anus, starting primarily in the cellular tissue, or in the hair or sebaceous follicles. It is generally said to begin in the ischio-rectal fossæ, but in our opinion this is a rare, though occasional, situation. It may also begin as an abscess in the submucous connective tissue of the rectum, and then burst into the bowel. This is its ordinary termination, but it may insidiously undermine the rectum in any direction, and the most serious forms of fistula not uncommonly originate in this manner. Abscess, and then fistula, may commence by ulceration of the mucous membrane of the bowel, as seen in phthisical patients; when they arise in this way, fæcal matter accumulates in the parts around, and so a sinus is formed, which opens

eventually outside the anus. Lastly, abscesses may originate in the superior pelvi-rectal spaces, and burst, so forming sinuses extending in any direction.

Kinds of rectal abscess.

Rectal abscesses may be classed, according to their frequency, as acute, chronic, or gangrenous.

Acute.

The acute will be attended with the usual symptoms of an acute abscess in any other part, only the constitutional symptoms are generally more severe. When they commence in the ischio-rectal or superior pelvi-rectal fossæ, the constitutional disturbances are very great, and predominate over the local ones, which, in the early stages, are only indicated by tenderness and pain, followed later on by redness of the skin and œdema. It is in these latter varieties that very prompt treatment is necessary to obviate grave after-results.

Chronic.

The chronic may be weeks in forming, and be perfectly painless, even on manipulation, the only evidence of an abscess being a fluctuating swelling with thinning and discoloration of the skin. Again, its presence may be shown only by a flat, boggy, crepitating enlargement which can be felt by the side of the anus. This form of abscess is the most dangerous, as it is apt to be neglected; it takes a long time to open spontaneously, and so burrows up by the side of the rectum to some distance, as well as under the skin towards the perinæum or buttock, or both.

All acute and chronic abscesses, if left, eventually open spontaneously, and the patient then fancies his trouble is over. The cavity of these abscesses

seldom closes entirely, but sooner or later contracts, leaving a weeping sinus with a pouting, papillary aperture, which may be situated near to or far from the anus, and thus a fistula is formed.

Gangrenous.

Following fevers, or in patients greatly broken down in health, a very serious condition may arise, viz., acute gangrenous cellulitis around the anus and rectum, which is accompanied by low constitutional symptoms, and ends in extensive death of the tissues in those parts. Fortunately these cases are rare, but when seen they call for free incisions to allow of the escape of the sloughing cellular tissue and putrefying pus.

Importance of early and active treatment.

It is not often that one sees a rectal abscess very early; either the patient is not aware of the importance of attending to the early symptoms, or he temporizes, using fomentations or poultices; or even, when seen by a surgeon, the proper treatment is not always promptly adopted. It is well to remember that as soon as pus is formed, there is only one method of treatment to be for a moment entertained, and that is *incision*. It is certainly less damaging to cut into an inflamed swelling near the anus where no pus is, than to let a day pass over after suppuration has commenced; the longer the abscess is left unopened in this loose cellular part, the greater the danger of the formation of lateral sinuses. Before any pus exists, rest, warm fomentations and leeches may cut short the attack, but such a result is very rare.

When opening an acute abscess—which should be

Method of opening rectal abscess.

freely done, if lateral sinuses are found—it is better to leave them alone, and wait until the active attack has subsided, before attempting to lay them open. To operate upon them at that time would be of little avail, as more burrowing generally takes place.

Small abscess.

Very small abscesses can be well and easily opened in the following way :—The patient should be placed on the side on which the swelling exists ; the fore-finger of the left hand, well anointed, is passed into the bowel ; then the thumb of the same hand is placed below the swelling on the skin. Now the surgeon makes outward pressure with the finger in the bowel, and renders the swelling quite tense and defined, it being, in fact, taken between the finger and thumb. A straight bistoury is then to be gently pushed into the abscess, being held perpendicular to it ; then, with a sawing motion, the abscess is freely opened. Such a method causes very much less pain than when a knife is rapidly stabbed into the inflamed and tender swelling. The incision should be made at right angles to the anus, beginning near the anal orifice and cutting outwards. If the part be thoroughly soaked with 20 per cent. solution of cocaine, this operation, otherwise painful, may be rendered almost, if not quite, painless.

Severe abscess.

The method of operating above described is by no means suitable to a severe or deep-seated abscess. The following is the method to be adopted in severe cases. The patient must take an anæsthetic, as the operation is very painful. First the abscess, outside the anus, must be opened from end to end, and from

behind forwards, *i.e.*, in the direction from the coccyx to the perinæum. Then the forefinger is introduced into the abscess to break down any secondary cavities or loculi, the finger being carried up the side of the rectum as far as the abscess goes, probably under the sphincter muscles, so that only one large sac remains; should there be burrowing outwards, an incision should be made into the buttock deeply, at right angles to the first. In very severe abscesses or gangrene one should not cut away the sloughs, but let them separate. Removing them may cause troublesome hæmorrhage, as the larger vessels are kept open by the indurated and inflamed tissues. Moreover, if on removing sloughs the surrounding inflamed tissues be cut into, the lymphatics, which are blocked at the sloughed portions, may be opened. Absorption of the putrid matter takes place, and pyæmia may result. After the incisions, the cavity should be syringed out and carefully filled with wool soaked in iodoform and vaseline, 20 gr. to $1\bar{z}$; this is left in for a day or two, and is then taken out and the cavity examined and again dressed in the same manner, taking great care that during the healing process the cavity fills up from the bottom. If there is any premature contraction of the external orifice, a drainage-tube may be used with advantage. In a remarkably short time the patient recovers; the sphincters have not been divided, and he therefore escapes the risk of incontinence of fæces or flatus, which sometimes occurs when both the sphincters are deeply

incised. We could cite numbers of cases of very unfavourable aspect, and in old persons, that have done quite well, treated in the way described.

After treatment.

To give the patient the best possible chance of recovery, he must keep on the sofa, if not in bed. It is always advisable to clear out the bowels once, and then confine them by an astringent dose of opium for three days; thus one secures entire rest to the parts, and gives every opportunity for the cavity of the abscess to fill up. After a time the iodoform ointment should be discarded, and lotions or ointment be used containing nitrate of silver, zinc, or friar's balsam, which last does great good. We have found boracic acid ointment or a solution of thymol advantageous; it is often necessary to ring the changes between these and many other applications. *Never stuff* an abscess, but put in, very lightly, a little wool saturated with whatever medicament is desirable, taking care to carry it to the bottom of the abscess-cavity.

Transition of abscess into fistula.

The questions naturally arise, Why do abscesses about the anus usually fail to close up? Why do they form sinuses? There are doubtless several reasons, but the following may be sufficient—the mobility of the parts, caused by action of the bowels and movement of the sphincter muscles, almost at every breath, and the presence of much loose areolar tissue and fat. The vessels also near the rectum are not well supported, and the veins have no valves; there is therefore a tendency to stasis, and this is inimical to rapid granulation. We know

that abscesses are always apt to degenerate into sinuses when situated in very movable places and in any lax areolar tissue, as in the axilla, neck, or groin.

If the sinus extending from an abscess is recent, it may be lined with granulations and the pus is healthy.

After an abscess has existed for a long time the discharge loses its purulent character; it becomes watery; the abscess has gradually contracted, and now only a sinus, very often formed of dense tissue, remains. If this sinus be laid open, its interior will be seen to resemble in appearance the inner coat of an artery, so glistening and smooth has it become. When this is the case, from its rigidity and loss of vitality, healing cannot take place unless a healthier condition is procured by destroying the sinus by caustics, by scraping, or by laying it open.

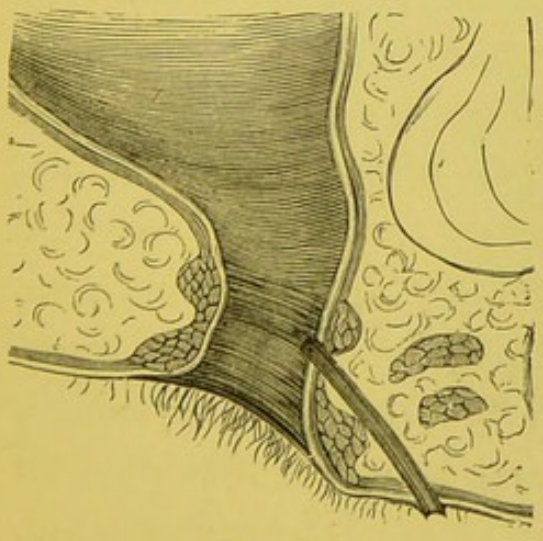


Fig. 4.

Method of examining sinuses.

If now a probe be passed very tenderly into this sinus, allowing it to follow its own course, and after this is done the finger be placed in the rectum, it will probably be found that the probe has traversed the sinus, passed through an internal opening, and can be felt in the bowel. This will be a typical, simple, complete fistula (Fig. 4);

and this is by far the most common variety, very few fistulæ that have existed for more than three months being without an internal opening. When the fistula is complete, wind may pass through it, and also fæces if the bowels are relaxed; as a rule, however, this symptom does not occur, in consequence of the smallness of the internal aperture, its situation, or its valvular form. It follows that, though the passage of wind is a certain indication of a complete fistula, the absence of this symptom should not induce the belief that there is no internal opening.

Kinds of fistula.

Complete.

In most forms of complete fistula the internal opening is between the external and internal sphincters.

The external opening may be small and little depressed, or be slightly elevated and teat-like in form. Again, it may be hardly perceptible, being hidden away beneath tags of skin, or may open between external piles and so be lost to view.

Besides this common form there are two other descriptions of fistula, viz., the blind external fistula, and the blind internal fistula. In the blind external fistula there is an *external* opening, and it is therefore called an *external* fistula, but no *internal* opening, hence 'a BLIND *external*.' In the other variety there is an *internal* opening, consequently it is an *internal* fistula; and there is no *external* opening, therefore it must be called 'a BLIND *internal*' fistula.

There is so much confusion in the use of these

terms that we have been particular in describing them.

The blind external fistula may be represented by diagram 5. Blind external.

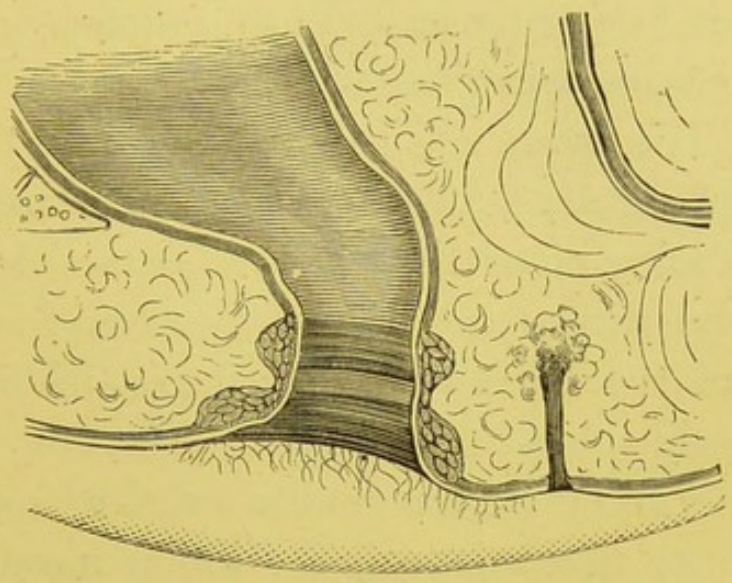


Fig. 5.

It may be a simple track, or have a dilated upper extremity, the remains of the original abscess. As

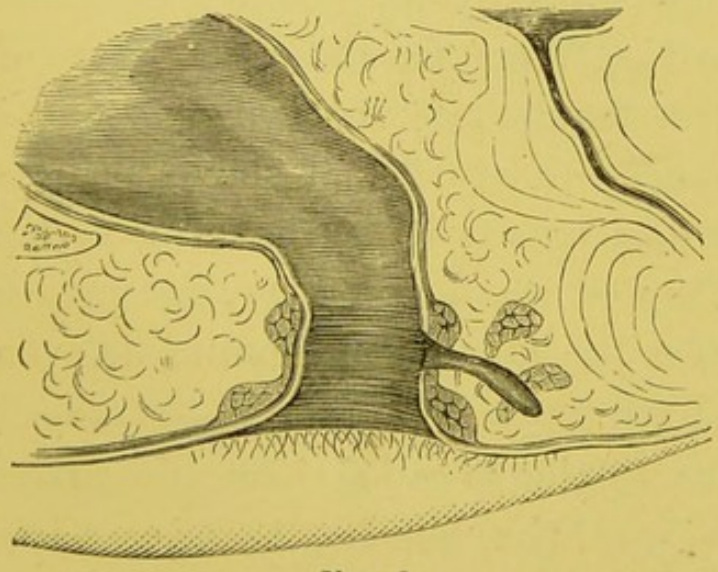


Fig. 6.

with the complete fistula, the orifice may vary in position or shape.

The blind internal fistula is figured in diagram 6. Blind internal.

It is the most painful, though fortunately the rarer form. Its aperture may be seated anywhere in the rectum, but generally between the internal and external sphincters. The circumference of this opening is frequently as large as a threepenny-piece, its edges being sometimes indurated, at others undermined. The fæces, when liquid, pass into the sinus and create great suffering—a burning pain often lasting all day after the bowels have acted. Moreover, these fistulæ are frequently severe, in consequence of the burrowing caused by the irritating matters which get into them.

This form of fistula results usually from some injury to, or ulceration of, the lining membrane of the rectum, or from abscess in the connective tissue beneath the mucous membrane, and is most commonly found in subjects who have consumption, or who are predisposed to it.

Complex variety.

Besides the forms shown in the above diagrams any of these fistulæ may be complex.

The complete fistula may have many sinuses; some running outwards and causing several openings far from or near to the anus, or running up the bowel under the mucous membrane, or even travelling round the gut and opening in the other buttock, giving rise to the so-called horse-shoe fistula. In the same way the blind external and the blind internal may be complicated by accessory sinuses.

Now, these terms, 'complete,' 'blind external,' and 'blind internal,' are useful, but there is a very much more important division which affects the

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character of the fistula as regards its seriousness to the patient and also to the surgeon, viz., as to whether the sinuses are low down in the rectum or in the surrounding tissues; or open high up, as a result of an abscess in the ischio-rectal fossa, or in the superior pelvi-rectal space which is above the levator ani muscle.

Examination for fistula.

We will now imagine that there is a patient with fistula before us. He should be examined thus. He should be placed upon a hard couch on the side upon which the disease is supposed to be situated, the buttocks being brought close to the edge of the couch, and the knees drawn up. The surgeon should look at the anus and the surrounding parts *carefully*, to detect any visible malady. The orifice of a sinus, or some discoloration of the skin, may show the site of the disease. Then the parts all round the anus should be gently examined with the forefinger, and any induration felt will indicate the course and position of the sinus, which feels like the stem of a clay-pipe beneath the skin. Having satisfied one's self in these respects, the probe should be passed into the external aperture; the probe must be held with a very light hand, and allowed to find its own way. If it does not pass easily, it should be bent to see if it can be coaxed along the sinus. In many cases it will pass right into the bowel; when the probe has been passed as far as it will go without using any force, one must introduce the forefinger of the left or right hand, whichever, according to the position of the patient, is most

convenient, into the rectum. It is not wise to introduce the finger before the probe, for that will excite contraction of the sphincter, and the sinus will be drawn up or contorted, and consequently the passage of the probe is obstructed. When the finger is in the bowel, a careful examination is to be made all around the anus and rectum for an internal opening. If any spot can be felt that may lead one to suspect such an opening, the finger should be

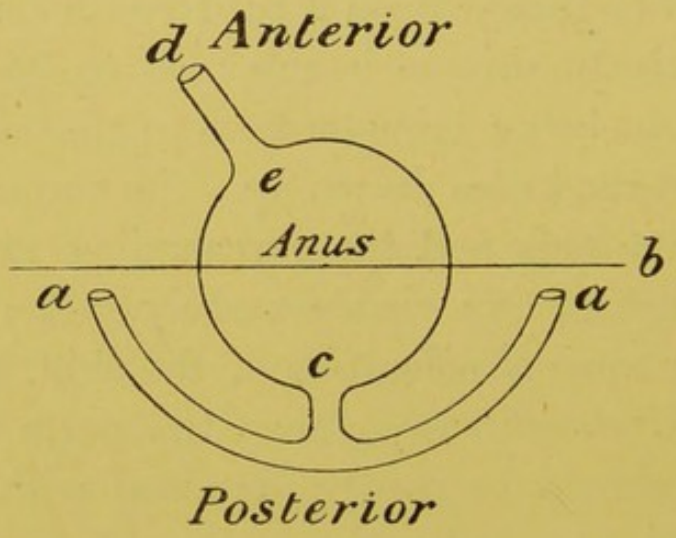


Fig. 7.

placed upon it and the probe passed towards the finger. The fistula is a complete one when the probe impinges upon the finger. There may not be an internal opening; if not, it should be observed how near the probe comes to the mucous membrane.

There is one other point which it is fitting to mention here, and one which will greatly assist us in arriving at the position of internal with regard to the external openings. Our friend Mr. Goodsall first directed attention to the following facts, viz., that fistulæ which have their external apertures

(Fig 7, *a*) situated behind a line passing transversely through the centre of the anus (*b*), generally have their internal opening in the middle line posteriorly (*c*), and so the sinus has a curved course. On the other hand, those fistulæ which have an external opening (*d*) anterior to the bisecting line (*b*), generally have their internal openings (*e*) immediately opposite to the external one, and so the sinus is a straight one.

As to the necessity of palliative or operative treatment.

The question whether there is an internal opening or not is of great importance in deciding whether the fistula ought to be attacked at once, or if it may be safely allowed to remain for some time uncut, should the patient be unable to lie up immediately; and in answering the question as to the advisability of trying palliative treatment.

A blind external fistula is the safest to leave; but, at the same time, in deciding the above questions, one should remember to take into account the amount of induration of the tissues about the anus, for if this is extensive, burrowing will continue. Another important feature to be observed is the nature and quantity of the pus discharged. If it be laudable and profuse, an operation should not be delayed, for the fistula is active and burrowing. But should the pus be watery, there is not such need for immediate action. In any case, however, one should not leave the fistula too long, for it may at any time resume an active state and commence to burrow.

Usually, it may be said, the longer a fistula is left

the more does it burrow, and the more difficult is it of cure; therefore it is unwise to tell a person to have nothing done as long as he is not suffering—advice which is frequently given to patients.

Should, upon careful inspection, no *external* opening be found, but the patient describe the symptoms of a blind internal fistula, viz., great pain on defæcation and profuse discharge of pus, together with, or without, induration about the anus, an ulcer, which may be the opening of an internal fistula, must be sought for in the bowel. This must be thoroughly explored with a probe, either straight, or bent into the shape of a hook; for a sinus may be running out of this ulcer towards the skin or up under the mucous membrane. If there be no sinus, the sore is only an ulcer, and an attempt may be made to cure it by palliative measures. If, on the other hand, a sinus is found, an operation is imperative to relieve pain and prevent further mischief; for the sinus being funnel-shaped, with the larger end of the funnel opening into the bowel, fæces readily pass into it, and inflammation, much pain, and extension of the disease will certainly ensue.

Position of internal aperture.

In a fistula with an internal aperture the latter is usually situated just within the anus, in the depression which exists between the external and internal sphincters. In fact, this is so in quite 90 per cent. of cases. We are sure that this is its common situation; and one reason why the opening is not felt when the finger is inserted is because the search for it is made too high up the bowel. The

recognition of this fact is of the very greatest value, as it necessitates division of only the external sphincter to effect a cure. If this fact is not appreciated, and the probe is pushed through the bowel above the internal sphincter (which is too often done), both sphincters are divided (the internal unnecessarily), and incontinence frequently results.

We think the reason the internal opening is situated so often in the position named is this. The abscess, forming, in most cases, just outside the anus, does not burrow deeply, but passes close under the external sphincter; it then is prevented from ascending higher up the bowel by the thick band of the *internal* sphincter and the levator ani, and consequently is turned inwards, and makes its way through the lax areolar tissue, in the space between the two muscles. When the abscess really commences in the ischio-rectal fossa, it burrows deeply, and then most usually passes above the internal sphincter, and opens, if at all, high up in the rectum.

Occasionally more than one internal opening exists, and we have now many times seen what the late Mr. Syme declared could not occur, viz., two internal openings in the same patient at the same time; at St. Mark's many cases have been treated in which there was an internal aperture at each side of the bowel.

It is all-important that this internal aperture be felt with the finger (so that in operating it may be

included in the incision), for not unfrequently from the tortuous nature of the fistula, the probe cannot readily be got through it; this is markedly the case in the horseshoe form of fistula, which is not uncommon. The sinus in this variety runs round, generally dorsally, from one side of the anus to the other, so that there are two external openings, one on one side of the anus, and one on the other (Fig. 8, *a*, *b*), and these communicate with the interior of the bowel by one common internal opening, placed dorsally, as at *c*. Sometimes, however, there is only one external opening; but the sinus extends right round to the other side of the anus, but does not perforate the skin. This variety, if not properly diagnosed, is rarely cured by operation, the sinus being laid open on one side of the bowel, and left untouched on the other. This mistake may generally be avoided by a careful examination with the finger externally, as one can feel a hardness on *both* sides of the anus. The patient will also sometimes assist one by saying that he has felt something like a 'piece of wire' on both sides of the bowel.

Horseshoe fistula.

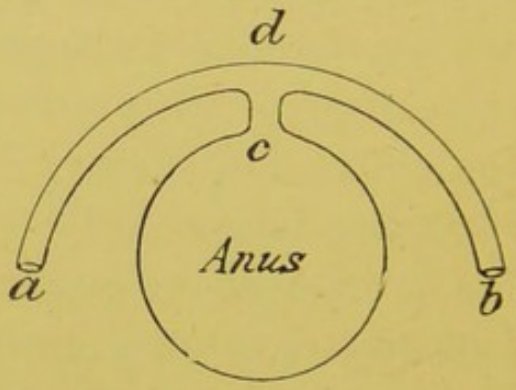


FIG. 8.

When the finger is passed into the bowel to search for the internal opening, it should always be carried higher up, to see if the rectum be otherwise healthy, as stricture, ulceration, or malignant disease

Passage of finger higher up the bowel.

may be found to be coexistent; without this precaution these conditions may be overlooked.

A fistula may be a very trivial matter indeed, which can be operated upon in the out-patients' room, and the patient be sent home afterwards, or it may be a really serious affair, demanding extensive surgical interference. It is not uncommon to see a buttock so riddled with sinuses as to resemble a miniature rabbit-warren more than anything else.

Fistula may exist for years without causing much pain or inconvenience to the patient. We have met with many persons who have had rectal sinuses for ten years and upwards, and never had anything more done than the occasional passing of a probe when the external aperture became blocked up, and pain was caused by the formation and retention of matter.

When the tissues around the sinus become very dense there may be, for a long period, an arrest of burrowing, but an attack of inflammation set up at any time will cause a fresh abscess.

Palliative treatment.

One is often anxiously asked by sufferers if a fistula can be cured without an operation, or, as they say, 'the use of the knife.' To this the only reply is that all kinds of simple fistula get well with, and even without, treatment; but these occurrences are quite exceptions to the rule, and should not be depended upon.

Children.

When fistula in children is the result of worms, it being frequently brought about by the irritation they set up, a cure may often be effected without

the use of the knife by adopting the following plan of treatment. They must be given every night a powder consisting of—

℞

Calomel . . .	about	gr. i.
Pulv. scammon. co. .	,,	gr. iv.
Pulv. jalapæ co. . .	,,	gr. iv.

Misce.

In the morning, after the bowels have acted, the following enema should be administered :

℞

Liq. ferri perchlor. . . .	ʒi.
Glycerine	ʒi.
Inf. quassia	Oi.

Misce.

and the child should take three of these lozenges for some days :

Troch. santonini	gr. ii.

It is very advisable at bedtime to tie up the child's hands in front of its body, so that it may not by scratching convey any of the ova from its anus to its mouth. This course of treatment should be continued for about one week. We have found this to be eminently satisfactory, though other means may be employed should it fail.

When the child is rid of the worms and the irritation they occasion, the fistula frequently heals. This arises from the greater vitality and reparative powers that children possess.

Adult. In the adult, if the fistula be simple, and the

patient be unwilling to submit to any operation, certain methods may fairly be tried. We have been successful on several occasions in curing simple blind external, and even complete fistulæ, by the application of strong carbolic acid, iodine, or chromic acid. This mode of treatment, if carried out with great care and some perseverance, offers the best chance for the patient. It is essential that the outer opening of the fistula should be much dilated before applying the acids. The dilatation can be accomplished by keeping in a small portion of sea-tangle for a few days, or by a small sponge tent. When the opening is large enough, one should clean out the sinus well, and then rapidly run down to the end of it a small piece of wool saturated in strong carbolic acid with 10 per cent. of water. The wool is twisted upon a stiff piece of wire set in a handle and just roughened at the free end, and can, with a little practice, be wound tightly on the end of the wire, so as to be small enough to go right to the bottom of the sinus. The wire is then withdrawn, and a drainage-tube just large enough to fill the sinus is inserted and kept in ; the interior of the sinus is, by the acid, induced to granulate, and if the treatment is successful, it will be found day by day that a shorter drainage-tube will be required until the whole sinus is filled up. It may be necessary to apply the acid more than once, and to use other stimulants, as friar's balsam, solutions of sulphate of copper, or nitrate of silver, etc., but never strong injections. Care should always be taken to keep the external

opening well dilated. We thought the heated galvanic wire passed to the bottom of the sinus would be very effective; but experience has shown that it cannot be relied on, and that it causes much pain.

Dr. Mathews, of Kentucky, advocates the treatment of fistula with single tracks by dilating the sinus first with a laminaria tent, and then passing into it a very fine urethrotome. The concealed knife is then exposed, and the instrument withdrawn. By so doing the sinus tissue is divided, and such division may be effected in several places, so that the top, bottom, and even both sides, of the sinus may be divided. This destroys the sinus, and it is asserted that many cures have resulted.

Spontaneous cures.

We have seen spontaneous cures of simple fistula, and have also seen an ordinary examination with a probe set up exactly the quantity of inflammation required to obliterate the sinus, and a good many of such results we have had opportunities of watching, and no return has taken place; but, on the other hand, the bulk of the so-called spontaneous cures are illusory, and the disease returns in time; and the same may even be said of those in which treatment, short of division, has seemed effectual. In our opinion, there is nothing equal to the division of the fistula and causing it to fill up soundly from the bottom.

Cases.

Here are a few cases of spontaneous cure, and also an example or so of cure by treatment, which have occurred in our practice:

Spontaneous Cure of a Blind External Fistula.—Wm. B——, æt. 49, a draper's assistant, had had an abscess for five months by the side of the anus, which was opened, and ever since there had been a discharge from it. At times it was very sore and swollen; then it broke, and discharged, whereupon he became comfortable. On examination, a blind external fistula was found, the orifice being close to the external edge of the sphincter; the sinus ran up quite an inch, and did not approach near to the mucous membrane. No internal aperture existed.

No treatment was adopted, as it was intended to take him into St. Mark's when there was a vacant bed. He only had a little calomel ointment ordered, and a pill to keep the bowels acting. In three weeks the sinus had healed, and on examination this was found to be the case. Of course, we expected it to break out again.

Some weeks afterwards the sinus remained soundly healed, and the hardness was fast disappearing.

Two months later the fistula remained quite well; there was no evidence of where it had been, no mark of the original aperture, and no induration. It seems that the probing in this case was just sufficient to set up granulation and rapid closure of the sinus. It did not return, as the man would certainly have come again to the hospital, being so delighted with the result of what he considered skilful treatment.

Blind External Fistula; Spontaneous Cure.—J. C——, æt. 46, a porter at the Tilbury Station; admitted into St. Mark's. Steady man; sufferer from ague. Six months before had had a rectal abscess, which had burst, and had continued to discharge more or less up to the time when we saw him. A sinus was found running some distance up by the bowel, rather deeply situated, and not communicating. Ordered a mild aperient and some zinc ointment. In a fortnight he came again, and said the fistula had healed. On examination, it was found closed.

One month afterwards.—Again examined; found it still

well; no pain; very little hardness; no discharge from the bowel.

He was told to return in another month, when we found him quite well.

Blind External Fistula; Spontaneous Cure.—Jas. L——, æt. 65. The external aperture was some distance from the anus; the sinus passed up beyond the external sphincter, and the probe could be felt rather nearer the mucous membrane. No particular treatment. The probe was passed again in about a fortnight after he was first seen. The sinus healed up. We kept him under observation for about six months, when, finding no return of the fistula, no pain, no discharge, no internal opening, no hardness in the old track of the sinus, we regarded him as cured.

Complete Fistula in Ano; Spontaneous Cure.—W. H. K——, æt. 30. Not very strong; habits regular. On examination, a small but complete fistula was found on the right side of the anus, the external opening being quite an inch from it, the internal aperture in the usual place, between the two sphincters. In six weeks the external orifice was so firmly closed that, without unwarrantable force, a probe could not be passed into it. There was no pain. We kept him in the hospital another week, and still the fistula remained healed, so he was not seen for some time, when, finding the fistula still closed, and there being no pain and no induration, we regarded him as cured, requesting him to come again immediately on any return of pain or swelling. He did not return.

Most of the cases of fistula which we have tried to cure without an operation have occurred in private practice. The reason is, that time is generally a great consideration to the poor man; he does not mind a little pain; he wants to be cured as quickly as possible, and therefore prefers to be operated upon at once, in order to get well certainly

and speedily. It is only the rich who can afford the luxury of three or four months' treatment, finding themselves, perhaps, at the end of that time in much the same condition as they were at its commencement.

Case cured by Treatment.

Case of cure by treatment.

A gentleman, æt. 50, a free liver and very nervous, came with a blind external fistula on the right side. We could hardly examine him in consequence of his terror, so he was ordered some sedative ointment, and was requested to come again in three days. He was on his second visit less timorous, and it was made out that he had an anal fistula of the blind external kind. We advised division, first by knife, then by the elastic ligature, but he turned a deaf ear to all our proposals. Cut or tied he would not be. The experience of Louis XIV. was nothing to him, and he thought very disparagingly of an art which could do no better than cut people. He readily assented to our making trial of any treatment not very painful, so the opening was dilated with a sponge tent, and the sinus thoroughly wiped out with carbolic acid. The pain was trivial, only slight burning for a few minutes. After twenty-four hours a small india-rubber drainage-tube was inserted. He went about as usual, but the bowels were kept confined for six days. At the end of that time a copious enema of oil and gruel thoroughly relieved him. The discharge from the fistula had been gradually diminishing, and the sinus was much less deep. All that was now done was to keep the external opening wide by a piece of sponge, and in three months the sinus was quite healed. This case was a genuine success.

Collar-stud.

A difficulty in these cases is to keep the external orifice very large without irritating too much; and our late friend Mr. Clover, with his usual ingenuity, effected that object wonderfully well, by inserting a

bone collar-stud into the opening. When this was slipped in, it remained fixed, and the patient wore it and went about without complaining even of discomfort. We have tried the collar-stud on several occasions, but have had a small hole drilled through from end to end, in order that no pus might be retained in the sinus, and it has answered the purposed desired, viz., to keep the external orifice large.

Case. A lady was sent from the country with a small abscess, which had been opened, and a sinus running up the bowel for quite an inch. She was most desirous to be cured, but would not have the knife, and feared the elastic ligature. After a little dilatation of the orifice one was able to insert the bone stud, and in ten days the sinus had healed. To give her every chance she kept her sofa, and the bowels were kept confined for seven days. The patient was seen some years later, when she was still quite well.

Dilatation. It must be added that simple blind external and even complete fistula may occasionally be cured by forcible dilatation of the sphincters. This dilatation, when combined with the application of carbolic acid, is especially useful when the patient is unable to lie up for some time. The patient need only rest for two days after dilatation, and can then return to his work. This is a very uncertain mode of treatment, and should only be adopted at the urgent request of the patient.

In all cases of fistula, the further the external aperture is from the sphincter the more likelihood is there that the sinus may be healed by palliative measures.

CHAPTER IV.

FISTULA AND THE TREATMENT BY ELASTIC LIGATURE.

As we have been considering the treatment of fistula without cutting, we will, before describing the usual methods of operating, relate our experience of the use of the elastic ligature and its mode of application, and endeavour to point out what really it can do, and what it cannot be expected to do. And at once we will freely confess that we anticipated a wider use for it than has been the case. Still, the ligature may be valuable on some occasions, and sometimes as an auxiliary to the knife.

Originator of elastic ligature.

Professor Dittel, of Vienna, may certainly be called the apostle of the elastic ligature; but he was not the discoverer, as Mr. Henry Lee, and also Mr. Holthouse, had previously used it for the removal of nævi and in anal fistulæ. Many methods of applying the elastic ligature have been described, and many forms of ligature used, but for a long time now we have used only solid india-rubber, so strong that it cannot break; and it must be put on as tightly as possible and fastened by means of a small pewter clip pressed together by strong forceps. The ligature

Allingham's method of using elastic ligature.

cuts through in about six days; *i.e.*, that was the average time in ninety cases of fistula. The shortest time has been three days, and the longest fourteen days, and in the latter case a solid portion of flesh, three inches in length and two inches in thickness, was cut through without any tightening of the ligature. Those who find a difficulty in getting the ligature to cut quickly and painlessly are ignorant of the proper method of applying it.

Advantages of the ligature.

What are the advantages of the ligature? Briefly these, that in simple cases there is little or no pain inflicted by the operation; the patient can walk about without danger. There have been cases proving that nervous persons will often submit to the ligature when they will not to the knife. There is no bleeding—a manifest advantage in dealing with patients whose tissues bleed copiously on incision.

Disadvantages of the ligature.

The great objection to the general use of the ligature in fistula is this: It is very difficult, or even impossible, in many instances, to be absolutely sure that only *one* sinus exists. If there are lateral sinuses, or a sinus burrowing beneath or higher up the rectum than the main trunk through which the ligature is passed, the patient will not get well at one operation. In *these* complicated cases the knife alone, or conjoined with the ligature, is the only trustworthy remedy.

After trying various methods of passing the elastic ligature through a fistula, we came to the conclusion that the india-rubber could be drawn

much more readily from within the rectum through the internal opening (or through an artificial perforation in the bowel) than by commencing to pass it from the external opening. Hence was devised a simple instrument (which is shown in the woodcut) for *drawing* a ligature through a fistulous sinus or beneath a tumour; and Messrs. Krohne and Sesemann have, with much care and pains, rendered it practically perfect.

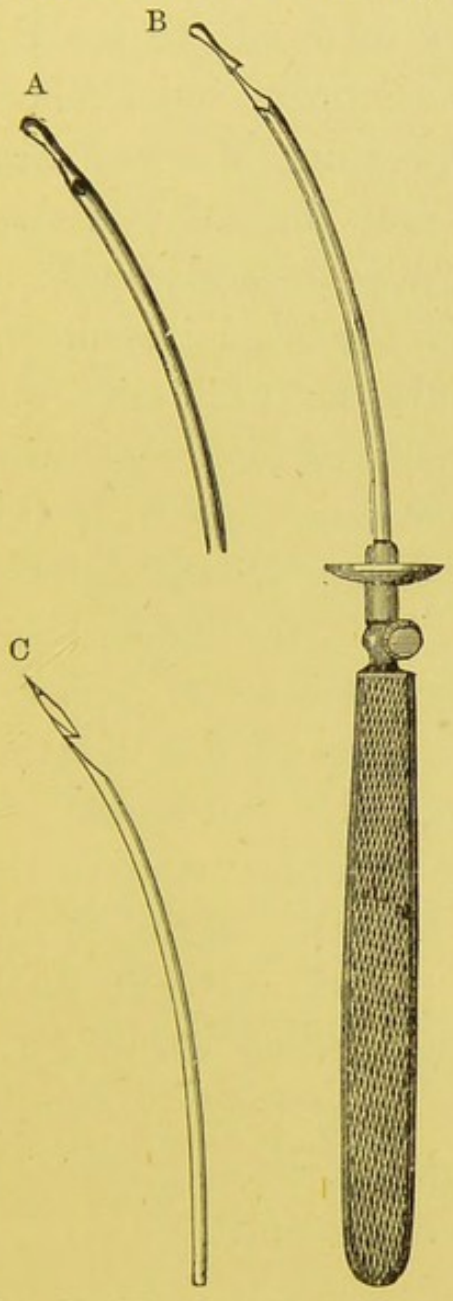


FIG. 9.—WOODCUT SHOWING ALLINGHAM'S INSTRUMENT FOR DRAWING THE INDIA-RUBBER THROUGH A FISTULA FROM WITHIN OUTWARDS.

Allingham's instrument for introducing elastic ligature.

It consists, as will be seen, in the combination of a concealed hook or notch, with a blunt or sharp-pointed probe, as the case may require. A shows the curved probe with the hook concealed by the sliding cannula, ready to be passed through a fistula, or C, if a sharp point be substituted for a blunt one, under a tumour. B exhibits the instrument with the cannula drawn back, and the previously concealed notch exposed, ready to receive the loop of india-rubber; when this is placed in the notch, the

cannula is pushed home, and the ligature is held so firmly that it cannot escape. Thus a double ligature can be readily drawn through a fistula or beneath a tumour. It is not necessary in fistula to see the hook, for if the finger, with a loop of india-rubber around it, be passed up the rectum, the loop can, with perfect facility and without the aid of vision, be directed over the end of the probe and caught in the notch. C shows the sharp-pointed instrument adapted to the same cannula, so that only one handle and one cannula are required to complete the double instrument. It is obvious that with this instrument a double ligature is carried through the sinus ; this is an advantage, for if the india-rubber breaks as it is being fixed there is a second ligature to fall back upon. The two ends of the ligature, that is to say the one from under the bowel and the one coming through the external orifice of the fistula, are threaded through a small oval ring of soft metal, the india-rubber is pulled as tight as is required, and the metal ring is then closed by a strong pair of forceps. The ring holds perfectly tight, it never breaks the ligature, never gives way, and the closure is effected in a moment.

CHAPTER V.

OPERATIONS ON FISTULA IN ANO.

Preparation of patient for operation.

BEFORE proceeding to operate upon a case of fistula, it is highly important that the bowels should be well cleared out. It is best to administer, two days prior to operating, a purgative :

℞

Ext. belladonnæ	gr. ¼
Pil. hydrarg.	gr. i.
Pil. col. et hyoscyami	gr. iv.

Misce. Take two.

An injection should also be given on the morning of the operation.

Necessity for an anæsthetic.

When operating upon a case of fistula, it is always wise to have the patient under an anæsthetic, for it is sometimes perfectly impossible to tell how much may have to be done. The case may seem to be very simple, but upon laying open the main sinus secondary ones may be found. Now, should the patient not be anæsthetised, he may draw up the buttocks, and the sphincter become contracted. If this happens, one will be unable to find the lateral sinuses, the operation will be incomplete, and no cure effected. It is also desirable to have an

assistant, for the upper buttock must be well held up; and if a sinus be found extending far into the bowel, and a large vessel be divided, without the aid of an assistant great difficulty may be experienced in arresting hæmorrhage.

Position of patient. The patient should be placed on a hard mattress on the side on which the fistula exists, the buttocks being brought quite to the edge, or, rather, overhanging the edge of the couch, and the knees well drawn up to the abdomen. For the majority of rectal operations, this position is by far the most convenient both for the surgeon and the patient; but occasionally the lithotomy posture is preferable, as, for example, in performing excision of the rectum, or in cases in which there is a fistula on both sides of the bowel.

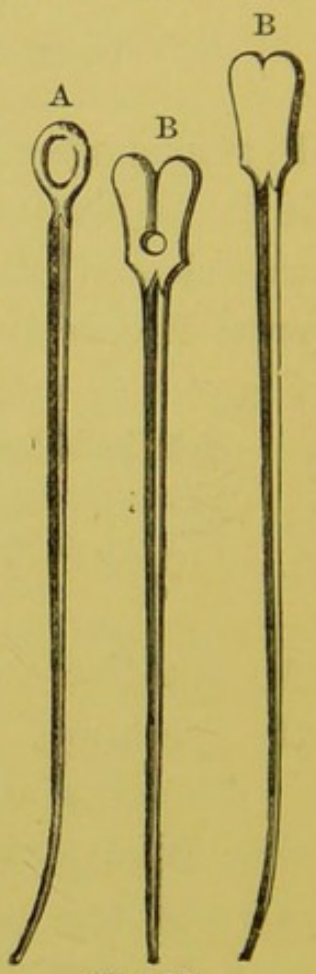


Fig. 10.

Directors. The surgeon being provided with various probe-pointed and other kinds of directors as represented in the illustration, the one most suitable to the case should be chosen, varied according to the nature of the sinuses which he may have to lay open.

Method of operating. The director is smeared with vaseline, and then passed into the external opening, through the sinus and the internal opening, if possible; then the finger is inserted into the rectum, and when the point of the director is felt in the bowel, with the assist-

ance of the finger, the point can be turned out of the anus. This done, the tissues forming a bridge over the director are to be divided with a curved bistoury.

If the fistula be very deep, running outside and above the sphincters, one will not be able to get the point of the probe out at the anus ; the operator in such a case must pass the director well through the sinus, then insert the left forefinger into the rectum, steady the director, and run a straight knife along the groove, cutting carefully towards the bowel until the parts are severed. This is by no means an easy operation, and requires much practice and experience to accomplish quickly and without bungling. The inexpert in such a case should use the deeply-grooved director and scissors, which will be described further on ; gentle dilatation of the sphincters gives the surgeon an immense advantage.

If there be no internal opening, one will almost always find some part where only mucous membrane intervenes between the point of the probe and the finger. Should this be the highest point of the sinus, the director is to be worked through the membrane and the point brought down as before. If it be not the highest point of the sinus, the probe should be gently pushed further, and then thrust through the tissues into the bowel, for unless the sinus is laid open to its entire extent the patient will not be cured. Care must be taken not to direct the probe out of the sinus into the loose cellular tissue ; for this may be easily done, and an unnecessarily

high division of the tissues ensues. The operator must not rashly thrust the point of the probe through the mucous membrane, or he will wound his finger; this accident may always be avoided by a little gentle and patient manipulation, even when the tissues are indurated. When he has divided the fistula from the external to the internal opening, he should search higher with the probe for any sinus running up beyond the internal opening; if this exists, it should be laid open.

Many authorities have stated that it is only necessary to incise the fistula between its external and internal openings, and that the sinus above the internal opening will spontaneously close, a result which very rarely occurs. In our experience, in the vast majority of cases, the patient will not be cured unless the whole sinus is opened from end to end.

Importance of laying open all sinuses.

It has constantly occurred to us at St. Mark's to treat cases which had been operated on at other hospitals, the upper part of the sinus having been left and the patients not being cured. In such cases fresh or continued burrowing takes place from the upper track, and a second operation, often more severe than the first, is rendered necessary. It needs scarcely be said that in private practice this is very damaging to the surgeon's reputation.

Having, then, opened the fistula in its whole length upwards, a search with the tip of the finger, assisted with the probe, should be made for lateral sinuses extending from the main track, also for any

burrowing outwards beyond the outer opening. A fistulous orifice is often not at either end of the sinus, but somewhere in its course. An examination is necessary, carefully to discover whether there be a secondary sinus beneath the track of the main sinus. In fact nearly always, in old-standing cases, the deeper sinus does exist, and unless it is incised with the rest the patient will not get well. In finding these deep or lateral sinuses, great assistance is derived by scraping away the granulation tissue lining the main sinus, and there it will be seen at certain spots that some granulation tissue remains. These spots or depressions are the openings of lateral sinuses, in which the granulation tissue lining them is seen.

Way in which sinuses may be missed.

In cases in which the sinus is very tortuous, the probe may be passed into the one end, and then make a false passage and enter the sinus again. Now, if the intervening portion be not discovered and laid open, the fistula will not be cured (see diagram 11); for the portion left will stop the healing of the wound, especially if it be an old and hard track.

Some surgeons have asserted that it is unnecessary to divide any but the principal sinus, and that if this is done the rest will heal. On this point we cannot speak too strongly. It is certain that one can never guarantee the healing of a fistula so long as any lateral or deep sinuses remain; and so long as they do remain fresh sinuses are apt to form. As a rule, the best plan is to lay open the original sinus first, and the tributary ones afterwards.

It may be confidently asserted that it is better to cut too much into the buttocks rather than too little, in the case of a fistula ramifying in those parts. This, however, does not apply to fistulæ extending *high* up into the *bowel*, for unnecessary cutting in this region may be followed by incontinence of fæces.

It is impossible in any work to do more than lay down general rules; every case will call more or less upon the surgeon's knowledge, dexterity, and prudence; but in thus strongly expressing our opinion contrary to the dicta of many eminent men,

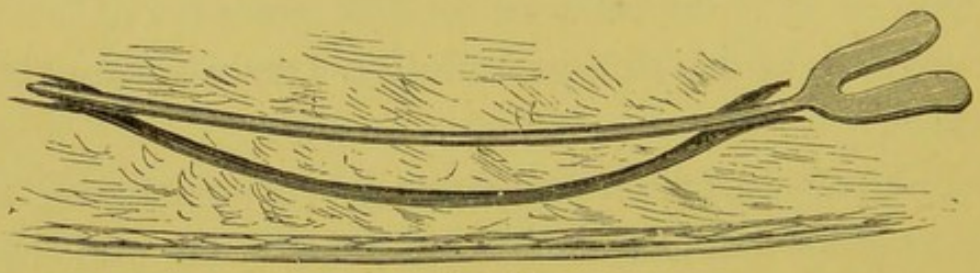


Fig. 11.

we are only stating what is almost daily seen to be the truth.

Removal of overlapping skin, etc.

When all the sinuses are slit up, with a pair of scissors the *overlapping* edges of the skin should be taken off; they are often thin and livid, having very little vitality. If not removed, they will fall down into the wound and materially retard the healing process. It is expedient, for the same reason, to remove any piles or polypoid growths, for if left they will daily drop into the wound, and so act as foreign bodies. They thus constantly irritate the wound and prevent its sound healing, just as a polypus impedes the healing of a fissure.

Frequently healing may be induced in a fistulous track, which has been only laid open, by paring off the undermined edges of the skin. It must be observed that we are not advocating 'cutting out a fistula,' as it used to be called, but are only recommending the removal of any overhanging, undermined, degenerate skin. When several sinuses have to be laid open, it is well, when possible, to preserve islets of skin from the edges of which healing will take place, and by which cicatrization is materially hastened. Indeed, in very extensive cases skin-grafting may be practised with good results.

In old-standing cases, where there is much induration, it is very good practice to draw a straight knife through the dense track of the fistula, and outwards beyond the external opening; it is wonderful how rapidly quite cartilaginous hardness passes away after this has been done. This incision was commonly practised by the late Mr. Salmon. He called it his 'back cut,' and although, if carried to excess, incontinence of fæces may result, there can be no hesitation in saying that Mr. Salmon cured many cases by this means where other surgeons had failed.

Of late, it may be noted, there has been a revival of an old method of treating fistulæ by cutting out the sinus tissue, and suturing the wound together, in the hope that the wounds would heal by first intention. Mr. Pitts, in the *Lancet* of May 18, 1895, speaks of this method. It is well to

point out that this is a very uncertain mode of treatment, as it is almost impossible to prevent flatus or fæces finding their way between the united edges of the wound; and if this takes place (as it most often does), the healing by first intention is frustrated, and thus even a fresh fistula is formed. We have tried this method, but have of late abandoned it, on account of its failure to cure and its unsatisfactory after-results.

Dressing of wound after operation.

When the operation is completed, the surgeon takes some finely-carded cotton-wool, and with a probe packs it well into the bottom of the wound, packing it into every part, and being the more particular about this if the incisions have been extensive, or pass high up the bowel, or if the parts are very dense and gristly, as they are in old fistulæ, and especially in cases operated upon for the second time. A good firm pad of wool should then be placed between the buttocks over the wounds, and a T-bandage firmly applied. With these precautions, one need never fear hæmorrhage, for if the bleeding be thus arrested by pressure at first, all will be well; if, however, the wool be carelessly stuffed into the bowel without method, it will not be placed evenly at the bottom of the wound, and then, as soon as the patient rallies from the shock of the operation, bleeding will recommence, and both patient and surgeon will be put to much annoyance, and probably some anxiety. Of course, if a large vessel is seen spirting at the bottom of a wound, it is best to close it by torsion or ligature;

when, however, the track of the fistula is so callous that the vessel cannot be tied, or if a vessel is divided high up the bowel, clip-forceps may then be applied, and left on for twenty-four hours. By careful attention to the details above given, a sinus may be opened to any possible distance up the bowel, or in any direction or depth, without positive danger.

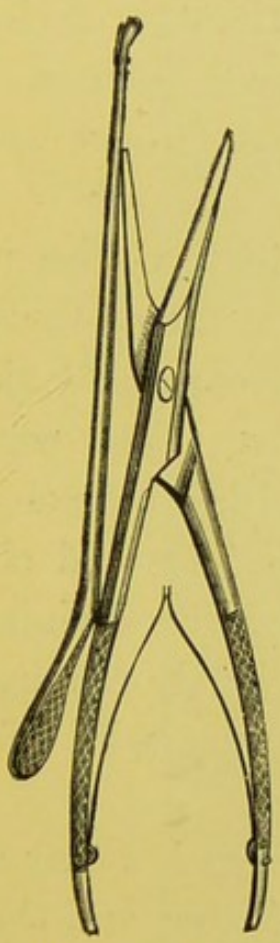


Fig. 12.—Spring Scissors, with probe point in the grooved director. It should be observed that the scissors can only be removed from the groove by drawing them out towards the handle of the director.

Use of Allingham's scissors for fistula running high up bowel.

If the rectal sinus runs up so high, and the parts are so dense, that it is impossible to get the point of the probe-director out of the anus, the safest and easiest way of operating is with our spring scissors and special director. With this instrument fistulæ can be divided high up the bowel, however dense they may be, with great facility and quickness. The director is made with a deep groove, the transverse section of which is more than three-quarters of a circle; in this the globe-shaped probe-point of one blade of the scissors runs. Once placed in the groove, it cannot slip out; so, having passed the director through the sinus, the operator introduces the fore-finger of the left hand into the bowel, then inserts the probe-pointed blade of the scissors into the

groove in the director, and runs it along, cutting as he goes, the finger in the bowel preventing the healthy structures from being wounded. By this instrument operations usually very difficult, and in which, without great caution, one is apt to break the knife, are rendered quite simple.

Operation on horseshoe fistula.

In dealing with the operation upon horseshoe fistula, we feel we cannot do better than transcribe the excellent method of operating upon such cases advocated by our friends Mr. Alfred Cooper and Mr. Swinford Edwards.

'It is, first of all, most necessary to recognise it, *i.e.*, to understand its conformation, for a casual observer might think he had two separate fistulæ to deal with, and operate accordingly. Even were he to recognise that he was dealing with a horseshoe fistula, if he followed the usual plan, he would slit up first one sinus and then the other, thus dividing the sphincter in two places and obliquely through its fibres—proceedings generally fraught with dire consequences to the patient.

'If this fistula can be laid open in such a way as to entail only one division of the sphincter, and that at right angles to its fibres, there will be a minimum amount of risk of subsequent incontinence. It can be done in this way (Figs. 14 and 16): First pass a probe-pointed director through the internal aperture, and on its point incise the skin in the middle line behind; now push the director through, and slit up. Secondly, slit up the lateral sinuses on directors passed in at the external openings and brought out

at the dorsal incision. These lateral sinuses may take either a straight, curved, or even rectangular direction. Fistulæ taking these different courses are shown in Figs. 13 and 15.*

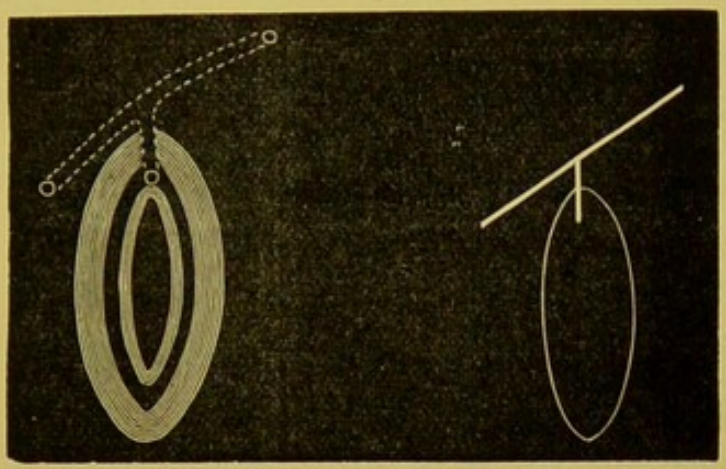


FIG. 13.—A DIAGRAM OF ONE VARIETY OF HORSE-SHOE FISTULA.

FIG. 14. — DIAGRAM OF INCISIONS NECESSARY.

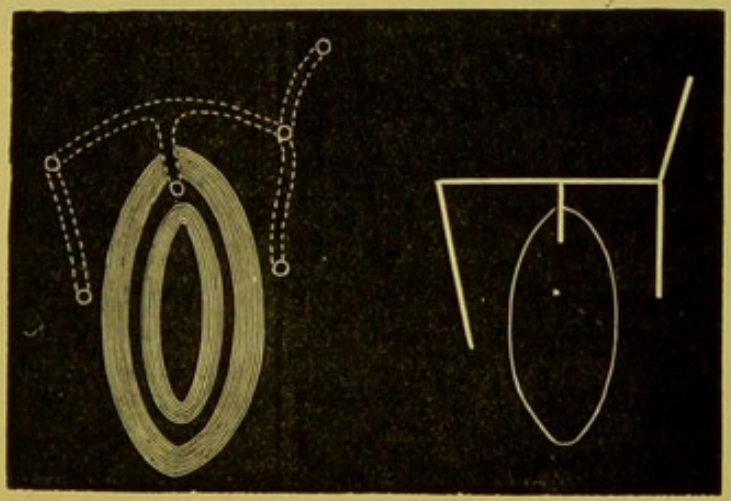


FIG. 15.—A DIAGRAM OF SEVERE HORSESHOE FISTULA, WITH FIVE EXTERNAL OPENINGS.

FIG. 16.—DIAGRAM SHOWING INCISIONS NECESSARY FOR THE CURE OF FOREGOING WITH ONE DIVISION OF SPHINCTER.

'The first incision will have divided the sphincter, but the other two will only have divided tissue external to it.'

* These diagrams have been kindly lent by Messrs. Cooper and Edwards.

Most of the cases of horseshoe fistula are dorsal: but, at the same time, it must be remembered that there is such a condition as an anterior horseshoe fistula.

A great deal is written about the dangers of incontinence following upon operation of horseshoe fistula, but we have never seen this result if the internal sphincter is not divided, and if, when operating upon such cases, all the loose mucous membrane or piles be thoroughly removed, so as to ensure some contraction of the anus as a consequence of the removal of the piles, etc.

Method of operating upon blind internal fistula.

In operating upon a blind internal fistula, if the surgeon can feel, by the hardness externally, the site of the abscess, he may plunge the knife into it, and thus make a complete fistula, through which, of course, a director is passed. If one cannot feel any hardness or see any discoloration to guide one to the situation of the sac of the abscess, the best way of proceeding is to bend a silver probe-director into the form of a hook, and then hook this into the internal aperture, and bring the point down close under the skin; then cut upon it, thrust it through, and complete the operation. This requires a little dexterity and some practice to manage well, but it is by far the surest way of hitting off the sinus. These blind internal fistulæ are very often not understood, and consequently are mistaken for other diseases. Not infrequently an internal fistula is connected with hæmorrhoids. We have seen many such cases. When strong applications are

made to hæmorrhoids, suppuration may be set up, and then an internal fistula may form. Here are cases probably of that kind :

Cases.

Case 1.—A gentleman came to us having great pain in the rectum on and after defæcation, generally worse after, sometimes coming on half an hour after leaving the closet. His history was that he had suffered from hæmorrhoids, which came down and bled, and that about seven weeks before he had undergone an operation for the cure of the piles. The operation consisted in thrusting a cautery iron into all the piles; great pain followed, and he kept his couch for fourteen days, when he began to feel better, and his piles did not come down, but there was discharge of matter. He was told that now all was right, and in a few days he might go about as usual; but, after resting another week, he still had pain on and after stool, and lost blood. On passing the finger into the rectum, a large deep ulcer was found, and a sinus running from it upwards and downwards; the piles which still existed were angry and tender, and very ready to bleed. As nothing but an operation could cure him, the sinus was slit up, and a straight knife was drawn through the bottom of the ulcer, being brought right out so as to divide the sphincter freely. Two fine ligatures were placed around the hæmorrhoids. He had no bad symptom, remarkably little pain, and was quite well in five weeks. In this case the thrusting of a fine cautery set up suppuration, and caused an abscess, which, bursting, made a great ulcer, and the ulcer formed the internal opening to the sinuses.

Case 2.—A doctor came complaining that he had been suffering for some time from pain on defæcation and burning afterwards, with discharge of matter always upon the motions; he was also much troubled with his water, having considerable irritation of the bladder. He had been operated upon, but without getting better; there was no ulceration, nor was there any fissure. On examining this gentleman,

it was found that there was a small internal aperture about two inches from the anus; from this a sinus ran upwards and downwards. The anus (with its outside surroundings) was perfectly healthy. The sinuses were slit up, and the patient was rapidly and permanently cured; all his bladder symptoms likewise vanished.

Ulcer at opening of internal fistula.

These cases of internal fistula require very careful examination to make a correct diagnosis. Often the surgeon finds what seems to be an ulcer, but does not attempt to pass a probe into it. Truly, it is an ulcer, but, in addition, it is the opening of an internal fistula, which may burrow in more than one direction. Operations upon internal fistulæ also require more than ordinary care. If an internal opening is found in the bowel, with a sinus running up higher from it, it is not right to lay open only the sinus, especially if by so doing a deep cavity is made whence pus or discharge can never thoroughly escape. When such is the case, the incision must be carried through both sphincters to ensure good drainage.

Hæmorrhage.

Whenever one has to make an incision through the mucous membrane and into the submucous tissue in the rectum without having to continue the cut to the outer parts, one must beware of hæmorrhage. It is wise to plug the rectum well.

Care required in operating upon fistula in women.

In operating upon women suffering from fistulæ (especially when the sinus is near the perinæum), it is advisable to cut as little as possible, for anatomical reasons; viz., the sphincter vaginæ decussates with the external sphincter of the anus, and by too freely

dividing the latter the point of resistance is lost. Anything like too free incisions are apt to end in incontinence of fæces, or, at all events, in such partial loss of power in the sphincter as to prevent the patient retaining flatus. Of very great importance is the question of incontinence of fæces, which may result from extensive operations on the rectum where the sphincter muscles are freely divided. A patient who suffers from inability to retain flatus or fæces is in a most unpleasant condition; in fact, some sensitive persons would not undergo any operation which was at all likely to induce such a state, and would prefer any physical suffering rather than the perpetual fear of being in any way offensive to others. It behoves us, then, to consider how much we dare do without danger of damaging or destroying the power of the muscles at the outer end of the rectum. Incontinence of wind or liquid fæces results almost always from cutting the muscles, and principally the internal sphincter, in more than one place. If there is a double fistula, *i.e.*, one on each side of the bowel, running deeply beneath the internal sphincter, and both muscles are divided, great loss of power will most assuredly result. If a narrow ring of the upper part of the band of internal sphincter can be left, incontinence is not so likely to occur. On one side the sphincters may be divided quite through without danger if the incision is made at *right angles* to the fibres of the muscles. If the muscles are divided at all *obliquely*, good union is never obtained. The subject of the treat-

Incontinence of fæces.

ment of incontinence of fæces will be fully dealt with in the next chapter.

Treatment after operation.

After an operation for fistula, the bowels should be kept confined for about three days; a purge may then be administered, and full diet allowed. The wool should be thoroughly moistened, and removed a little day by day, commencing the day after the operation.

If the whole plug is left in, the patient will probably be very uncomfortable, as he cannot easily get rid of wind, and, the danger of primary hæmorrhage being over in twenty-four hours, there is nothing gained by retaining a mass of wool in the bowel.

Dressing.

Very little dressing is required in the after-treatment of fistula; in fact, it is better to do *too little* than *too much*. If lint, wool, or any other foreign body is daily thrust into the wound, it is not at all likely to heal kindly. Daily, after the action of the bowels, the wound should be gently syringed with a warm antiseptic lotion, such as Sanitas, Condy, carbolic acid, etc., to remove any fæces which may be caught in the wound and so cause irritation. A little cotton-wool laid *quite gently* in the whole track of the wound, to absorb the discharge and keep the edges from uniting, is all that is wanted. We have constantly seen the healing process delayed by too great interference—*e.g.*, probing, and stuffing lint saturated with ointments or lotions into the sore. Frequently a little wool smeared with vaseline is quite the best dressing; only when the wound is

unhealthy or sluggish do we prescribe lotions or ointments; then, according to circumstances, black wash, carbolic acid, the subsulphate of iron lotion, iodoform, zinc, or resin ointment, etc., may be advantageous. When any irritation is seen around the wound, there are few better dressings than fresh pure olive-oil; it sheathes the part, is very soothing and grateful to the patient, and under its use granulation goes on rapidly, the wound is probably nourished by the oil, and there is a remarkably small quantity of pus discharged.

Importance of watching for burrowing after operation.

Although the surgeon should not interfere with Nature's work, he must be always on the watch during the healing process for any burrowing or formation of fresh sinuses. The granulation should be firm, not jelly-like, for the latter condition is of no use for sound healing. The wound may appear to be quite healed, but may break down again at its deeper parts, and the fistula be re-formed. It is important to get the granulations into a healthy state, and not to let the wound close up too rapidly. The development of fresh sinuses is *generally indicated* by the sudden (and otherwise unaccountable) augmentation of the purulent discharge. Whenever a wound secretes more than its surface seems to warrant, or on gentle pressure near the wound pus oozes up, one may be sure that burrowing has commenced; and must search diligently for the sinus at once; for the longer it is left, the larger and deeper it will get. Sometimes it is under the edges of the wound that it commences, at others at the end of

the wound internally or externally, and occasionally it seems to dive down from the base of the main fistula. When the sinus is found, as a rule it should be laid open immediately. One other point: the patient should be encouraged to state at once when he has any pain in or near the healing fistula. Often he will be the first to discover, by the existence of some unpleasant sensation, the commencement of a small abscess or sinus, and will be able also to indicate its situation. We had a case of severe fistula on the left side, which had nearly healed. During the treatment the patient mentioned that he had slight pain on the right buttock three inches from the anus. He said that all his abscesses on the left side commenced with the same sort of pain, and he felt sure another abscess was forming; and the very next day deep-seated fluctuation was detected and pus evacuated. Had this been neglected, the result would have been serious.

No fixed rules can be laid down for the treatment of these wounds; it is in getting them to heal quickly but soundly that the skilful surgeon is shown. When to administer stimulants, when tonics, to feed the patient well, yet not to overfeed him, are all points in which common-sense, practical knowledge, and the observance of apparently small matters, will best guide us. There are few surgical cases that call more for intelligence and watchfulness on the part of the surgeon than the after-treatment of a bad fistula. One often sees patients whom the best and most eminent surgeons

in London have utterly failed to cure, because they left the patient after the operation almost entirely in the hands of persons who had not much experience, and who did not know what to expect and guard against. During the healing process the bowels should be fairly relieved by some mild laxative, the one chosen to be that which best suits the patient.

Recumbent position.

It is important that the recumbent position should be kept for some time; its duration must depend upon the state of health and the extent and depth of the wounds. Too early or too much standing or walking about will not only delay, but sometimes entirely prevent, cicatrization. The more one sees, the more confirmed one becomes in this opinion. The sooner the wound is got to heal, the better, for it stands to reason that the longer the wound remains unhealed the greater is the chance that some fresh abscess or sinus may form. Patients are not quite safe until all sinuses or wounds are healed; and if they go from under the surgeon's care before that, they must take the responsibility upon themselves. We do not keep our patients long *in bed*, but we make them recline upon the sofa; this rule is especially advisable in delicate constitutions.

Inflamed fistula.

Never, if it can be avoided, operate upon a fistula that is from any cause acutely inflamed. While inflammation is going on, fresh sinuses are likely to form, the areolar tissue breaking down so readily; operations under these conditions are almost certain to end as failures. All that should be done in such

a case is to make a free dependent opening, and keep the patient at rest until the inflammation subsides, the sac of the abscess contracts, and the formation of sinuses is for a time completed; then, and only then, does the operation stand a fair chance of succeeding.

Fistula in conjunction with stricture.

In old-standing cases of ulceration and stricture of the rectum, fistulæ almost invariably form, but the internal opening is very rarely above the stricture, where one would think it ought to be; sometimes it opens into the stricture itself, but nearly always *nearer the anus than the stricture.* The treatment of these cases will be considered in the chapters on Stricture and Ulceration.

Small fistula not to be despised.

It is a sound rule never to despise a small fistula, more especially if it be directly dorsal or perinæal; often on dividing a seemingly most trivial sinus, one finds from the opened track a deeper one passing up the bowel.

Case.

A gentleman with an apparently very small fistula, situated anteriorly, went to an eminent surgeon; it was so slight that the surgeon recommended him to be operated upon at once in his consulting-room; this was done, and the patient went home. After five weeks, the wound not having healed, we found that from the bottom of the small wound there ran a deep sinus up the bowel, and also forwards nearly to the scrotum. These sinuses might have formed since the first operation, but the case clearly shows how careful one ought to be both in diagnosis and prognosis. A certain cure had been promised in this case in a few days.

Slight fistulæ are often difficult to heal, especially in cases where they run through the fibres of the

external sphincter, and not quite beneath them, so that in operating only a portion of that muscle is divided. The late Mr. Salmon was in the habit of saying, when he had laid open one of these fistulæ: 'Now I have made a fissure, and I shall proceed to cure it,' and he then drew his knife along the base of the sinus so as to divide entirely the external sphincter. Mr. Salmon was a man of very acute observation, and in many such instances this practice is the best that can be adopted. It is not always necessary to make a *deep* incision through the external sphincter, but one is required in superficial dorsal fistulæ; otherwise there will be difficulty in healing these apparently very trivial sores. If they do not cicatrize quickly they become very much like fissures in appearance, and the patient will suffer pain more or less severe after, as well as at the time of, defæcation. Here is an illustrative case:

A gentleman had been operated upon for fistula and got well, but after some months another abscess formed in the site of the old wound; this burst. When we saw him there was a very small fistula, nearly dorsal, not deep, but tunnelling under the old scar. This was opened; in a fortnight it had not healed; no burrowing had taken place. The sore was touched with nitrate of silver, but still it did not heal, and in another fortnight he began to complain of pain, lasting an hour, more or less, after the bowels acted. We now saw that without a freer use of the knife it would not heal at all, and might, and probably would, get deeper; a fissure-knife was drawn along the wound, beginning above it, and coming below the external end of it, going right through the sphincter. This proceeding settled the matter: in about a fortnight he was quite well, and he remained so.

CHAPTER VI.

INCONTINENCE OF FÆCES, ITS CAUSES AND TREATMENT.

Causes of. INCONTINENCE of fæces and of flatus may result from injudicious operations in ordinary cases of fistula, or may supervene on very extensive and far-reaching fistulæ. This incontinent condition is exceedingly distressing to the patient, who often expresses a desire rather to die than to live on, a source of annoyance both to himself and to his friends. In bad cases flatus is passed without the slightest warning, and before the sufferer can get to stool the contents of the rectum are discharged. Before describing the various modes of treatment and of operation, it is well to deal more fully with the causes of incontinence of fæces, and to narrate the conditions of the parts affected.

Varieties: First. I. When too deep a cut has been made through both sphincters the wound may heal in such a manner as to cause a deep sulcus. The result of this is, that the continuity of the sphincters is interrupted at one point, and their edges curled outwards by the contraction of the scar. While the muscles are still strong, and the cicatrix soft

and pliable, the motions may yet be retained; but subsequently the contraction of the cicatrix, and the fact of the continuity of the sphincter being broken, unite in causing a loss of muscular power; such, as is well known, has taken place when the quadriceps of the leg is ruptured.

On contraction of the sphincters from the muscles being divided, the sulcus is widened, thus allowing the escape of flatus and leaking out of fæces. Added to this, after a time there is a loss of power, and as this increases there is a diminution of muscular sense. Thus the patient is then unable to appreciate the contact of fæces, and hence the contraction of the muscle may be too late and too weak to avert a catastrophe.

II. There may not be any deep sulcus, but the sphincter may have been divided in two places, and thus a weak splicing may ensue, as generally occurs when the muscles have been divided obliquely and not at right angles to their fibres. Second.

Here, again, one may observe a loss of tone and a consequent incontinence of fæces. The longer it is left the greater will become the paralysis of the part, as may be noticed in the case of other muscles of the body.

The two preceding conditions may, of course, affect both men and women, but the different anatomy of the latter sex may give rise to another possible source of incontinence.

III. This has been cursorily dealt with in the last chapter, but a repetition may not be altogether Third.

undesirable. We refer to the decussation of the sphincter vaginæ and the rectal sphincters. Owing to this anatomical fact a simple operation on fistulæ in the perinæal region may cause the distressing conditions above narrated; therefore in the case of women especial care should be taken in operating. The following is an adequate explanation of this cause of incontinence. The anal sphincter has in women a weak point in the perinæum, and its division at that point may cause a lack of power.

Examination.

On examining a patient affected by the ailment we are discussing, in Condition I. there is a deep sulcus. On exploring the bowel we notice that the anus is very large, and that it is constantly contracting from the patient's perception of a sense of weakness therein, and the mucous membrane may perhaps be prolapsed, or a pile appear outside. On introducing the finger, there is little or no resistance; the anus can be easily dilated. The muscles are not firm, broad, and contractile, but are weak and narrow. Moreover, at the point where the deep incision has been made, the tissues may be hard and cicatricial and no contraction of the muscles can be felt. It is here that in the earlier stages the leaking takes place, but later on, from weakening of the muscles, it may occur at any part of the anus.

Condition II. — On examination two cicatrices are seen and felt, one on each side of the bowel, or two on one side only. The finger can also detect the same loss of power and lack of con-

sistence of the muscles as in the previous state; but here two points are felt at intervals in the circumference of contractility. In fact, the muscles have been divided into small segments, and the sphincters, as a whole, have been proportionally weakened.

In Condition III. there may be little shown externally, and, indeed, little discovered on examining with the finger, except that one may feel from the scar that the fistula was perinæal, and in some cases may perceive that the anus is drawn too far backwards.

Operations.

The question arises as to which operation is the preferable one to perform. Having carefully considered this from all points and made a choice, one should warn the patient that, though one single operation may succeed, many may be necessary, and that even then several months may elapse before a satisfactory result is brought about; for the tissues take time to contract and the patient must become accustomed to the new state of affairs. One thing, however, may be promised—great improvement is sure to accrue, and there is every probability of a radical cure of this distressing state.

There are many plastic operations that we have tried in these cases.

Operation; Condition I.

In Condition I., when the fistula is cured and the wound well healed, the everted and separated ends of the muscle may be freed and the sulcus lessened in depth by dividing thoroughly across the old scar and allowing the wound to heal from the bottom, or

the old scar tissue may be thoroughly cut away and the wound so made brought together by catgut sutures, so as to obtain union by first intention.

Operation; Condition II.

In Condition II. the application of the cautery, to be hereafter described, affords the only hope of success.

Operation; Condition III.

In Condition III. Lawson Tait's operation upon the perinæum may be performed, but the flaps should be turned into the rectum and sutured together, thus narrowing that orifice (Fig. 17).

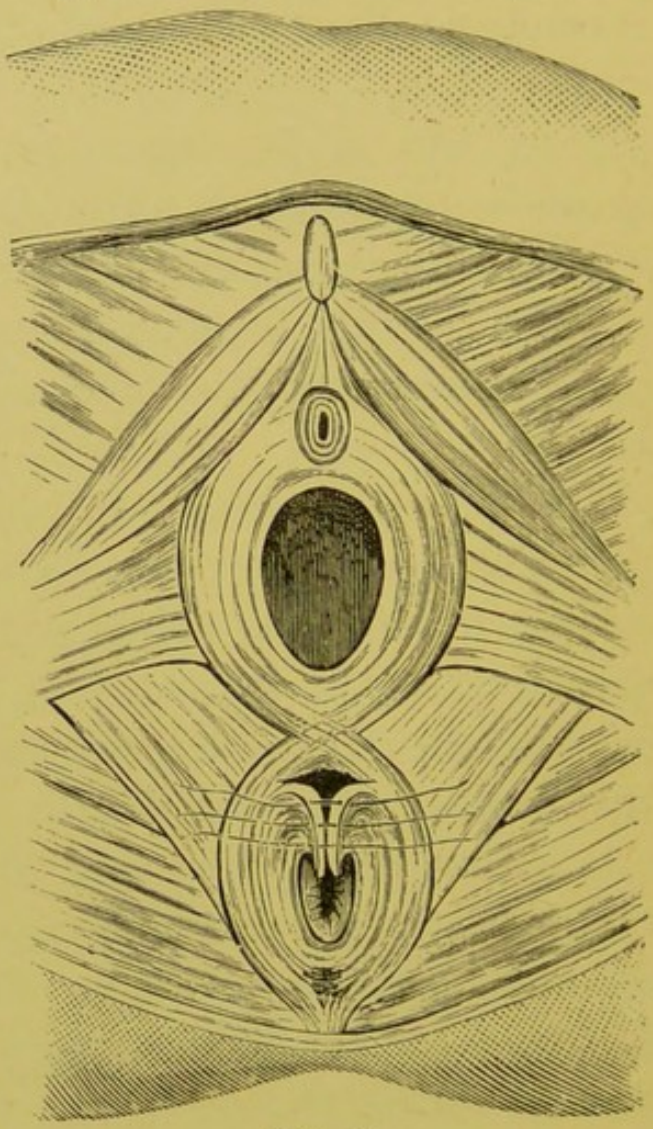


Fig. 17.

Actual cautery.

But the method we have found most satisfactory in most cases is the free application of the actual cautery.

With the patient in the lithotomy position, we first ligature any lax mucous membrane, or remove piles, so as to tighten all the upper part of the bowel, and then with the Paquelin cautery burn deeply into the external and internal sphincters in several places, at the same time cauterizing the old scar or scars, and burning deeply into the tissue

just around the anus. When the operation is completed, the wounds should be dressed with wool thoroughly saturated with olive oil.

Result of use of cautery.

The cicatrix resulting from a burn is followed by very great contraction and consequent drawing in of all the surrounding tissues, whereas a scar caused by the use of a knife does not contract nearly so much. We can offer no explanation of this, except that after burning there is more extensive destruction of tissues, and thus a formation of a lowly organized and contracting scar. For the cure of these cases it is very fortunate this is so, for, by burning, large sloughs are made, and when they separate the resulting cicatrix contracts, the anal orifice is narrowed, and power over the fæces is obtained.

After-treatment

The after-treatment of these cases requires great attention; the dressing must be carefully done, and the daily passage of the finger may be necessary, so as to keep the contraction within certain bounds. Yet it is astonishing how rapidly good power over the sphincter is recovered. Patients who have undergone this operation should be advised to keep their motions soft, and if the bowels do not act for two days, at once to administer an enema, so as to break up any hard motion that may be obstructing the passage. Of course impaction in these cases would cause much trouble, in consequence of the somewhat contracted orifice. If a simple enema should not prove effectual, the patient must use an enema of oil and fresh

ox-gall, of each 3 ozs. The latter ingredient is very valuable, as it acts upon the hardened fæces and tends to dissolve them.

To illustrate the success attending this operation, two typical cases will be related out of many that have been cured:

Cases.

Case 1.—H. R——, aged 32, gave the following history: When he was in South Africa a large abscess had formed in the right buttock. This was opened, and a fistula resulted. He came to England to place himself under the care of a surgeon connected with one of the large hospitals, and was operated upon. After the operation, he lost all power over the anus, and passed flatus and fæces without the slightest warning. On examination, we found a large, deep scar extending from above the internal sphincter on the right side into the right buttock.

The anus was in the state described in Condition I. It was explained to him that he could be cured only if he submitted to one, or perhaps more than one, operation. To this he readily consented, as he was anxious to marry, but said he would not do so unless he was freed from this pitiable condition. Placing him in the lithotomy position, four pieces of lax mucous membrane were ligatured above the sphincters, and then the external and internal sphincters were freely burnt into in front, behind, and at the sides. The rectum was then filled with wool thoroughly saturated with oil, and the bowels confined for four days. In eight weeks the wounds had entirely healed, and the anal orifice was considerably narrowed, so that he was able to hold his motions. Three months later he was perfectly well, and returned to the Cape.

Case 2.—Captain C——, of the Royal Navy, aged 43, said that when in the East Indies he had suffered from dysentery and had had fistula, which was operated on several times. At the last operation it appears, from his description, that the sphincters had been divided on both sides. This was

followed by incontinence, on account of which he was invalided home. He said that if this could not be cured he would have to retire from the service, as his position compelled him to entertain. This, in his present condition, he could do only with extreme discomfort.

On examination, there was found on the right side the scar of an old fistula, and on the left side a similar cicatrix. From the latter a sinus ran up the bowel. The anus was large, and there was loss of power over the sphincters. This case exactly typifies Condition II.

He was operated upon, the sinus being laid open and deep burning made into the scars and into the sphincter in several places. In two months' time he had greatly improved; but as he had not obtained complete control over the parts, he was operated upon again, and the mucous membrane above the sphincters well cauterized. In another two months he returned to his ship quite cured.

CHAPTER VII.

FISTULA IN CONJUNCTION WITH PHTHISIS.

Opinions as to the conjunction of fistula and phthisis.

From a surgical point of view we wish to consider phthisis as a complication of fistula. It would doubtless be more correct to regard fistula as one of the complications of phthisis, but we think it better to put it in the above way.

We have not the slightest doubt that there are immense numbers of phthisical persons in whom no fistulæ exist, but, at the same time, we have no doubt that there are a very large number of cases of fistula in which there is tubercular disease of the lungs.

A patient with disease of the lungs going to any of the hospitals for phthisis does not say anything about his fistula to the attending physician; he speaks only of his chest; but when the same man comes to a surgeon saying that he has a fistula, it is perceived, perhaps at once, that he is consumptive. Of course the physician cannot see that the phthisical patient has a fistula, and the question is very rarely put; of this we are certain, as patients say, 'I am attending a physician for my cough.' When asked,

'Did you mention to the physician that you had fistula?' their reply almost universally is, 'No, I did not.' Thus it can be easily seen what little reliance can be placed in statistics upon this subject.

Contradictory opinions as to the right treatment.

In books of medicine we have scarcely been able to find any real, clear, and useful guidance as to the course which should be pursued with patients who suffer from phthisis combined with fistula. Moreover, many of the books to which we have referred appear to be sadly contradictory one of the other. Some say, 'Do not on any account touch a fistula in a patient suffering from phthisis;' others state that it is advisable to operate. By far the greater number of the authorities give barely more than a single paragraph to the treatment of this combination of phthisis and fistula.

Exceptions must be made to this statement. Dr. Theodore Williams, in his book, mainly alludes to the frequent alternation between the free discharges from the fistula and the activity of the phthisis, and adds that this circumstance has deterred many physicians from counselling and surgeons from performing operations in such cases, from the dread of the eruption of miliary tubercle that sometimes follows on a successful operation on fistula in phthisical subjects.

Dr. Douglas Powell, in the last edition of his book on 'Diseases of the Lungs,' writes to the following effect: 'Fistula in ano occurs in something less than 5 per cent. of cases of phthisis, and, in my

experience, is almost limited to males. Amongst those afflicted with fistula, however, phthisis commonly supervenes or already exists.' He then states two circumstances which should be borne in mind:

1. Fistula may arise from various causes, with no necessary connection with tubercle; but, having become chronic, it is very apt to become tubercular, and to lead to secondary tubercle in other organs, especially the lungs. Characteristic bacilli have been found in the indurated walls of most chronic fistulæ. In cases of this kind timely operative treatment of the fistula may avert secondary tubercular affections of its walls and of other organs.

2. Fistula more commonly occurs in cases of phthisis when the cachexia of that disease is already marked. It is then impossible to say whether the disease was tubercular from the first, but it soon becomes so. In the presence of decided chest disease fistula is of secondary importance, and, unless causing much additional suffering and exhaustion, should not be operated on.

He further remarks that 'the observed alternation between the activity of fistula and of chest disease has deterred surgeons from operating with willingness. A more real objection is the risk of operations failing from the morbid character of the surrounding tissues, and the further danger of the activity of the chest mischief supervening on the breaking of the tubercular induration about the fistula, or upon the renewed febrile action attendant on operations

in unhealthy persons.' Dr. Douglas Powell adds that bad cases of fistula may require some operative measures.

In his book on 'Phthisis,' published a quarter of a century ago, Dr. J. E. Pollock writes as follows on the question of operating on fistula in phthisical cases :

'The result of such cases, as we have witnessed, is that the operation is not ordinarily successful in healing the fistula ; that, if successful for a time, the discharge almost invariably returns ; that the phthisical symptoms always increase after the healing of the sinus ; and that the discharge itself is a condition favourable to the quiescence of the irritation in the lung. In very frequent instances the aggravation of all the symptoms of phthisis has occurred almost immediately after the suppression of the discharge' (p. 317). On the next page he writes : 'When the operation is successful, the patient is commonly, as regards the phthisis, in a quiescent state ; but generally, within one or two months, the lung disease assumes activity.' He then gives an analysis of 31 cases of phthisis with fistula. 'Of these 10 were operated on with the following result : Fistula healed and chest symptoms became worse in 3 cases ; phthisis commenced after the operation in 2 cases ; the fistula returned in 3 cases ; result doubtful in two cases. In 21 cases no operation was performed ; fistula persistent, chest symptoms remained chronic, in 14 cases ; fistula persistent, chest symptoms became worse, in 4 cases ;

fistula had existed before phthisis, the latter being of a periosteal form, in 3 cases' (pp. 319, 320).

Just contrary to some of the above opinions is the following passage from the late Dr. Fuller's book on 'Diseases of the Chest' (p. 441): 'As long as the discharge from a fistula is insignificant and the patient's mind is not seriously disturbed by its continuance, so long is it advisable to confine our efforts to the treatment of the constitutional malady, and not to disturb the fistula. Any attempt at curing it by operation, under these circumstances, would probably be followed by an immediate increase in the cough and the pectoral symptoms, and therefore would be highly injurious. But I do not hold with those who maintain that a fistula occurring in the course of phthisis ought never to be interfered with. In some instances the discharge is profuse, and constitutes an important source of waste, and the patient is so distressed and alarmed at its continuance that no treatment can be of avail until his nervous apprehensions are overcome. He can neither eat nor sleep for thinking of it, and his whole system is depressed in consequence. In such a case I have known the greatest benefit result from an operation, combined with the formation of an issue in the arm, the use of a proper diet, and the administration of cod-liver oil, quinine, and other appropriate remedies. Not only has the fistula healed, but the general health has improved, the patient has gained in flesh, and the physical signs of pulmonary disease have materially decreased.'

In the face of these contradictory opinions we think that, for the guidance both of physicians and surgeons, some fairly definite rules had better be laid down in fuller detail than has hitherto been the case. For what at present is the procedure too often pursued? If the patient comes to a surgeon, the latter perhaps at once says, 'There must be an operation,' without consulting a physician as to the condition of the lungs. On the other hand, the physician may refuse to allow an operation, without consulting a surgeon as to the nature and extent of the fistula. It is absurd for either surgeon or physician to form a decided opinion without conferring one with the other, both as to the nature and extent of the fistula and the condition of the phthisis. Without such consideration how can it be accurately determined whether the fistula ought to be treated or not, and, if so, in what manner?

It must be obvious to everybody that to operate upon a patient with confirmed and advanced tuberculosis would be a positive cruelty, and would undoubtedly hasten his inevitable fate; but there are different forms of phthisis, some evidently not so destructive as was formerly imagined; and we know that many persons whose chests at one period of their lives have exhibited undoubted signs of breaking down of pulmonary tissue, the formation of cavities, etc., ultimately recover, and attain a fair old age. Every surgeon who has been much in the post-mortem room must be familiar with the fact that, in old persons who have not died of phthisis,

repaired vomicæ and cretification of deposits, probably tubercular, are not uncommonly found. We are quite certain that there are many sufferers from lung affections complicated by fistula, who, because they are said to be phthisical, have nothing done for the cure of their fistulæ, and whose lives, in consequence, are rendered much more wearisome and wretched than they might have been if an operation had been judiciously performed.

Etiology of the conjunction of fistula and phthisis.

Assuming that many patients, the subjects of fistula, have also a tendency or predisposition to phthisis, it will not be unprofitable to consider for a moment why this should be the case. The conjunction has been ascribed to tubercular ulceration of the bowel, and no doubt, in some cases, this opinion is correct. We are quite sure now that many cases of incurable ulceration in the rectum are tubercular, this portion of the bowel when examined after death presenting precisely similar conditions to those which are found in other parts of the intestine well known to be thus affected. The ulcers are deep, and spread at the edges, joining others, and undermine the mucous membranes, leaving broad or narrow bridges. In this form of ulceration, as a rule, pulmonary phthisis does not co-exist, or, at all events, only shows itself very late in the disease.

The rule is, that fistula in patients who have a predisposition to pulmonary consumption commences by a breaking down of the connective tissue beneath the mucous membrane of the rectum; thus a small

abscess is formed, and this makes its way into the bowel very rapidly, leaving a large patulous aperture. Therefore it may be safely said that the same condition of health or constitution which renders a patient liable to pulmonary affections generally, renders him also prone to fistula. These people are usually thin and ill-nourished, and have very little power of resistance against injurious influences; inflammation, which in robust individuals would result only in the effusion of plastic material, in them terminates in the production of numerous and very perishable cells, which readily form themselves into purulent collections, especially in lax tissues. Probably the want of fat in the ischio-rectal fossa and its neighbourhood disposes to the formation of an abscess there. The veins have to sustain a considerable column of blood, and they are, moreover, exceedingly ill supported, so that local congestions and feebleness of circulation must be a common condition.

Peculiarities of fistulæ in phthisical patients.

Fistulæ in persons of a phthisical tendency are marked by certain peculiarities which are important to notice. Some have been already casually mentioned, but we will here state them clearly.

They have a disposition to undermine the skin, and it will be found that, in patients who suffer from fistula combined with phthisis, there are certain peculiarities of aspect to be observed in the fistula itself and in the surrounding parts. Most of these peculiarities are of extreme importance from a

surgical point of view, and we have endeavoured to arrange them in the following tabulation :

Fistula in a Healthy Subject.	*Fistula in a Phthisical Subject.*
—A fistula in the healthy occurs about as frequently in females as in males.	—Fistula in phthisis is more common in the male, being rarer in the female.
The buttocks are plump, and the ischio-rectal fossæ well filled with fat.	The buttocks are thin, and the ischio-rectal fossæ depressed from want of fat.
There is an average amount of crisp hair.	There is an excessive amount of hair, which is long and of a silky nature.
The sphincters have good contractile power.	The sphincters are weak, so that when the finger is introduced into the bowel little resistance is offered.
Fistula begins, as a rule, with an acute abscess, attended with great pain.	Fistula begins with a chronic abscess, frequently with no pain.
The external opening of the fistula is small and pouting.	The external opening is frequently large and ragged, and irregular in form.
The skin around the external opening and along the track of the fistula is healthy, or only slightly discoloured.	The skin around the external opening is blue and unhealthy of aspect.
The internal opening is usually small, barely admitting the probe.	The internal opening is large, easily admitting the finger.
The sinuses are hard, and feel like the stems of clay tobacco-pipes.	The sinuses are softish, and feel rather as gutters or depressions in the skin.
The discharge from the fistula is healthy or thick pus.	The discharge is thin and watery.
Examination of pus reveals no tubercle bacilli.	Tubercle bacilli are often found.

From the above peculiarities, it is easy for the surgeon to diagnose, without examining the lungs, that the patient has phthisis, or an extreme phthisical tendency.

It is scarcely necessary to remark that, though these are the general local peculiarities of phthisical, as distinguished from ordinary, fistula, yet in a few cases some of these may be absent.

Classification of fistula with phthisis.

Now that we have accumulated sufficient data for the distinguishing of phthisical from ordinary fistula, we can make some classification of this complication of complaints, and will place fistula in phthisical patients under the three following heads :

1. Fistula in conjunction with active tuberculosis.
2. Fistula in conjunction with chronic phthisis.
3. What we prefer to call 'strumous fistula,' which answers to what is often termed 'scrofulous phthisis.'

With active tuberculosis.

1. *Fistula in conjunction with Active Tuberculosis.*—This occurs in patients who have distinct signs of acute tubercular disease, and probably have not long to live. In this class of cases the fistula commences with a tubercular ulcer of the rectum, and develops into a blind internal fistula. This has a large internal opening, and a cavity into which fæces readily find their way and accumulate, giving rise to great pain. In such cases, it is hardly necessary to say that no attempt should be made at cure, and as little as possible should be done ; but to leave the sufferer altogether unrelieved is positively cruel. An incision should be made from the outside into

the cavity of the fistula, so as to allow the fæces collected therein to escape, and thus mitigate the pain. If this operation be performed, much suffering may be saved, and the patient's life be rendered comfortable until the end.

With chronic phthisis.

2. *Fistula in conjunction with Chronic Phthisis.*—This comprises those patients who have had hæmoptysis, and may even still have the remains of a cavity or consolidation at the apices of the lungs, without any very active symptoms of phthisis. In this kind the fistula begins in the bowel or just at the entrance of the anus, and burrows outwards, undermining the skin. It has an internal and also a large external orifice, the latter of which has unhealthy, over-lapping, livid skin. Judicious action is here called for; it is obvious that, in order to give the lung a chance of recovery, the discharging fistula should be cured, and a cessation be put to the drain on the system. In this variety of fistula the main sinus should first be laid open, but care should be taken to divide the external sphincter as little as possible. Fortunately, it is not usually necessary to cut deeply in these cases, for the sinuses are generally superficial. The edges of the unhealthy skin should be cut off, and the base of the sinus carefully scraped so as to remove every part of tubercular tissue.

Strumous fistula.

3. *Strumous Fistula* occurs, we think, in patients with a family tendency to phthisis—that is to say, some of the members have actually had phthisis, and others have suffered from strumous joints, or

various forms of glandular disease; but in the patient himself the only evidence of a phthisical diathesis is the fistula. It usually commences as a chronic abscess, and may or may not have an internal opening. In our opinion (and this is fortified by Dr. Douglas Powell's remarks on his first kind of phthisis), this form of fistula should be promptly attacked; for if it is allowed to remain, it may become the focus of active tuberculosis, which may invade other organs of the body. The operation should be performed in the same way as that on any traumatic fistula in the healthy subject.

Preparation of patient.

We have now indicated the particular procedure which appears to be advisable in each kind of fistula with phthisis, and will next mention the general rules for preparation of the patient for operation and after-treatment.

When both physician and surgeon have decided that an operation is desirable, the patient should, if possible, be removed to some favourable place, such as one of the South Coast seaside resorts—Margate, Brighton, Bournemouth, and so forth. A good time of the year should also be chosen, say late spring or early summer; and if the patient has a cough, it is highly important that this should be allayed, otherwise the straining caused by the cough will retard the healing of the wound.

Choice of anæsthetic.

The question of the anæsthetic to be employed requires the most careful attention. Chloroform should be administered in preference to ether, for chloroform does not irritate the air-passages, and

reduces to the minimum the secretion of mucus; whereas ether irritates the respiratory passages, increases the secretion of mucus, and may cause cough, or even congestion of the lungs.

Semi-recumbent posture.

It is advisable to allow the patient to get up as soon after the operation as is prudent, say the next day, or at any rate for him to remain in a semi-recumbent posture, and not be kept strictly on his back (or side), as is wise after operating upon cases of ordinary fistula. This is recommended because, in patients with a tendency to lung trouble, the sudden subjection to an absolutely recumbent position may cause hypostatic congestion, or an aggravation of the existing lung complaint.

After-treatment.

After the operation let the patient have good diet; by all means, plenty of cream and milk; if he can take it, he may have a little cod-liver-oil and steel and quinine, separate or combined; if it can be managed, let the bedroom face south or west, and get plenty of fresh air into the room, the patient lying well covered up on a couch by the open window for hours—in fact, nearly all day. Let everything be done to keep him amused and cheerful; one should avoid poulticing the wound, disturb it as little as possible, keep it clean by gently syringing with a solution of carbolic acid (1 in 40) night and morning, and well dry afterwards. The wounds should be dressed with wool; ointments as a rule do not suit, but astringents are useful. There is no need to hurry to get the bowels open; this may be managed rather by diet and laxatives

than by a purge; if diarrhœa is set up in these patients, it will give trouble and delay the healing of the wound. Unless there is furring of the tongue, headache, or loss of appetite, the bowels need not be relieved more than once in three or four days. All these matters may appear so trivial as to be almost unworthy of mention, but we are sure that attention to apparent trifles will make just the difference between success and failure with these patients.

Influence of operation on the lung trouble.

We do not think we have many, if any, clinical facts tending to show that an operation for fistula in phthisical patients renders the lung affection worse, or makes it more rapidly progressive.

There have been several cases which certainly at *first sight* appear to contradict what we have just stated: the patient is operated upon, and in four or five days inflammation of a lung and hæmoptysis set in, this being in some cases the first attack. Now, one is not unnaturally led to conclude that the operation is the active cause of the sudden accession of the lung symptoms in these cases; but, after all, it may not be so; there are other factors to be considered. These may be mentioned: the natural excitement preceding and attending the operation; the effect of anæsthetics; the different, and probably colder and 'draughty,' air of the hospital wards; and the *sudden taking to the recumbent position*, by which, in lungs predisposed to disease, hypostatic engorgement may be readily set up, and pneumonia follow. It may be accepted as

a fact that phthisical hospital patients do not do nearly so well as phthisical private patients; and good feeding, nursing, and the comforts of a home may be credited to a great extent with the causation of the difference.

Although hospital patients do not, as a rule, do well, yet we have had many satisfactory results, even where such could hardly have been anticipated.

Case.

A man æt. 29 was admitted into the hospital; he had decided dulness at the apex of the left lung, and had spat blood frequently, and always had winter cough. He had a complete fistula, with a very patulous and large internal orifice, into which fæces were constantly passing, and he consequently suffered much, and was very anxious to obtain relief. On this ground it was determined to operate. He was not confined to bed more than a few days. He was fed well, and given cod-liver-oil and tincture of the muriate of iron during the treatment, and was kept in the hospital only for nine days. He did very well, the wound healed, and his chest trouble improved after the operation.

Mental depression necessitating operation.

One grave consequence of this complication should be studiously borne in mind. Phthisical patients are usually very hopeful, and are constantly making plans for the future with a happy absence of despondency. But a strong, healthy man who suffers from fistula speedily becomes exceedingly despondent. *A fortiori*, then, if a phthisical patient is told that he has also a fistula which must not be cured, or even treated, although he may scarcely worry about his phthisis, he may be thrown into a state of great perturbation and mental anxiety by

the news that he has a fistula which cannot or ought not to be cured. The mental anxiety and profound depression thus occasioned may do the phthisical patient more harm than is likely to be attendant on an attempt to relieve, or perhaps cure, the fistula. This mental depression which the rectal affection creates sometimes has occasioned us to operate (when one would rather have left it alone) on comparatively painless fistulæ in patients with active phthisis.

As an illustration of this may be cited the following case :

Case. The patient was in great mental distress because of a fistula for which, a well-known surgeon had told him, nothing could be done, as he was consumptive. It was true that this man suffered from hæmoptysis sometimes, and looked far from being a promising patient; moreover, his family history was unsatisfactory. On examining him, we found that his fistula was evidently a scrofulous one, opened externally, and did not communicate with the bowel; so we thought, considering his mental distress, it would be better to operate upon him. The mere fact of his belief that he would get rid of a most troublesome and annoying disorder rallied him at once. The day following the operation he looked much better than he had done before, and without any interruption he quickly got well. We watched the man for more than twelve months, and most assuredly his lung symptoms had made no marked advance.

Question of cough. The question of *cough* is a very important one when weighing the probabilities of an operation doing well or ill. We believe that severe or frequent cough, no matter from what it arises, is

most inimical to the well-doing of the patient, and phthisical patients will often assert that they cough very little when their friends notice that they do so almost perpetually.

Case. A medical man came from the country to be operated upon for a complete fistula; there was not the least suspicion of phthisis, but he had a bad cough. We advised him to get rid of his cough before being operated on; but he was anxious to get the matter over, and thought his cough would not trouble him. However, although the fistula was a simple one, it would not heal until his cough was cured, and he was four weeks in town, whereas under favourable circumstances fourteen days would have been ample time to have effected the cure.

In concluding this difficult subject, we will narrate a few cases illustrating that the operative treatment of fistula in phthisical patients does not, as a rule, increase the activity of the chest symptoms:

Cases. In the spring of 1886 we operated upon a gentleman who was decidedly, but not hopelessly, phthisical; the undermining of skin in this case was very considerable, and he suffered so much that we had not the least doubt about the propriety of attempting to relieve him. The wound was large, but there was no real difficulty in getting it to heal. We saw a relative of this patient some years after, who stated that he continued well, and had no return of the fistula. In this case the chest symptoms were absolutely benefited by the operation.

A young gentleman æt. 20 came to us. He had a decidedly phthisical appearance; a circumscribed flush on his cheeks; was thin, and had a rapid, feeble pulse; he had been leading a rather irregular life for twelve months previous to his present illness; he had never suffered from hæmoptysis to any extent, but had spat mucus streaked

with blood not infrequently. There was some dulness over the apex of the left lung, and feeble inspiratory murmur. He took cold on the slightest provocation; he had lost a sister by consumption, and also his maternal aunt; his mother was far from a healthy-looking woman; but his father was strong, and had no tendency to pulmonary disease. As the patient was suffering so much, we determined to try, after improving his health, to operate. The fistula commenced as an abscess, which opened spontaneously. When first seen, he had a sinus on one side of the bowel and an unopened abscess on the other side, and was suffering a good deal of pain. The abscess was opened at once. He was put on cod-liver-oil and tinct. ferri muriatis, and was soon sent into the country. He returned very much better in health, but the sinus had burrowed round behind the anus and joined the abscess we had opened, thus forming the not uncommon horseshoe fistula. We operated, not making more incisions than were necessary, but freely removing the overlapping edges of skin. He took full diet—wine, beer, and anything he fancied—from the day of the operation, and (with the exception of a little burrowing under the skin towards the perinæum, which was opened) he made a good recovery. Six weeks after he was quite well, and was weighed, and showed an increase of *fourteen pounds* since the operation. This lad died of phthisis three years after. The fistula never recurred, and for more than two years he enjoyed fair health.

We saw, in conjunction with the late Dr. Wilson Fox, a gentleman about 28 years of age, who had been some time in India, and who had suffered from pleurisy and pneumonia, associated with the deposit of tubercle; he also had a complete fistula, which gave him great inconvenience and, at times, pain. He was very anxious to have something done for this, and Dr. Fox, as his lung condition was stationary and no active disease present, was of opinion that there was no objection to an operation on the fistula. We therefore divided the sinus. The wound soon healed, the patient experiencing great comfort. After about eight

months, he caught a cold, and his chest symptoms recurred, with much cough, and the cicatrix of the wound in the part near the anus broke down, but soon healed again, and after that remained healed. Some years afterwards we saw him again. The fistula was cured, and his lungs had not troubled him for the last two years.

Recapitulation.

To recapitulate: In acute phthisis, in which the fistula causes great suffering, one should adopt only palliative or mild operative measures, the latter being directed to the relief of pain.

In fistula associated with chronic phthisis an attempt may be made under favourable circumstances to effect a cure.

In what we have described as a strumous fistula, an operation should be performed in order to remove a possible source of general disease.

CHAPTER VIII.

HÆMORRHOIDS.

Almost from time immemorial hæmorrhoids have been divided into two varieties, viz., the external and the internal, often also popularly called blind piles and bleeding piles; and this classification is founded upon a true pathological distinction: for although it may be correctly said that external piles may and do encroach upon the mucous membrane, and so are partially internal, and, further, that internal piles, by reason of frequent prolapse, become more or less external, yet in the majority of cases the difference is well marked, and precludes the slightest doubt as to the diagnosis.

External piles.

In the *external* form the observer will perceive that they are either true hypertrophies of skin, exaggerations of some of the natural rugæ around the anus, or rounded or elongated venous-looking tumours which are situated at the verge of the anus or pass up into the bowel.

Internal piles.

In the *internal* kind he will observe that they are tumours originating within the anus, but which can be forced down outside, and even may have put on a

pseudo-cutaneous appearance from exposure—having been, for more or less time, subjected to the same conditions as the skin. He may also find a com-

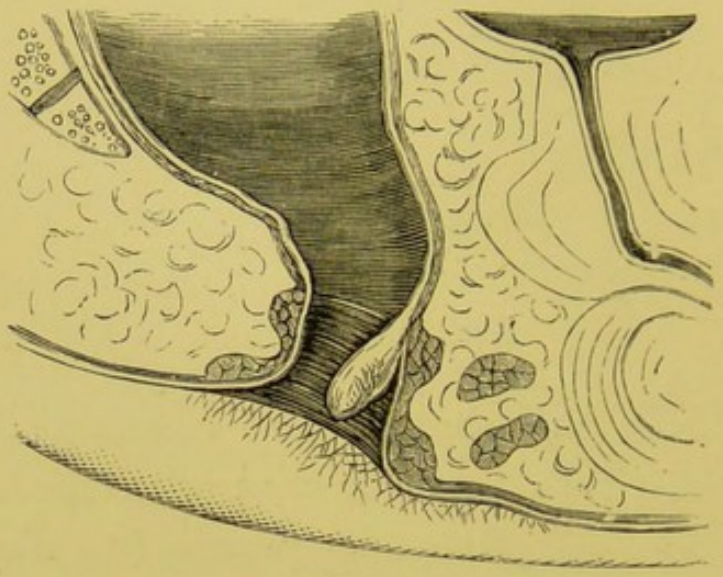


Fig. 18.

Compli-cated piles.

bination of these two classes, viz., an internal pile may join hypertrophied rugæ.

Should the surgeon have any doubt as to the

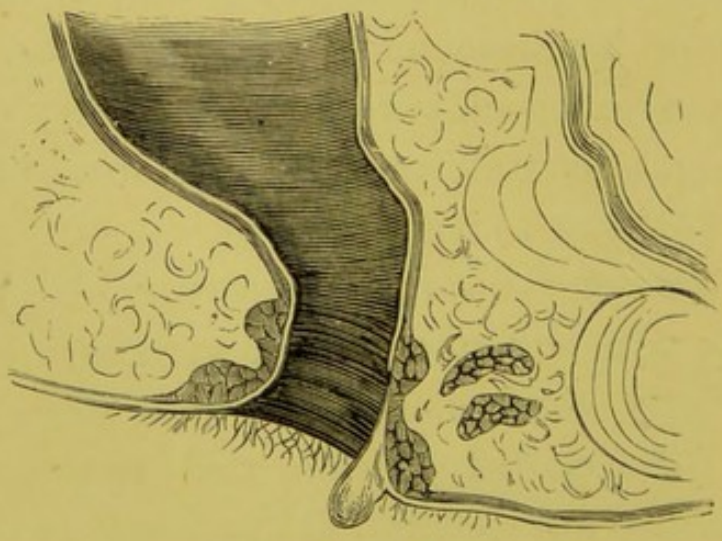


Fig. 19.

kind of hæmorrhoid he has to deal with, let him return by gentle pressure all the protruded part that he can within the sphincter ani—at the same

time directing the patient to retract or draw up the lower part of the gut. He will then find out what is redundant skin, and what is internal hæmorrhoid

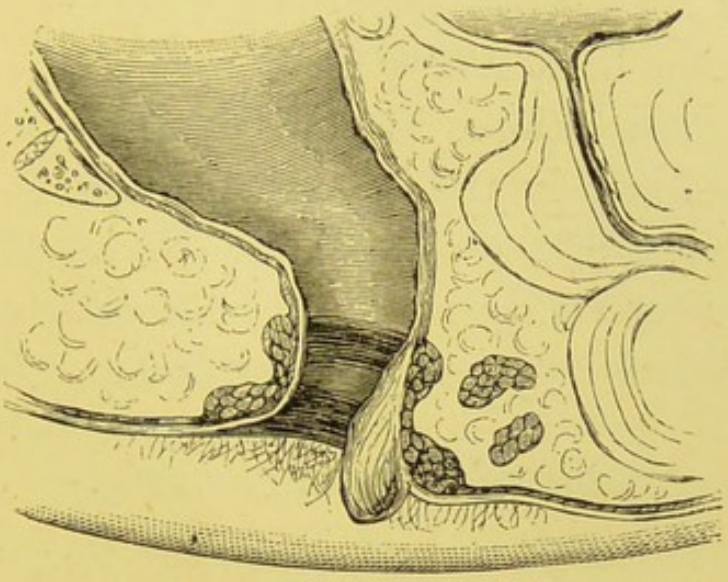


Fig. 20.

and prolapsed mucous membrane of the anus. If all can be reduced, it is a case of internal piles (Fig. 18); if none, it is a case of external piles

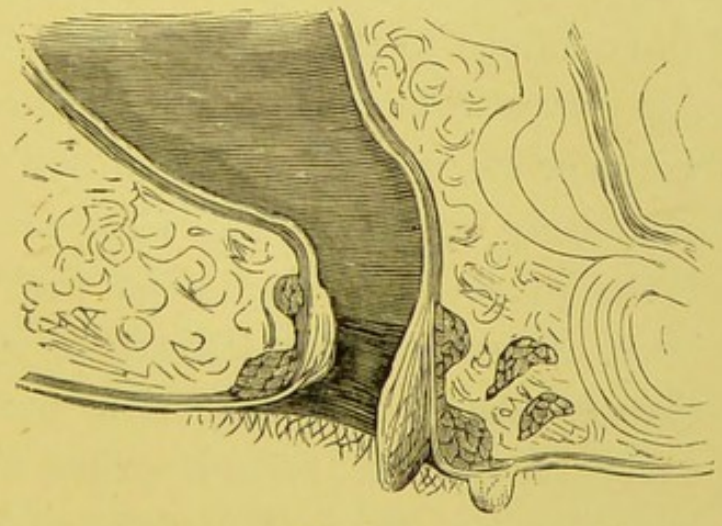


Fig. 21.

(Fig. 19). Should only a part of a pile be returned, and the rest remain outside, it is a combination of both varieties (Fig. 20), and must be considered as

internal piles and treated like them. All these kinds may coexist in the same patient (Fig. 21), and then they are to be treated both as internal and as external piles.

We have been rather particular in these introductory observations, because there is often considerable doubt in the minds of practitioners as to the character of the affection they have to combat, and a correct conclusion is all-important, especially if any operative procedure be meditated.

External Hæmorrhoids.

Causes.

These affections are so prevalent that very few persons, either male or female, arrive at middle age without having in some degree suffered from them. They occur almost equally in the robust and the weakly, in the rich and the poor, in the active and the sedentary. No doubt some occupations and modes of life conduce to the production of external hæmorrhoids more than others; still, there is no class of society or state of constitution which can be said to be entirely exempt. The skin around the anus, and the mucous membrane at the verge of that aperture, are remarkably delicate in structure, and are also profusely supplied with nerves and small vessels; from these facts it arises that anything tending to irritate that region may readily cause congestion and inflammation of the part, and result in an attack of piles. To certain anatomical peculiarities of structure in the rectum and its veins, supposed to be the predisposing and also the active

cause of hæmorrhoids, reference will be made later on.

Obstructions of the liver or portal system, pulmonary or cardiac affections, or anything rendering the return of blood from the rectum difficult, are likely to conduce to the same end. From this we can readily conceive that a great variety of causes may bring on an attack of piles. The following may be mentioned: too good living, especially the consumption of large quantities of meat, very coarse fare, indulgence in alcoholic drinks, excessive smoking, violent and prolonged exercise, sedentary occupation, or exposure to wet and cold. Other causes are fæcal accumulations, constipation, often associated with chronic spasm of the external sphincter, diarrhœa, discharges from the bowel resulting from internal diseases, the pressure caused by the uterus during pregnancy, uterine displacement. Again, sitting on damp seats, friction from clothing, excoriation and irritation, the use of printed paper as a detergent—especially the cheap papers from which the ink comes off on the slightest friction—the neglect of proper ablutions (this is very important; many persons seem to forget that the anus requires quite as much washing as any other part of the body), straining, however induced; all these are among the common causes, predisposing or exciting, of external hæmorrhoids.

Varieties of external piles.

We have already said that two varieties of external piles may be recognised; the first ought to be called hypertrophies, or excrescences, of the skin;

the second, sanguineous venous tumours. When one looks at either of these in an uninflamed state, they appear to be harmless enough ; in the one case there is around the anal orifice merely a certain redundancy of the skin, forming little flaps, or tags, more or less pendulous, in addition to the small, radiating corrugations seen in the normal state ; in the other case one perceives blue veins, rather raised above the surface, and running up into the bowel, resembling, indeed, varicose veins. Now these conditions, so innocent in their appearance, are prone, at a very trifling provocation, to take on active inflammation, and to cause the patient an amount of suffering quite disproportionate to the pathological appearances.

Formation of venous piles.

There is a difference of opinion as to the formation of these venous tumours, why, it is difficult to understand. For the rectal veins are similar to veins in any part of the body, and in like manner may become varicose and inflamed. A rectal vein becoming varicose is tortuous and dilated in parts. From some constitutional or local cause a clotting of the blood in the vein may take place, giving rise to simple thrombosis ; hence the tumour. This may remain quiet, and cause no pain, but only discomfort. Again, inflammation may start around the vein, or in its coat, occasioning periphlebitis or phlebitis. This is the painful kind of sanguineous external pile, and may subside or suppurate. In rarer cases, as in other situations, a rectal vein may become weak at one point and cause a small aneurism of the vein, in which coagulated blood is contained.

Early symptoms.

It is very advisable to notice the earliest, or rather the premonitory symptoms of one of these attacks, as by this knowledge it may possibly be warded off, or at all events much mitigated. Not infrequently a little extra eating and drinking, without any absolute excess, is the exciting cause; an indulgence in effervescing wines or full-bodied ports or new spirits being especially dangerous. The earliest symptom is a sensation of fulness or plugging up, and slight pulsation in the anus; there is also a tendency to constipation, inducing a little straining; this is frequently followed by itching of a very annoying character, coming on when the patient gets warm in bed, keeping him awake for some time, and inducing him to scratch the part. In the morning he finds the anus a little swollen and tender, and if he be an observant person with regard to himself, he will notice after a motion a slight stain of blood. Now, all this may pass off with the simplest care and the slightest medication; but if the patient neglect himself, it will surely be the precursor of a more or less severe attack.

Palliative treatment.

The treatment in such a case should be abstinence from active exercise, rather spare diet, well-cooked vegetables and fish, not much meat, no beer or spirits, and wine is not desirable; if the patient must take some stimulant, a glass of light claret, with Seltzer, Apollinaris, or Johannis water, will be the best beverage. If he is a smoker, he must cut down his usual allowance, for smoking often causes a sympathetic irritation of the throat and rectum.

He may take a warm bath, or a Turkish bath, and should wash the anus night and morning with warm water and Castile soap; after this, he should apply one of the following ointments or lotions:—

Acid. tannici Glycerinum.

℞

Bismuthi subnitratis . . .	℥ii.
Hyd. subchlor.	℥i.
Cocaine	gr. iv.
Vaseline	℥i.

Misce.

℞

Liq. plumbi subacetatis . . .	℥i.
Liq. opii sedativi	℥ss.

Misce.

one teaspoonful of the lotion to be mixed with one wineglass of milk, and frequently applied to the anus. This is very soothing.

As to medicine, the patient may take—

℞

Pil. hyd. subchlor. co. . .	gr. ii.
Ext. belladonnæ . . .	gr. $\frac{1}{6}$.
Ext. taraxaci	q. s.

Misce ft. pil. i.

or—

℞

Podophyllin	gr. $\frac{1}{4}$.
Ext. nuc. vom. . . .	gr. ss.
Ext. bellad.	gr. $\frac{1}{4}$.

Misce ft. pil. i.

at bedtime, and in the morning, fasting, some effervescing citrate of magnesia, or one of these

draughts which we have found very useful on many occasions—

℞

Mag. sulph.	ʒi.
Mag. carb. pond.	gr. xv.
Soda bicarb.	ʒi.
Syrupi zingib.	i.
Aquam ad	ʒiss.

Misce. Bis vel ter in die.

℞

Liq. mag. carb.	℥ss.
Potassæ bicarb.	℈ i.
Syrupi sennæ	ʒii.
Sp. ætheris nit.	ʒss.
Aquam ad	℥ii.

Misce.

or—

℞

Mag. sulph.	ʒi.
Pot. nitratis	gr. xv.
Syrupi sennæ	ʒii.

Misce.

One third of a tumbler of Friedrichshall or Rubinat water, taken fasting, with twice as much warm water, or Carlsbad salts, will also have a good effect.

Inflamed external piles.

If the case be neglected, and advice is not sought, active inflammation will set in, and the symptoms will be as follows :

Tags of skin.

When the piles are formed of hypertrophied skin, the small tags will be much increased in size ; they may be very swollen, œdematous, and shiny ; they

are exceedingly painful to touch; sometimes they ulcerate, or suppuration may take place if the inflammation runs very high, and hence small but painful little fistulæ arise. At times the œdema is so considerable as to extend into the bowel, and form a large swollen ring of skin and everted mucous membrane all round the anus.

Venous tumours.

So with regard to the sanguineous venous hæmorrhoids; they are swollen into ovoid or globular bluish tumours, very hard, and exquisitely painful; they can be pinched up between the finger and thumb from the tissues beneath, and they feel as if a foreign body were present there. Sometimes, but rarely, they can by gentle pressure be emptied of their contents; but this proceeding is not followed by any benefit to the patient, as in a few hours they become more painful and larger than before. Moreover, the attempt to empty them is dangerous, as a clot may be dislodged. These tumours may be single, or two or three may be present at the same time; by irritation they set up spasm of the sphincter and levator ani muscles, so that they are drawn up and pinched, thus adding much to the patient's suffering. Just as he is falling to sleep a spasm takes place, and wakes him up; in addition there is a constant throbbing, and the sensation as if a foreign body were thrust into the anus; this excites the desire, every now and again, to attempt to expel it by straining, which, if indulged in, of course aggravates the pain. Often the patient cannot sit down, save in a constrained attitude, nor

can he walk, and when he coughs the succussion causes acute suffering. When the bowels act, and for some hours afterwards, the distress is greatly increased, and the patient, if not absolutely confined to bed, is quite incapable of attending to his business. Accompanying all this there is general feverishness, furred tongue, and usually constipation. Such, then, are the symptoms of an acute attack of external piles, and if not a serious matter, it is one causing great worry and loss of time—an important point, in these hard-working days. Moreover, one invasion predisposes to another. Many patients periodically suffer what we have described.

Operative treatment.

One may save the patient much time, pain, and after-trouble, and ensure a cure, by snipping off the inflamed cutaneous excrescences, or, in the case of the sanguineous tumours, by laying them freely open. The tags of skin may be rendered non-sensitive with cocaine, seized with a pair of toothed forceps, and quickly snipped off with a pair of strong scissors; the pain soon ceases, and the wounds heal readily under any simple dressing. Care must be taken not to cut away recklessly too much skin, or contraction will follow; one must therefore not make quite a clean sweep of it, but take off a portion only; that which is left will contract in the process of healing. The best method of opening the venous swellings is to pinch up the tumour gently between the finger and thumb of the left hand, transfix its base with a curved bistoury, and cut out; at the same moment, by pressure with

the finger and thumb, the clot may be extruded; a piece of fine cotton-wool is then to be placed at the bottom of the sac, to prevent it refilling with blood, and to allow the skin to contract and the sac to heal from the bottom. If this is not done, the edges will unite and the pile be re-formed. The pain caused by the incision soon subsides, and the patient makes a speedy convalescence. This incision should be made in the direction of the radiating folds of the anus, in order to facilitate the contraction of the skin. If these sanguineous tumours are not interfered with, the blood in them will in time become absorbed, and they may ultimately form the cutaneous flaps already described. It is always well, in these cases, to ascertain, by means of an injection, whether there be any internal piles associated with the external; if so, they must be attended to, or the patient will probably be made worse by any operation on the external hæmorrhoids.

Mild treatment.

If the patient will not submit to the operative treatment recommended, the swollen parts may be well smeared with

℞

Ext. opii . . . }
Ext. belladonnæ . } Partes equales.

Misce.

or—

℞

Bismuth. subnit. . . . . ℥ii.
Cocaine . . . . . gr. vii.
Vaseline. . . . . ℥i.

Misce.

A warm poultice, sprinkled freely with iodoform, in many cases gives very speedy relief, and, as a rule, is much more efficacious than cold applications. But sometimes it happens that cold is found by the patient to be more soothing; in that case the lotion of lead and milk, already mentioned, or—

℞

Liq. plumb. subacetatis dil. . .	ʒi.
Liq. ext. opii	ʒiv.
Tr. belladonnæ	ʒii.

Misce.

is useful, or ice may be pretty constantly applied. It does not answer to freeze the piles with the ether spray, as has been recommended, for as soon as the cold goes off the pain is worse than ever; nor is much benefit derived from leeching. Some surgeons have insisted that the inflammation should be reduced before removing the piles by excision. In our opinion there is no need for this delay. Certainly the parts are very tender and sensitive, but the pain can be overcome by thorough use of cocaine. The convalescence is much hastened by cutting into, or the removal of, part of the inflamed and œdematous tissues, and, as far as our experience goes, no danger of any kind need be apprehended from the operation if it be properly performed. It is much too common to see these cases treated by drastic purges and gall-ointment; this is not good practice; in the active stage it is harmful to the patient.

Treatment to prevent recurrence.

As one attack of external hæmorrhoids predisposes to another, it is, therefore, very advisable for the

patient so to live as, if possible, to ward off this repetition. Generally he should eat sparingly; and fish, fresh well-cooked vegetables, and ripe fruit should form a considerable part of his diet; he should avoid spirits and beer, and take as little stimulant of any kind as possible; strong coffee and highly seasoned dishes must be abstained from; he should not smoke, or only very moderately indeed; he should take plenty of walking exercise, but it should not be violent nor continued to over-fatigue; he should sleep on a mattress, and sit on a cane-bottomed chair, and never omit to wash the affected part night and morning with cold water; lastly, he should keep his bowels acting daily. If this latter object cannot be accomplished without some medicinal aid, he will find—

℞
Conf. sulph.
,, sennæ—āā partes equales.
Misce.

or—

℞
Pulv. glyc. co.

a capital remedy; of these, one or two teaspoonfuls may be taken every night if required; or he may take one of the mild purgatives already spoken of. A steady perseverance in the line of treatment suggested will, in all probability, eradicate the hæmorrhoidal tendency.

CHAPTER IX.

INTERNAL HÆMORRHOIDS.

Causes.

All those causes mentioned as likely to induce external piles tend also to the production of internal hæmorrhoids, but in addition we may name diseases of the genito-urinary system, the state of recovery from childbirth, and hereditary influences. Although constipation is a very general cause, yet piles may occur without any constipation, and be as much of a family idiosyncrasy as any other disease; for it has happened to us to operate at various times on many of the members of the same family, some of the patients being quite young.

During pregnancy external venous hæmorrhoids are frequent, and these may, and often do, pass away after labour, in common with varicosities of the legs and labia vaginæ; but the reverse is the case with regard to internal hæmorrhoids: these most frequently make their appearance after parturition, when all the parts are relaxed and uterine involution is going on.

Our French *confrères* for long past have not been at all satisfied with the usually accepted explanation

of the etiology of piles, either external or internal. They do not consider that any causes which are occasional can induce such an afflux and stasis of blood in the rectal veins as shall be productive of hæmorrhoids.

Neither, say they, can sedentary occupation, excesses at the table, venereal abuses, the immoderate and prolonged use of enemata, drastic purgatives, nor habitual and severe constipation, one or all, *initiate* true hæmorrhoids. They therefore, with praiseworthy diligence, sought for the true predisposing cause in the anatomy and physiology of the rectum; and the late Professor Verneuil, the distinguished Parisian surgeon, claimed to have discovered that cause in the peculiar distribution of the veins and the course they take in the coats of the rectum a few inches above the anus. The preparations and dissections M. Verneuil made to illustrate and prove his views are now in the Dupuytren Museum at Paris.

Verneuil's theory as to the cause of internal piles.

We give a summary of the anatomy as stated by M. Verneuil, because it is considered to show the reasons for a method of treating hæmorrhoids which was strongly advocated in France :

1st. Professor Verneuil considered that the superior hæmorrhoidal veins *only* are connected with the portal system, and solely form internal hæmorrhoids; external piles being formed from the inferior and middle hæmorrhoidal, which are connected with the general venous system, and do not, or only in the most remote degree, form connections with the

superior hæmorrhoidal veins, and thus the two venous systems, portal and general, are practically distinct.

2nd. The superior hæmorrhoidal veins commence at the upper border of the external sphincter, and lie under the mucous membrane of the rectum. At a definite height of about 4 inches (10 or 11 centimetres) they perforate abruptly the muscular coats of the bowel, and unite to form the five or six large veins found in the meso-rectum; these then join the inferior mesenteric veins, which pass into the splenic and portal veins, and thus enter the liver.

3rd. Where the superior hæmorrhoidal veins perforate the wall of the rectum, Verneuil claimed to have discovered that they pass through 'véritables boutonnières musculaires,' which muscular button-holes, not being surrounded by any protective fibroid tissue, have the power of contracting and causing such stasis and congestion in the superior hæmorrhoidal veins as to constitute the 'primum mobile' in the formation of internal piles. M. Dubrueil further called attention to the fact that the muscular button-holes are double and at right angles to each other, the first set being formed by the circular fibres, and the second by the longitudinal fibres of the rectum. These contractile button-holes constitute, said Verneuil, not only the passive but also the active cause of hæmorrhoids; any intestinal irritation will produce violent and spasmodic contractions of the muscular apertures, and these con-

tractions are communicated to the levator and sphincter ani muscles, and a rapid development of internal hæmorrhoids will take place. Commonly, in addition, those occasional causes (formerly considered as primary causes) come into play, and the small varicosities found at the lower border of the internal sphincter (and present even in infants, say the French) soon become fully-formed piles. The practical outcome from the above anatomy and physiology by the French authors is very important—viz., that for the cure of the great majority of internal hæmorrhoids, nothing is required but the gentle and thorough dilatation of the external and internal sphincter muscles; no ligature, no cautery, with or without clamp, is wanted, and no immediate removal of the piles need take place. The anatomy of the rectum, given by M. Verneuil, has been known for many years, but the practice of dilatation recommended for the cure of hæmorrhoids by that gentleman appears to have resulted rather from accident than from reflection and deduction from any known anatomy or physiology. The case which opened the eyes of Professor Verneuil to the advantages of dilatation was thus related by him: 'I was consulted by a distinguished gentleman who had for fourteen years suffered from anal pains supposed to be caused by fissure, but they in reality were caused by internal hæmorrhoids which had become prolapsed and irreducible; with this state not only had the patient's pains been redoubled, but he suffered such loss of blood as to bring him near to death;

Verneuil's treatment by dilatation.

his anæmia was so profound that I considered the usual operative methods too dangerous to be undertaken, and as the sphincters were very contracted I contented myself with dilating them, and from that day the pain and loss of blood ceased, the piles were cured, and did not return. Encouraged by this happy experiment, I hastened to put it into practice in other cases with most excellent result.'

Criticism of theory.

It would be presumptuous to dispute the anatomical facts set forth by Professor Verneuil; but, with all due deference, we cannot admit as a fact the almost absolute separation of the portal and general venous systems.

Admitting the existence of the 'button-hole' apertures through the muscular walls of the rectum, we should demur to the deduction made by M. Verneuil, that they cause by contraction an obstacle to the return of blood from the lower portion of the rectum; and, on the contrary, these contractile apertures really play the part of valves to support the column of blood to the liver, and in place of causing stasis, prevent it by opposing regurgitation in congested states of that organ. In the second place, one might rather, in accordance with general physiological principles, infer that the contraction of the circular and longitudinal muscular fibres of the bowel favours, and does not retard, the upward flow of the blood. In Professor Verneuil's thesis he makes no allusion to the part played by the arteries in the formation of piles; yet no one could fail to

note that hæmorrhoids are not merely varicosities of veins, but tumours, into the structure of which considerable arteries enter.

Dealing more fully with the above-cited case, in which M. Verneuil supposed that he cured internal piles by dilatation, we would observe that the cure resulted not from the dilatation of the 'button-holes,' which are natural outlets, and not pathological, but from the relieving of the impaction, or, rather, of the accumulation, of fæces. This accumulation occurs when much pain accompanies defæcation, for pain diminishes reflexly the expulsive power, and thus the patient never thoroughly empties the bowel. It is well known that any pressure in the belly may cause a varicose vein in the leg or in the rectum. Therefore, as soon as the spasm of the sphincter is stopped, and the bowels act, the pressure is relieved and the varicose condition ceases. This applies differently to the several kinds of internal piles presently to be described; in the venous variety the removal of pressure affords lasting benefit, for it allows the blood to return freely. This treatment is only of temporary benefit in the arterial or capillary piles, for it simply relieves the venous portion of these piles, but does not materially affect the arterial structures, which have become somewhat circoid or cavernous in nature.

Varieties of internal piles.

Internal piles present several varieties in appearance, structure, position, and other characteristics. Three broadly-marked kinds may be observed—viz.,

the capillary hæmorrhoid, the arterial hæmorrhoid, and the venous hæmorrhoid—at times all perfectly distinct, at others united in the same patient.

Capillary. The first variety may be described as small, florid, raspberry-looking tumours, or, rather, vascular areas upon the mucous membrane, having a granular, spongy surface, and bleeding on the slightest touch; these piles are often situated rather high in the bowel. In structure they consist almost entirely of hypertrophic capillary vessels and spongy connective tissue, and therefore a good name for them is the 'capillary hæmorrhoid.' They resemble arterial nævi very closely indeed in their microscopic structure, except that they are covered externally by a very much thinner membrane, and consequently are readily made to bleed. If these hæmorrhoids exist for a considerable time uninterfered with, or if powerful astringents are applied to them, they lose their velvety granular appearance, the bleeding ceases or diminishes greatly, and they remain dormant for a longer or shorter period; but in most cases they eventually recommence growing, and assume a smooth shining surface resembling ordinary mucous membrane. At the same time the main vessels feeding the growth increase in diameter, and the areolar tissue becomes thickened and more abundant; an exudation of lymph and fibrinous matter takes place beneath the mucous membrane, obliterating the capillaries and arresting the bleeding from the surface.

Arterial. Arterial internal hæmorrhoids may be described

as tumours varying in size, sessile or somewhat pedunculated, attaining sometimes very considerable dimensions, glistening or slightly villous on their surface, slippery to the touch, hard and vascular, with an artery, often as large as the radial, entering their upper part. When they are villous on the surface they bleed very freely, and for some reason or other have formed and grown very rapidly. On dissecting one of these tumours, one will find that it consists of numerous arteries and veins freely anastomosing, tortuous, and sometimes dilated into pouches, and of a stroma of cell-growth and connective tissue, the latter most abounding. These advanced hæmorrhoids are certainly not, as some have described them, merely dilated vessels with a little cellular tissue, or sacs, or cells with fluid contents which can be emptied by squeezing.

Venous.

The third variety is the venous internal hæmorrhoid, and in this the venous system predominates. The tumours are often very large, and are sometimes the size of a hen's egg. They are bluish or livid in colour; the surface may be smooth and shiny or pseudo-cutaneous. Besides these chief varieties, it may be well here to mention two other conditions.

White piles.

Professor Richet, of Paris, delivered a lecture on what he termed 'white piles' (*hémorrhoïdes blanches*), as they did not discharge blood like ordinary internal hæmorrhoids, but a sero-mucous fluid. The Professor stated that the white piles were merely ordinary piles in a more advanced stage, con-

sisting principally of hypertrophy of the papillary bodies of the mucous membrane. The incessant discharge acted as perniciously as frequent bleeding, being nothing more or less than transformed blood; and he advised them to be operated on in the usual way. We do not see any sufficient reason for introducing a new name in addition to those generally in use.

Partial prolapse.

A state which may very much resemble, but is not actually, a pile is a *partial* prolapse of the mucous and submucous membrane of the rectum. It differs from a pile in that there is no definite tumour, and, moreover, it does not consist of hypertrophied or dilated arteries or veins.

Description of capillary piles.

Capillary hæmorrhoids are so small and so little elevated above the mucous surface, that they give no trouble by their size, and rarely protrude on going to the closet. Moreover, there is no pain, unless there be the complication of ulceration. Although they are so insignificant in size, the quantity of arterial blood lost from them, though small at each action of the bowels, is so continuous as to occasion a serious drain upon the patient's constitution. We have seen many persons quite blanched by the losses they sustain.

The persistent arterial hæmorrhage caused by these capillary and also by the arterial piles, is far more exhausting than venous hæmorrhage from venous piles. The latter loss of blood often relieves, the former in time always depresses.

On examining a patient suffering from these

Examination and symptoms.

capillary piles, there is little or nothing abnormal to be felt, and they can only be diagnosed by their symptoms and by ocular inspection. These patients complain of frequent pains in the back and loins, also, in the male, in the spermatic cord and testicles; they have great lassitude, and not infrequently the sexual powers are interfered with. One case in particular is worth mentioning, from the fact that the gentleman had paid a large sum of money to a charlatan who had been treating him for impotence. In women menstruation may gradually cease, and a condition of profound anæmia result.

Cases.

A young lady, æt. 20, formerly robust and healthy, gradually fell ill; she became languid, fretful, fanciful, and very anæmic. Menstruation ceased almost entirely; only once in three or four months had she a scanty pale discharge. She did not complain of any pain, except in the back and legs on attempting to walk. She had taken any quantity of ferruginous medicines, and had been recommended by various medical men to try the baths at Schwalbach and other German watering-places, the disorder being supposed to be uterine. Through delicacy, she never mentioned that she had lost blood *per anum*, and she had never been directly asked the question. Fortunately, it was discovered that she bled almost daily when the bowels acted. Three very vascular capillary hæmorrhoids were removed, recovery ensued without a bad symptom, and she soon regained her former health.

We were consulted by a young lady who had fallen into a very despondent state of mind, and was also weak and anæmic. Menstruation had ceased for some months. Uterine disease had been diagnosed and treated without benefit. Latterly she had said something was the matter with the bowel, and advice was sought. On interrogation,

it appeared that she lost blood almost daily, and occasionally in large quantities, so that she had fainted in the water-closet. Nothing protruded, and she had no actual pain, only a burning sensation at the bottom of the back.

On examination, an extremely vascular patch of mucous membrane was found over the internal sphincter, about the size of a shilling. It yielded arterial blood at the slightest touch. Gentle dilatation, and one touch with the Paquelin cautery, completely cured her.

It is these daily small losses which are apt to be overlooked, and which female patients, accustomed to their monthly discharges, scarcely think worthy of mention, but which, when added to menstruation, become a serious matter, and speedily induce chlorosis and an amount of debility which can be combated only by removing the primary cause of the malady. Very tiresome constipation is usually found attendant upon this condition, and often continues after the patient has recovered her general health. It is only to be overcome by patient attention to diet, exercise, and the administration of such medicines as give tone and gently stimulate the colon, without irritating or purging. One does not generally find more than two or three capillary hæmorrhoids in the same patient, very often only one, and in women this is almost always situated anteriorly. It is this variety of the disease which is benefited sometimes by the application of fuming nitric acid or strong carbolic acid—benefited, not absolutely cured; for, in our experience, there is no certainty of effecting the latter result. Had the use of the acid been restricted to this form

Palliative treatment for capillary piles.

Use of Acids.

of pile, it would not have fallen into such utter disuse as it has; it was the unsurgical attempt to cure large hæmorrhoids with it that brought it into discredit. When this treatment was in vogue, it was frequently used in the most reckless and unscientific manner, quite regardless of how much it really could do. One used to see patients with large, fully-developed rectal tumours, to which acid had been applied half a dozen or more times, causing great pain, and with the result of no real curative impression being made upon the disease.

It is not an uncommon thing for patients to come with advanced hæmorrhoids, relating this history: 'Their piles had been (as they called it) operated upon a year or so before with acid, and for some time they were better, but latterly they had become worse than ever; they rarely bleed now, although before the acid was applied they lost a good deal.'

Here is an illustration:

A case. A patient had two very characteristic capillary hæmorrhoids, and lost almost daily a quantity of blood. The case was one peculiarly well suited for the nitric acid treatment. The acid was thoroughly applied without causing any severe pain. The result was highly satisfactory, and the bleeding was at once stopped.

About eighteen months later he again complained of discomfort in the rectum, and of a protrusion on going to stool. He only very occasionally lost blood. On examination three hæmorrhoids fully formed were found, and therefore an operation by ligature was advised. He, however, objected to that, and wished us to reapply the acid; this we declined to do, knowing that it would not in any degree benefit him. He went away to consider whether he would

have the operation done, but he did not return again for nine or ten months; he then said that he had consulted another surgeon, who applied nitric acid four times for him, but that he had gained only very temporary benefit, and that he was now worse than ever, and wished for a radical cure.

In these small vascular, granular piles the following applications are often beneficial:

℞

Ferri subsulphatis . . .	gr. x. to xx.
Cocaine	gr. viii.
Vaseline	ʒi.—M.

or a suppository of

℞

Ferri sulphatis	gr. ii.
Theobroma	q.s.

or the injection into the bowel of

℞

Hamamelis . . . . . .

Twice a day.

These act as most powerful astringents, not as cauterants. They cause little or no pain, and materially relieve numbers of cases where an operation has not been desirable, or when the patient was too nervous to submit to one.

Arterial and venous piles.

In the second and third varieties—viz., the *arterial* and the *venous hæmorrhoids*—there are many symptoms common to both. The suffering occasioned is more directly associated with the condition of the hæmorrhoid itself as to inflammation or ulceration, and with the state of the sphincter ani muscles: a

Symptoms.

relaxed condition, such as frequently exists in women and in men of lax fibre, allowing the protrusion of even small hæmorrhoids on the slightest exertion. This may be specially noticed in the common case of a perinæal hæmorrhoid in women who have borne children. In the earlier stages of the complaint, when the piles come down at stool, they nearly always bleed; but they spontaneously return within the sphincter after the bowel is emptied, or upon the patient resuming the erect posture, or, at all events, upon lying down and voluntarily retracting them; and then the bleeding ceases. Later in the progress of the disease the patient is compelled to return them by pressure, and then they keep up; but in still further advanced cases, although returned, they will not remain in place if the least exertion be made. In this way alone they cause much discomfort; they also discharge a gummy acrid mucus, watery when constant, viscid when at stool, which keeps the part constantly damp, leads to excoriations around the anus, and favours the growth of cutaneous excrescences; moreover, it stains the linen, and on this account is a source of great annoyance to sensitive, delicate-minded persons. Generally after visiting the water-closet the patient is some time before he can get at all comfortable, often having to lie down, and when he walks about he is almost always aware of the fact that he has a rectum. In health no person feels that he possesses one organ more than another, unless he has to use that organ; often the

first intimation of impairment of health is the recognition of the fact that there is a preponderance of sensitiveness, or some abnormal sensation, in one member of the body. So in rectal diseases the fact is always present to the mind of the sufferer that he has an anus. He scarcely ever feels that his bowel has been properly relieved, and this feeling often leads to frequent visits to the closet, and attempts to procure satisfaction by straining, which ultimately aggravates the malady. The condition of the sphincter ani plays an important part in causing distress; if it be strong and tight, when the piles come down they get nipped, and their return is rendered difficult and painful; on the other hand, if the sphincter be lax, the bowel is constantly coming outside on the slightest exertion, as in coughing, stooping, or even walking; and in these cases when the bowel is down, the patient can seldom retain liquid motions. Frequently patients are met with who say they have to retire to a urinal and push up the protrusion when it descends, or they cannot walk at all. The nature of the employment, of course, has much to do with the discomfort of the patient; again, constipation adds greatly to the severity of the symptoms, and so also does habitual relaxation, which, by causing frequent protrusion, induces inflammation and ulceration of the part. These advanced hæmorrhoids are almost always associated with cutaneous hypertrophies around the anus, and these, being irritated by the discharges, become inflamed and very tender. Some-

times a number of polypoid growths are studded over the mucous membrane at the entrance to the anus.

Symptoms in old-standing cases.

In old-standing prolapsed hæmorrhoids there is frequently a difficulty in retaining wind or loose motion; this is caused in part by the relaxed, weak state of the sphincter, but more particularly by the loss of the acute sensitiveness of the mucous membrane at the lower part of the rectum. This sensibility in the healthy subject gives timely warning to the sphincter ani to contract when necessary.

Examination.

If an examination is made of a patient suffering from arterial or venous hæmorrhoids, distinct tumours may be felt, bulging from the rectal wall with well-marked sulci between them, and on slight outward pressure of the finger one of them may be made to protrude. If scratched, they bleed freely; in the arterial the blood issues *per saltum*, in the purely venous pile it only oozes out and runs away. These tumours vary considerably in size, even in the same patient; some are quite small, others as large as a bantam's egg. Now, having described the general symptoms of these two varieties, it may be well to mention some symptoms peculiar to each.

Difference between arterial and venous piles.

The *arterial* piles are not so much dependent upon constitutional causes, being more particularly a local disease; they are not so affected by excesses in diet, etc., and are, therefore, less amenable to palliative treatment. The tumours are not generally so large as in the venous pile. They have a greater tendency to bleed, the blood being of an arterial character. They have not the same tendency to

prolapse as the venous, and the sphincters, as a rule, are tighter, rendering the return of the piles more difficult.

The *venous* piles, as has already been implied, generally result from constitutional causes. Constipation plays a great part both in producing and in aggravating them. They are commonly found in women who have borne many children and who have an enlarged or retroverted uterus; they often occur about the change of life. They are also seen in men with enlarged or indurated livers, in whom the portal system is constantly engorged, and the circulation through the abdominal viscera is obstructed. This is the form of hæmorrhoid spirit-drinkers get. The tumours are always large. They do not usually bleed much, but when they do the hæmorrhage is chiefly venous. They prolapse very considerably, and constantly come down upon the slightest exertion; but, as the sphincters are wanting in tone, the protrusion can easily be returned, only to re-protrude. As palliative treatment has but little effect on arterial internal piles, they may be dismissed for the present; operative procedure is absolutely requisite to obtain any permanent benefit. In patients who refuse to submit to such radical treatment, some of the ointments or lotions used for the treatment of capillary piles may be tried.

Question as to treatment.

It is in the venous kind of pile that palliative treatment is most likely to be successful, not, perhaps, in always curing the disease, but in materially alleviating it, as the malady often

Palliative treatment for venous piles.

depends upon uterine or liver affections, and a generally overloaded congested condition of the system, found in those who habitually eat and drink too much, and who take but little exercise. These causes may, to a great extent, if not altogether, be removed, and if they are, the hæmorrhoidal disorder will be found to be benefited to an equal degree. A prolonged course of the Friedrichshall and Carlsbad waters will be found useful, taken in conjunction with such remedies as relieve congestion of the portal system and depurate the blood generally.

The following are some of the prescriptions we commonly use:

℞

Pil. hydrarg.	gr. iss.
Pulv. rhei	gr. iss.
Ext. col. co.	gr. iss.
Ol. juniperi	♏ i.

One to be taken at bedtime.

℞

Mag. sulph.	ʒss.
Pot. nitratis	gr. xv.
Liq. ammon. acet.	ʒss.
Liq. ext. cinch. flav.	ℨss.
Dec. glycyrrhizæ	ℨi.

To be taken two or three times a day.

℞

Ammon. chlorid.	gr. iii.
Podophyllin	gr. ss.
Ext. nucis vom.	gr. ¼.
Ext. belladonnæ	gr. ¼.

One pill at bedtime.

℞

Sodæ sulph.	℥i.
Mag. sulph.	ss.
Acid. nit. dil.	♏x.
Succi tarax.	℥i.
Inf. calumb.	ℨi.

To be taken two or three times a day.

The patient should be careful as to his diet, which must not be of a stimulating character, and should be almost devoid of alcohol. After the action of the bowels a small injection of cold water should be administered, and the piles anointed with astringent ointments.

Although venous hæmorrhoids are usually found in adults, they may occur in children. Here is a case :

Case in a child.

Henry S——, æt. 3, was brought to St. Mark's Hospital. He never was a robust child, and looked delicate. For eighteen months his mother had noticed something came down when he went to stool; latterly he complained of pain, and there had been slight bleeding. On examination, nothing abnormal could be seen. Of course polypus was suspected, and an injection was given; after the bowels had acted, three well-marked venous hæmorrhoids came down outside. There was slight ulceration of the mucous membranes between them. Laxatives, cod-liver-oil, and steel wine, together with the use of astringent ointments, effected a cure.

Very rarely in advanced states of venous hæmorrhoids is a cure effected without having recourse to an operation. However, the following case is an exception to this rule :

Case of cure without operation.

The patient was a gentleman past middle age, who had suffered for years; his piles were full-sized, they used to

bleed much, and always protruded more or less at stool; they were of the venous passive form, and no doubt were dependent in some degree on the condition of the liver. In this case great attention to the state of the bowels, the patient always lying down to have an action, and remaining recumbent for an hour or two afterwards; care as to diet; smearing the piles over with the subsulphate of iron and other astringent ointments; the occasional use of a full-sized bougie; injection of a quarter of a pint of cold water daily, and the internal administration of Ward's paste, tincture of the muriate of iron, and other remedies, in about four years effected a cure. Nothing came down at stool, he had no bleeding, and suffered no other inconvenience.

This gentleman was able to command every comfort, and was never in any way compelled to exert himself. He had an insuperable objection to anything like an operation, but was most determined, persevering, painstaking, and intelligent in carrying out all the devices mentioned. Such conditions are rarely met with in ordinary life; and therefore, for all practical purposes, it may be said that an operation is indispensable.

White piles and partial prolapse.

The so-called 'white piles' and partial prolapse of the mucous membranes of the bowels may be dismissed with a few remarks. The white piles are the arterial and venous piles that have attempted to cure themselves; that is to say, they are non-vascular, and do not bleed. Their chief discomfort arises from the sero-mucous fluid discharged and their tendency to prolapse, relief from which is only procured by removal of the tumours. The partial prolapse has the same symptoms as the white piles,

and before the surface of the prolapse becomes hard, an attempt at cure may be made by palliative measures. This failing, operation is requisite.

Co-existence of various kinds of piles.

It must be thoroughly understood that although we have described all these piles as distinct varieties, yet several of them may co-exist in the same patient, a circumstance which tends to confirm the opinion that they are only modifications of one initial disorder. Nevertheless, in these cases of co-existence the palliative treatment to be adopted should be that peculiar to the species that happens to be predominant.

Protruded inflamed piles.

Inflamed piles, or piles which are constantly coming down and then compressed by the sphincters, are those which give great pain to the patient. The amount of suffering depends in a measure upon the state of the sphincter muscles, as does also the amount of congestion of the piles themselves. Inflammation is very soon lighted up in these cases ; unusual straining with a costive motion, a drastic purge, sitting on a damp seat, or a little excess in alcohol or in eating, may be sufficient to start it. When the part is extruded, and is nipped by the sphincters, partial strangulation takes place, and in some cases one sees large, inflamed, bluish hæmorrhoids constricted by a broad band of everted sphincter muscle and mucous membrane, and this constriction may take place to such an extent as to occasion more or less sloughing. We have very rarely seen this occur to a degree sufficient to effect a permanent cure of

the malady, although it may afford great relief for a time.

Treatment of protruding piles.

When one is called to a patient whose piles have *just* come down, and cannot be returned, the patient should be placed flat on his face, with three or four pillows under his pelvis, to raise the hips well up and allow the intestines to gravitate towards the chest. A piece of wool saturated with a 20 per cent. solution of cocaine should be applied, and allowed to remain on the piles for ten minutes; then one should pass a well-anointed finger into the bowel, and with the other hand gently apply pressure, trying to empty the piles of their superfluous quantity of blood; this should be done very gently. Should this not succeed, a bladder of ice should be placed over the part, and the patient left in the position recommended for an hour, and then taxis be tried again, and in all probability the mass will be returned. If attempts at replacing the piles have not been successful, it is best to leave the parts alone, applying a poultice or some cocaine ointment. If there be much strangulation, ice should not be kept on very long, or one may produce more sloughing than is desired. In some instances warm applications with sedatives are more comforting, and relieve pain sooner than cold.

Treatment of protruded inflamed piles.

If, when one is called to a patient, the piles have been down some time, and are greatly inflamed, or even sloughing, and cannot be returned, they should be left alone.

If they can be returned, but immediately pro-

lapse again, one must not, as is frequently done, attempt to keep them above the sphincters, as it is useless and harmful. The treatment in such a case is to apply a piece of lint smeared with one of the following ointments, and a warm linseed poultice covering the lint:

℞

Ung. elemi	℥ss.
Ung. sambuci	℥ss.
Bal. copaibæ	℥i.
Ext. belladonnæ	℥ss.

Misce.

Or—

℞

Ext. belladonnæ	℥i.
Ext. hyoscyami	℥ii.
Ext. conii	℥ii.
Vaseline	℥i.

Misce.

By the warmth and the ointment profuse suppuration is caused and a separation of the sloughs quickly procured.

If the patient is much depressed, stimulants and tonics will be necessary, but the general treatment must be regulated according to the character of the constitutional disturbance.

Question of operating on pregnant women.

As to the propriety of operating upon hæmorrhoids in pregnant women, we think the operation quite admissible if the patient is losing much blood or is suffering greatly. We have operated many times, always in urgent cases, but only once has a miscarriage resulted. These patients should be kept in the recumbent position longer than ordinary cases,

for if they get about too soon the wounds do not heal well.

In uterine diseases.

In women suffering from a retroverted or anteverted uterus, an operation upon piles is often undesirable, and will most certainly end in disappointment unless the uterine complication be attended to at the same time, or, what is better, prior to the operation, for many of the uterine symptoms are referred to the rectum. Experience warrants us in saying that, if the uterus can be restored to its normal position and size, the rectal affection will often become a comparatively small matter. This point is most important, and, unless thoroughly appreciated, may lead the surgeon to operate upon the rectum when the rectal symptoms are quite secondary to, and greatly the result of, the uterine trouble. The following case is one of many illustrations of this fallacy :

Case.

Mrs. H—— consulted us with the following history, viz., that she had been operated upon for hæmorrhoids, but was no better, complaining of all her old symptoms, bearing-down pains on movement, etc. The rectal wounds were quite well, and all the piles had been removed. Examination per vaginam showed an enlarged and misplaced uterus. Accordingly she was sent to an obstetric physician, who thoroughly confirmed our diagnosis, and remedied the uterine disorder, with the result that in a short time she was completely cured. It is a question whether the rectal symptoms would not have been cured by the uterine treatment without the necessity of the rectal operation.

Complication of piles in women.

Tripartite disease of the rectum, uterus, and bladder, or urethra, is common ; and such cases are very complicated and difficult to treat.

Case.

A lady of middle age had hæmorrhoids and fissure; after the operation she still suffered pains in the rectum, and we suspected disease of the womb, as she had difficult and painful menstruation. She was seen by a distinguished gynæcologist, who found a contracted os uteri, and she underwent an operation, which for a time did good; then she suffered from spasm of the urethra and great pain on micturition. Dilatation of the urethra was performed, also with temporary benefit, but her rectum, although perfectly sound, was every now and again very painful, and always so at her menstrual period. This lady consulted most of the eminent men in London, and had all kinds of treatment, and she still comes to us from time to time complaining of her old symptoms.

On the importance of not delaying the operation for piles.

In drawing this chapter to a close, we feel compelled to repeat what was stated in the chapter on examination of patients with regard to those patients with bleeding piles who are often supposed by their friends, and even by their medical attendants, to be in a condition of health too bad to allow of an operation. For they are daily losing blood, and this hæmorrhage having continued for some time, the results are extreme anæmia, palpitation, attacks of fainting, and even albumen in the urine. Now, to advise them to wait until they gain greater strength is altogether malpractice, for even a day's delay may entail greater risk for the patient when he is weakened instead of strengthened by the medicine prescribed for him.

We have often operated upon patients almost dead from the constant hæmorrhage caused by piles. If the operation be quickly performed by the ligature method, which can be rapidly done, little loss of

blood ensues. In a very short time palpitation vanishes, fainting-fits cease, and the albumen speedily disappears from the urine.

Here is an instance of the fatal results of the use of drugs when an operation was imperative as the only chance of life :

Case. Colonel H—— came to consult us, and his waxy complexion and feeble condition at once showed that he was a sufferer from frequent losses of blood. On interrogating him, it was found that this was indeed the case. He had for many months lost blood from the bowels, not only when they acted, but sometimes even when walking. On examination, he had large and very vascular arterial internal piles, which bled at the slightest touch. Needless to say, we urged him to have them at once removed and the source of bleeding stopped. He then saw a physician, who said he was too ill to undergo an operation, and advised recuperative medical treatment. He took this advice, and, the piles continuing to bleed, in a month's time he was dead.

CHAPTER X.

OPERATIONS UPON INTERNAL HÆMORRHOIDS.

Preparation of patient for operation.

When it is determined that there is no constitutional impediment, and that an operation is positively necessary to effect the cure of the patient, one will then have to decide what proceeding will be best suited to the case in hand. From this it will be concluded that, in our opinion, no particular method of operating can be always wisely employed to the exclusion of all other modes.

As a preliminary to operating upon all kinds of internal hæmorrhoids, it is most important, as far as possible, to get the large intestine emptied.

For this purpose patients should take two of the following pills thirty-six hours before the operation, and have an enema of warm soap and water administered a few hours before the operation.

℞

Pil. hydrarg.	gr. i.
Pil. col. et hyoscyami . . .	gr. iv.

Misce.

With plethoric patients, and in those whose piles

are of the venous variety, a longer course of preparatory treatment is advantageous. If the liver is in fault, careful living, abstinence from alcohol, a course of Carlsbad waters, and the 'wet pad' over the liver, together with shampooing and the cold douche, may be desirable; also the chloride of ammonium may be very useful (three or four grains three times in the day). In women any uterine complication should be attended to. It is well to administer for three or four nights a five-grain blue pill, and in the morning a modification of the old-fashioned black draught. This may seem to be rather rough treatment, but the most beneficial results accrue from it, and patients thus served do better than many others; again and again we have been perfectly astonished at the rapidity with which they recover. Should the patient be very anæmic from great losses of blood, any excessive preliminary purging is harmful; a mild laxative and an enema before the operation are all that are advisable. Whenever it is possible, we operate early in the morning, for then the patient will not have to miss a meal, recovers from the ether and pain before nightfall, and therefore has the chance of a fair night's rest.

Position of patient.

The position for operating is as follows: The patient should lie on the right side at the edge of a hard couch, with the back towards the light, and the knees drawn well up to the abdomen. The assistant should stand with his back towards the patient's head and raise the upper buttock with the

right hand, the right elbow being at the same time hooked over the pelvis so that he can control movement on the part of the patient and keep him in a good position, the left hand being free to assist the operator.

Methods of operating.

There are several distinct operations and modifications of them from which to choose, and most of them have been advocated by surgeons of repute, well skilled in their art and worthy of consideration.

1. Excision with knife or scissors.
2. The écraseur of Chassaignac or the wire of Maisonneuve.
3. The application of various acids and caustic pastes.
4. The injection of carbolic acid or other caustic or astringent fluids into the body of the pile.
5. Cauterisation 'ponctuée' of Demarquay, Mr. Reeves, and others.
6. Removal by the galvanic cautery wire.
7. Removal by the clamp and scissors, applying the actual cautery to arrest hæmorrhage.
8. Dilatation of the sphincter muscles.
9. Removal by means of the screw-crusher.
10. Whitehead's operation.
11. Ligature.

1. *Excision by the Knife or Scissors.*

Excision of piles.

In days gone by excision was performed by Dupuytren, Sir Astley Cooper, and others, but they all acknowledged the danger of the operation, and many fatal cases are recorded as having occurred

even in the hands of such masters in surgery. With the aid of anæsthetics, with our newly-devised modes of operating, and especially of arresting hæmorrhage, we can now in many cases perform the operation of excision without incurring any extraordinary danger, and therefore it need not be summarily dismissed from our consideration.

It is a good operation, and in fitting cases we have excised internal piles with remarkably good result. Little pain has been experienced, and the recovery has been rapid. We do not recommend excision in cases where the hæmorrhoids are very large, vascular, or unusually numerous. In performing excision, one should first gently but *fully* dilate the sphincter muscles, and employ a retractor to keep the anus well open; the pile is then seized deeply by its base, cut off below the level of the vulsellum, and not let go until all bleeding is arrested by torsion of the arteries; rarely more than two vessels spout and require twisting; one should then wait for a little while to see that all bleeding has ceased, and treat the other piles in a similar manner. After all the arteries have ceased to bleed, a piece of cotton-wadding, previously saturated in a solution of tannin and water (one ounce of tannin to one ounce of water), is placed within the anus as high as the scissors have cut. No recurrent hæmorrhage will take place. This operation must be done slowly and carefully, and therefore occupies more than the usual time. The single perineal hæmorrhoid, so frequently found in women, the so-

Operation.

When to be used.

called white pile, and partial prolapsed mucous membrane, are peculiarly well suited to this operation. It is in these simple cases of excision that cocaine may be used should the patient object to an anæsthetic. It is only of real use when mucous surfaces are to be operated upon, as cocaine does not sufficiently deaden the sensibility of the skin to make it of practical service. Ten minims of a 10 per cent. solution should be injected into the pile with a hypodermic syringe, and a piece of wool thoroughly saturated with the same solution applied for ten minutes previous to the removal of the pile. We must warn operators that the use of cocaine is not altogether safe, as a serious fainting condition may supervene.

2. *The Chain or Wire Ecraseur.*

Ecraseur.

We really do not know any sufficient reason for the continued practice of this mode of operating on piles. It is barbarous and unsurgical. The chain is undoubtedly worse than the wire, but neither is definite in its action; they remove either too much or too little. Thus, we have seen several cases of most intractable stricture follow, and, on the other hand, cases in which nothing curative had resulted, a timid operator taking away only two or three small portions of mucous membrane, and really leaving the hæmorrhoids almost untouched. Another objection to the écraseur in hæmorrhoids is the intense and prolonged pain which follows, especially when skin is removed.

Objection to use.

3. *The Application of various Acids and Caustic Pastes.*

Acids.

The treatment of hæmorrhoids by acids or caustics may scarcely seem to justify the use of the term 'operation,' but as some manual dexterity is necessary in order to apply them properly, we may allude to them here. For many years acids have been used in attempts either to destroy or cause such consolidation in piles as should lead to their cure. The acids chiefly used have been the fuming nitric acid, the acid nitrate of mercury, chromic, and more recently carbolic acid. It was thought at one time that even large piles could be destroyed by acids, and many cures were published; but no lasting cures of developed hæmorrhoids are effected by such means. We have seen numbers of cases in which the attempt was made, but the patients were either not relieved at all, or only very temporarily benefited. Hæmorrhage was often arrested, but it generally recurred, and on many occasions, after the free use of acid, violent bleeding took place on the separation of the sloughs. If the application of acids were restricted to cases of small granular piles, or patches of villous, bleeding mucous membrane, there is no objection to their use, as often patients will submit to such treatment when they will not to anything more formidable, and relief, and even cure, in this stage of the disease may be obtained; but no satisfaction can result from touching large hæmorrhoids with any acid known. The method

of applying the acids is as follows: The piles being fully prolapsed, a 20 per cent. solution of cocaine should be applied, and the area to be treated with acid should be surrounded with a piece of wool soaked in a saturated solution of bicarbonate of soda; the surface of the pile is then dried, and the acid applied with a small wooden brush several times, waiting between the applications for the part to dry. Each area being thus treated, the parts are washed, well oiled, and returned within the sphincters. Operation.

Caustic Pastes.

Personally we have little experience of this practice as applied to hæmorrhoids, but in France and Germany it has been freely recommended. The uncertainty of the result, added to the great pain inflicted by caustics, is sufficient to deter one from using them. Caustic pastes.

Caustic pastes are mostly formed by adding an inert material to some chlorides—zinc, calcium, etc. Ricord's paste (sulphuric acid and carbon) is a favourite with some surgeons.

4. *Injection of Carbolic Acid.*

The injection of carbolic acid or other fluids into the substance of the pile is a method which has been chiefly advocated in the United States, and was there, it is said, introduced by itinerants. It has few, if any, advocates in England, and is not now so much practised by its chief supporter,

Kelsey, of New York, as formerly, though Agnew, of San Francisco, in his work on the treatment of hæmorrhoids, strongly advocates this plan. He says: 'There are no tenable objections to the treatment of hæmorrhoids by carbolic acid injection, rationally and scientifically applied, which cannot be equally urged against the more heroic plans of treatment advocated and generally adopted.'

Our friend Mr. Swinford Edwards has been the chief exponent of this treatment in England, and we cannot do better than cite his description of its application:

Method of injection.

'Carbolic acid, caustic potash, and solutions of the subsulphate of iron, are the principal remedies that have been used in this manner, and of these the first-named appears to be the most suitable. During the past three years I have treated over one hundred cases of hæmorrhoids by means of carbolic acid injections. I use the following formula: Carbolic acid, gr. xii.; glycerine and water, of each ℥i., or 1 in 10; and for severe cases the strength is increased to 1 in 5. If the piles are not protruded an enema is given, and when the patient has strained down, he is placed on a couch on his elbows and knees. A hypodermic syringe, with a needle of good lumen, having been filled with the solution, an injection of from two to five minims is made into the centre of each pile in turn, this being done slowly, in order to give time for the fluid to diffuse itself. The piles are now anointed with vaseline, and returned within the bowel. No action of the

bowels should be permitted for twenty-four hours, and if protrusion occur, the piles should be replaced at once. A mixture of the sulphates of iron and magnesia, dilute sulphuric acid, and infusion of quassia, is ordered to be taken thrice daily, and an ointment of the sulphate of iron, ten grains to the ounce, is to be passed into the bowel before and after each stool. As a general rule, after a week's interval the patient reports that bleeding and prolapse have lessened or disappeared.

'A fortnight or more should be allowed to elapse before the injections are repeated, though this may not be necessary. In the majority of cases one injection proves sufficient.

'The result of the injection is to cause inflammatory thickening and thrombosis; after a time the swelling shrinks, and finally disappears.

'The advantages of this method are that it does not necessitate confinement to bed, or even to the house, and no anæsthetic is required; it causes little or no pain, and no risk to life.

'Latterly, I have used this method somewhat more sparingly amongst hospital patients, as it is difficult to impress them with the necessity of keeping the piles up, or returning them as soon as they protrude, in order to avoid the accident of strangulation and sloughing. In private, I still advocate this treatment in those cases which are adapted for it, where palliative treatment is futile, and where patients will not submit to a more radical operation.'

Dr. Mathews, of Louisville, Kentucky, whose

Adverse opinions.

adverse opinion of this method we quoted in earlier editions, is still strongly opposed to this mode of treatment, for in his work on 'Diseases of the Rectum,' 1892, he makes the following remarks:

'The conclusions that I published in 1878 I have no reason to change to-day, but, on the contrary, I wish to reaffirm them. I have long since abandoned the method in my own practice, and it is a common observation with me to see patients who have been injured, and in some instances where life was endangered, by its use.

'I know of several deaths that have resulted from this injecting plan; a number of instances where excessive and dangerous hæmorrhage resulted; a few where stricture of the rectum was caused by it; a considerable number where ulceration of the gut took place; two instances where an immense internal fistula was established, etc.'

Dr. Andrews, also an American, reports the following accidents which were stated to have occurred out of 3,304 cases: Deaths, 13; embolism of liver, 8; sudden and dangerous prostration, 1; abscess of liver, 1; dangerous hæmorrhage, 10; permanent impotence, 1; stricture of the rectum, 2; violent pain, 83; carbolic-acid poisoning, 1; failure to cure, 19; severe inflammation, 10; sloughing and other accidents, 35.

The above statistics show that this method is far and away more dangerous than any other form of operation upon piles. For our own part, we agree with the opinion of Dr. Mathews. We have tried

the injection plan in many cases, but there was generally much pain, more inflammation than was desirable, a lengthy treatment, and the result doubtful—certainly not a radical cure. For it must be borne in mind that though the injection of carbolic acid into the interior of piles may in some instances stop the bleeding for a time, yet it cannot, and does not, in any way remove the tumours. It consequently does not prevent prolapsus and the discomfort arising from that condition, which generally causes more trouble to the patient than slight bleeding.

It appears that all attempts to destroy vascular growths by causing coagulation of blood or inflammation in them, while they are not shut off from the general circulation, must be fraught with danger. One can have no guarantee that the coagulum may not break down, and minute particles of dead tissue find their way into the vascular or lymphatic systems, and result in embolism or pyæmia, or both. Perchloride and persulphate of iron in solution have been used in the same manner as carbolic acid, but a similar risk is connected with them, and this, we submit, far outweighs the advantages they are said to offer.

Rules as to use.

The following are the rules we think well to follow with regard to this line of treatment :

It is not safe to use an injection when there are many piles, as acute inflammation may be set up and suppuration take place. It should not be used when a pile is half internal and half external—that is to say, one which cannot be completely returned within the sphincters. For in such a case the pile will prolapse

after the injection, become pinched by the sphincters, slough, and cause the patient great pain. If there is one pile easily returnable within the sphincter, injection may be used if the patient refuses to lie up for a few days, which would be necessary if the pile were cut away. Lastly, it must be repeated that this method is no permanent cure; it is midway between palliative and radical treatment—that is to say, may stop bleeding, and even diminish prolapse for a time, but never, unless sloughing takes place, eradicate the pile.

5. *Cauterisation 'Ponctuée.'*

Cauterisation 'ponctuée.'

Some foreign surgeons strongly advocated the use of a red-hot cautery as a cure for internal hæmorrhoids. The iron was to be thrust deeply into each pile twice or thrice.

One method was as follows: 'The operator, providing himself with a galvanic cautery heated to a fine red, applies the point of it to the hæmorrhoidal tumour, and introduces it slowly and progressively to a depth varying from ten to fifteen millimètres. When the point of fire has arrived in the interior of the tumour he moves it around, allows it to remain for a few seconds, and then rotates as it is withdrawn; he repeats the treatment in the same manner and with equal precautions to all the piles. If the tumours are extensive, he again introduces the cautery parallel to the rectum.' A case of pyæmia following this operation is related in full detail by the late Professor Verneuil. Some years ago we

gave this method a fair trial, but were greatly dissatisfied with it, as in some of the cases great pain retarded recovery, abscesses occurred, and cure did not result.

The same objection applies to this mode of treatment as was brought against the use of injections of acids into piles, viz., a slough or inflammation is produced, the extent of which cannot be measured or controlled, in the interior of a vascular tumour not cut off from the general circulation.

When to be used.

Although this method of treatment is not efficacious with arterial and venous piles, yet we think the actual cautery in the vascular capillary pile may effect a cure. The point of the cautery should be applied over the entire bleeding area, but the burning should not extend deeply into the walls of the bowel.

6. *Operation by the Galvanic Cautery.*

Galvanic cautery.

The galvanic cautery may be employed for the removal of hæmorrhoids, but there does not seem to be any good reason for the adoption of this method of operating in ordinary cases. If a cautery be required, why should the galvanically heated wire be preferable to an iron heated in the fire, or to any form of platinum cautery rendered hot by the rapid combustion of benzoline, as in the 'Paquelin' instrument? In our opinion, in almost all cases the 'Paquelin cautery' is superior to any other.

There is another objection, which applies to simple cases, such as the removal of piles; there seems an amount of fuss and pseudo-scientific show about it which is exceedingly repugnant.

7. *The Removal of Hæmorrhoids by the Clamp and Scissors, the Bleeding being arrested by the Application of the Heated Iron.*

Clamp and cautery.

This operation is generally known as the 'clamp and cautery' operation, and was most frequently associated with the name of the late Mr. Henry Smith, although, in truth, it was devised in its entirety by Mr. Cusack, of Dublin, and was first introduced into London by Mr. Henry Lee, of St. George's Hospital. In its performance each pile is seized by a vulsellum and drawn well down; the clamp is then applied so as to embrace its base, the portion above the clamp is cut off with a pair of scissors curved on the flat, and a cautery iron heated to a dull red heat is freely applied to the stump until all the vessels are well seared.

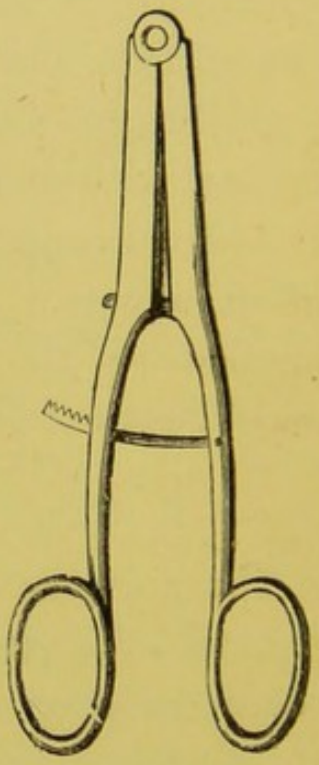


Fig. 22.—Allingham's Clamp for Hæmorrhoids.

Danger of.

This operation has little to recommend it. As regards danger to life—after all, the issue of the greatest moment—as far as our most careful researches have led us to a conclusion, it is quite six times as fatal as the ligature properly and dexterously applied.

Disadvantages of.

There are, moreover, these disadvantages. The burning causes very great pain after the operation, especially if the skin is involved; secondly, hæmor-

rhage is more likely to occur than after the best modes of operating; greater sloughing of the parts takes place, and a longer period is required for healing. The after-results are likely to be unsatisfactory, for contraction is common, and, as with other burns, this is troublesome to overcome, for the scar-tissue, being of low vitality, is non-elastic, and very liable to ulceration.

8. *Dilatation of the Sphincter Muscles.*

Dilatation.

The treatment of hæmorrhoids by the complete dilatation of the external and internal sphincter muscles has been strongly advocated in France by many eminent surgeons.

In certain cases of hæmorrhoids, dilatation, full but gentle, of both sphincter muscles will give wonderful relief, and in many cases great good accrues; but, on the other hand, there are cases in which no good has resulted, and reflection would lead one to conceive that such would almost certainly be the case.

When not to be used.

When, for example, in old-standing disease the hæmorrhoids easily prolapse at stool, and on walking, stooping, coughing, and other common physical acts, the sphincter muscles become so dilated that more dilatation could not possibly mend matters. For here no strangulation or pressure takes place; the piles themselves are large, but they do not swell and become livid when outside the body, and the discomfort and suffering result not from any

'pinching,' but from the exposure of mucous membrane to accidental friction or injury, and from the mucous and muco-sanguineous discharge. There are cases where little remnants even of the sphincter muscles could be detected, and when the hæmorrhoids were returned a large patulous opening could be seen, into which the hand might be passed. To cure these patients, it is necessary not only to remove the growths, but often also to obtain contraction of the anal orifice by applying freely the hot iron.

When to be used.

The cases best suited to dilatation are the very opposite to those just described. If, when the piles protrude, they are tightly embraced by the sphincter muscles, and immediately become swollen and livid, and perhaps bleed freely, the patient being able only with much trouble and considerable pain to return them, it is manifest that dilatation of the sphincters may afford speedy relief, and even result in a cure. In such a case the muscles around the lower inch or so of the rectum are, from irritation, in a state of almost constant spasmodic contraction, consequently all the vessels are engorged, and the return of blood from the rectum is greatly impeded, and the hæmorrhoids grow with much rapidity.

Operation.

Complete dilatation is effected in the following way: The patient being fully under the influence of ether, both thumbs must be inserted into the rectum, which is to be dilated gradually, first in the antero-posterior, and afterwards in the opposite direction, an amount of force being used sufficient to overcome the spasm thoroughly. Manipulation

must be continued until the sphincter muscles feel as if reduced to a really pulpy condition; care must be taken to act high enough up in the rectum, so as to include the whole of the sphincter. The result is that the state of contraction is abolished and no spasm can occur; in fact, for the time, as in any overstretched muscle, paralysis has been induced. With practice and great gentleness the desired result may be accomplished without tearing the mucous membrane, or even drawing blood, but a little extravasation is usually noticed around the anus for a few days. After this, an opium suppository is kept in the rectum, and the patient is placed recumbent in bed. What takes place? First, all the blood returns freely to the liver, no stasis remains, the piles diminish in size, the pain passes away, and in four or five days the patient may rise and go about his business wonderfully relieved. If at the end of two or three days the sphincters are examined, one will find them both capable of acting, though gently; there is no spasm. When the finger is inserted, the muscle closes upon it, but does not grip it; the spasm, indeed, which before the operation rendered it difficult to introduce the finger into the bowel, has gone, and with care and judicious treatment may never return, in which case the patient is, at all events for a considerable time, relieved of his hæmorrhoids. Results.

When, in addition to piles, a fissure or ulcer exists, more immediate benefit is obtained, as great pain on going to stool will no longer be felt, and in

the majority of cases the sore place will heal. In the early conditions of hæmorrhoids, when there is little or no protrusion, and, as often happens, only occasional loss of blood and spasm of the sphincter, the dilatation will really cure the patient, or, at all events, postpone for an indefinite time the growth of the hæmorrhoids.

Conditions in which dilatation is advantageous.

We strongly recommend dilatation in the following conditions : in the early stage of hæmorrhoids, when the symptoms are not sufficiently severe to necessitate a radical operation ; and in bad cases of constipation, which, by pressure, cause piles, mainly of the venous kind, the sphincter being hypertrophied and the anal orifice contracted. It is also useful treatment for old people, whom it would be dangerous to put to bed for long, and whose arteries are atheromatous. In the later months of pregnancy, when the protruding piles become pinched by the sphincter, and so cause profuse bleeding, dilatation is the safest operation to employ. In cases of advanced cardiac or pulmonary disease, in diabetes, or bad albuminuria, or when it might not be wise entirely to stop the bleeding, but where relief from the pain, consequent on the pinching of the protruding piles, is necessary, dilatation may be used with safety.

Again, when in children piles result, as they frequently do, from congenital contraction of the anal orifice, a cure may be effected by careful dilatation. This is really an admirable method of treatment in selected cases, devoid as it is of danger, causing

only trifling pain, and not keeping the patient in bed more than a very few days.

Dr. Manley, in a Boston medical paper, advocates the use of digital manipulation of piles. This consists in stretching, twisting, and pinching each pile separately, so as to reduce it to a pulp; inflammatory action is set up, with swelling which afterwards atrophies and undergoes absorption.

9. *The Treatment of Internal Hæmorrhoids by Crushing.*

History of crushing.

In the *Lancet* of July 3, 1880, Mr. George Pollock, of St. George's Hospital, advocated treatment by crushing. He says: 'It is now some two or three years since I commenced to put into practice my views as to crushing. The earlier attempts to crush the base of the pile were partial failures as regarded the perfect freedom from hæmorrhage. From want of proper construction the clamp did not effectually spoil the tissues at the base of the piles; seldom, however, were more than two or three ligatures necessary, and there never was troublesome or recurring hæmorrhage encountered.' Mr. Pollock proceeded to state that the subsequent pain is much less than that which usually follows the use either of the ligature or of the clamp and cautery, and he recommended a form of crushing pincers. A plan of treatment advocated by such a sound surgeon as Mr. Pollock we could not but consider worthy of a fair and extended trial, and we

immediately commenced to operate, following strictly Mr. Pollock's directions. After operating on about ten cases at St. Mark's Hospital, we came to the conclusion that even this instrument did not sufficiently crush the base of the pile, and that more or less hæmorrhage nearly always resulted. In one bad case concealed bleeding took place (*i.e.*, hæmorrhage into the bowel without any escape from the anus). Some hours after the operation the patient said he must go to stool, and he evacuated a large quantity of arterial blood, and this hæmorrhage continued until the clots were got rid of by injection of cold water, and plugging the rectum with wool and perchloride of iron was resorted to by the house-surgeon. As the pincer crusher did not sufficiently arrest hæmorrhage, although it was applied in bad cases for two minutes, we concluded the instrument was faulty, and therefore devised a new form of crusher, in which a screw movement was substituted for the lever action. We then had an instrument capable of exercising an almost unlimited amount of crushing power (Fig. 23). It was constructed by Messrs. Krohne and Sesemann, and a good many were made before anything like perfection was attained; but now the screw crusher is a perfectly safe instrument, provided that due care be taken in operating. It is most important when buying one of these crushers to see that the edges of the sliding bar are bevelled; for if they are not, when the bar is screwed home, the piles may be cut off instead of being crushed.

Allingham's crusher.

A few words about the method of using the crusher. As above stated, in our first cases we followed rigidly Mr. Pollock's directions, but afterwards thought it better to avoid crushing skin, and therefore made an incision where the mucous membrane joins the skin. The operation must be commenced by *gently but fully dilating the sphincters*—a

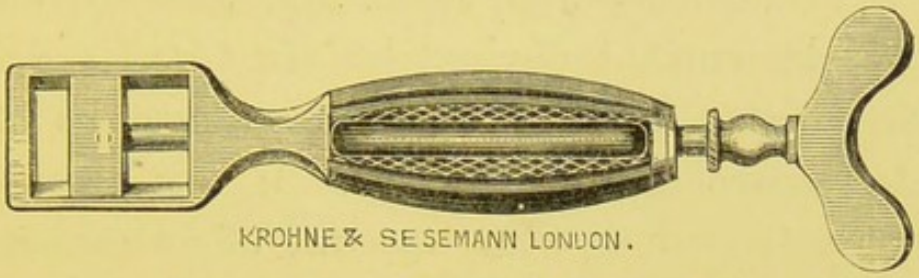


FIG. 23.—SCREW CRUSHING INSTRUMENT.

The crusher is made of solid steel, forming an open square at one end, between the sides of which a second piece of steel slides up and down. This bar is connected with the screw, which brings it firmly home against the distal end of the square, first by sliding and then by screw action (lithotrite action), and exerts great crushing power upon any tissues which are brought between the two opposing surfaces.

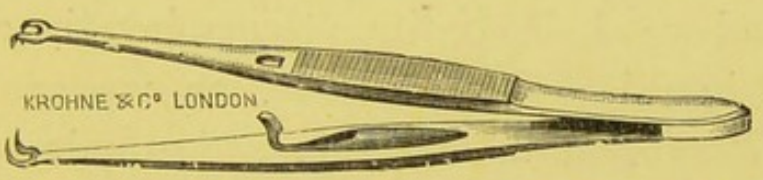


FIG. 24.—THE SPRING FORCEPS USED IN BRINGING INTO THE CLAMP THE PORTION OF PILE TO BE REMOVED.

plan we *always* adopt when operating on internal piles. The hæmorrhoid is drawn into the screw-crusher by means of a vulsellum or hook, and this being entrusted to an assistant, the bar is pushed up and screwed home as tightly as possible. The pile ought to be crushed longitudinally, and not transversely. The projecting portion of the pile is cut off with the knife or scissors, and the pressure may be kept up as long as the operator thinks fit; usually

we keep the instrument applied for about one minute. The upper part of the instrument should rest within the rectum, so as not to drag on the mucous membrane. It is from its capability of being introduced into the rectum, together with the great pressure it exerts upon the base of the pile, that this instrument is superior to the pincers, which are clumsy and large, and also to the ingenious instrument devised by Mr. Charles Smith, of Brighton. In this operation care must be taken not to remove too much tissue. If this precaution be not attended to, some amount of uncomfortable contraction is sure to take place. This is a great drawback to the pincer-clamp, which is difficult of adjustment; consequently more tissue may be taken away than the operator is aware of.

Results. We have now operated upon a large number of cases, and we shall continue to employ the crushing method in selected cases only, as we are by no means convinced of its universal applicability or advantage. As regards freedom from pain, it varies considerably; in some cases there was but little suffering directly after the operation, and, as a rule, the pain after action of the bowels was not so severe as after the ligature. In other cases the immediate pain was quite as severe and prolonged as that caused by the ligature. Œdema of the external parts, when many or large piles were removed, was very marked in some cases; often the external swelling did not show itself until after the first action of the bowels. Contraction, so as to require the

use of bougies or dilatation by the finger, occurred about as frequently as after any other method of operation upon piles, but far less than after the cure by the actual cautery. As to hæmorrhage, when Mr. Pollock's clamp was used, ligatures were necessary in nearly all severe cases, and in two the bleeding was so free a few hours after the operation as to necessitate plugging the rectum with a tube. We cannot say that with the screw crusher bleeding has never occurred, but it has not done so to any extent, and ligature of a vessel has rarely been required, torsion usually sufficing. On the whole, in our opinion, crushing is a satisfactory method of removing internal piles, and is in every respect superior to the clamp and cautery. It is a perfectly safe operation in chosen cases.

When to be used.

Some surgeons use this method in all cases; this, as we have before said, is not wise. It may be used when the piles are small and not numerous—say three in number. It may be applied to remove a pile or two when operating for fistula. Partial prolapse of the mucous membrane falls within the same category.

We should not advise its use in cases of very large vascular piles, in which, from excessive hæmorrhage, the blood is poor and non-coagulable.

In cases of anæmia as a result of hæmorrhage, in which recurrent or secondary hæmorrhage would probably cost the patient his life, this method of treatment is decidedly dangerous. It should not be used to remove inflamed piles.

It is not wise to crush piles when the patient is at a distance from skilled assistance, for fear of hæmorrhage coming on.

10. *Mr. Walter Whitehead's Method of removing Hæmorrhoids by Excision.*

Mr. Whitehead, in a paper written upon the subject, published in the *British Medical Journal*, February 6, 1887, after discussing the supposed disadvantages of the use of the ligature, and clamp and cautery, went on to describe his method of operation. We cannot do better than quote his own words:

Position for operating.

'1. The patient, previously prepared for the operation, and under complete influence of an anæsthetic, is placed on a high narrow table in the lithotomy position, and maintained in this position either by a couple of assistants or by a Clover's crutch.

'2. The sphincters are thoroughly paralyzed by digital stretching, so that they can leave no gap, and permit the hæmorrhoid and any prolapse there may be to descend without the slightest impediment.

Mode of operating.

'3. By the use of scissors and dissecting-forceps the mucous membrane is divided at its junction with the skin round the entire circumference of the bowel, every irregularity of the skin being carefully followed.

'4. The external and the commencement of the internal sphincter are then exposed by a rapid dis-

section, and the mucous membrane and the attached hæmorrhoids, thus separated from the submucous bed on which they rested, are pulled bodily down, any undivided points of resistance being snipped across, and the hæmorrhoids brought below the margin of the skin.

'5. The mucous membrane above the hæmorrhoid is now divided transversely in successive stages, and the free margin of the severed membrane above is attached as soon as divided to the free margin of the skin below by a suitable number of sutures. The complete ring of pile-bearing mucous membrane is thus removed.

'Bleeding vessels throughout the operation are twisted on division. This brief description comprises the several stages of the operation.

'It will be observed that, beyond the chloroformist, the operation requires no skilled assistance; a single nurse is quite sufficient, and I have on more than one occasion dispensed with assistance altogether.

'Contrary to general recommendation, I prefer the lithotomy position, with the legs well flexed on the thighs, and the thighs on the body. This raises the whole pelvis, and gives the surgeon a commanding view of the field of operation. I sit in front of my patient, with my work on a level with my shoulder.

'It is better to commence the separation of the mucous membrane from the skin at the lowest point, and deal with the two sides in succession, before

completing the circle above, so that any oozing that may occur shall be below the work as it proceeds. The incisions must be made through the mucous membrane, and not through the skin. It is very important that no skin should be sacrificed, however redundant it may appear to be, as the little tags of superfluous skin soon contract, and eventually cause no further inconvenience. If this precaution be taken, there is no fear of stricture.

'The attachment of the mucous membrane and piles to the sphincters is so slight that I either employ the closed scissors as a raspatory, or use my fingers in their separation. The firmest adhesions are always found at the highest and lowest points, where the fibres of the external sphincter converge. With a very little patience the whole of the hæmorrhoidal plexus can be isolated and the membrane drawn down, leaving the external sphincter almost bare and cleanly dissected. Up to this stage of the operation there is practically no hæmorrhage, for, as is well known, the arteries which supply the rectum run immediately beneath the mucous lining, and not in the loose tissue separating it from the sphincters. They are, however, necessarily cut in the next step, which consists in the transverse division of the mucous membrane just above the piles. To prevent hæmorrhage, it is advisable to cut through the bowel by degrees, and to twist each bleeding vessel as it is divided. After securing the vessels, before making any further incision in the bowel, I attach the free edge of the piece of mucous membrane first divided

to the corresponding portion of skin at the verge of the anus. This procedure is repeated until the entire circumference of the bowel is secured to the skin. By this means I almost invariably secure healing by first intention.

'Before closing the wound, I insufflate iodoform between the raw surfaces, as I find it checks any tendency to sanguineous oozing, and facilitates primary union. For the purpose of suturing the mucous membrane to the skin, I always employ carbolized silk, and I never take out the stitches, as I find they come away of themselves without creating the needless alarm to the patient which their removal generally occasions. Indeed, after the operation, there is no real necessity ever to look at or touch the parts again.

'Whilst the patient is still on the table, I introduce into the rectum a suppository containing two grains of extract of belladonna, give the external parts a final dust with iodoform, and place over all a strip of oiled lint, which is retained in position by a T-bandage. After treatment.

'For the first few days, with highly neurotic patients, I keep a bag of ice in close proximity to the rectum, and I generally recommend a dose of castor-oil to be taken on an empty stomach on the morning of the fourth day. The patient sits up on the fourth day, and is in a condition to resume work within a fortnight.

'I rarely find that the patient suffers much pain after the operation, though this depends chiefly on

the nervous susceptibility of the individual. Some aching in the back may be complained of, as in other pelvic operations, but this is generally relieved by change of posture. If the change of posture does not answer, a hot water-bag or hot salt applied to the back will generally give immediate relief.'

Supposed advantages.

Mr. Whitehead then goes on to claim the following advantages for the operation :

'1. That it is the most natural method, and in perfect harmony with the most approved principles of surgery.

'2. Excision, in addition to its simplicity, requires no instrument which is not found in every practitioner's pocket-case.

'3. It is a radical cure. It removes the peculiar pile-area, and I believe recurrence to be impossible.

'4. Though no operation is absolutely devoid of risk, I consider that excision in this respect is at least on a par with the safest method yet recommended for the removal of piles.

'5. The pain after excision is slight in amount, of short duration, and, I believe, less severe than follows any of the other operations.

'6. The loss of blood at the time of operation is so small as hardly to merit notice ; though perhaps in this respect it must give precedence to the ligature and clamp ; but, so far as secondary hæmorrhage is concerned, the risks are unquestionably less.

'In conclusion, allow me to recapitulate briefly what my contention is. I contend that the internal hæmorrhoids, which are generally regarded as local-

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ized distinct tumours, amenable to individual treatment, are, as a matter of fact, component parts of a diseased condition of the entire plexus of veins associated with the superior hæmorrhoidal, each radicle being similarly, if not equally, affected by an initial cause, constitutional or mechanical.

'I am of opinion that, when surgical treatment becomes imperative, the extent of the mischief can only be appreciated and effectively dealt with by a free exposure of the diseased vessels, and that no procedure fulfils this purpose short of a deliberate dissection of the lower rectal area.

'And, finally, I consider that any operation, which has for its object the removal of hæmorrhoids, is not complete which does not provide for the readjustment of the healthy tissues, with the object of securing primary union and rapid convalescence.

'The dread of hæmorrhage in excision of hæmorrhoids is a delusion which has been fostered and sustained by potential authorities, who have, I consider, for the last thirty years, indulged in unjustifiable departures from the sound principles of general surgery.'

Criticism of operation.

In criticising this operation we assert without hesitation that though theoretically it is perfect, yet in practice it is unnecessary, and one of the worst operations for piles. As with all other modes, it is absolutely wrong and extremely unsurgical to treat all cases of piles by this operation. For piles vary as much as any other disease. Indeed, surgeons who are experienced in rectal practice often

find piles complicated with fistula, fissure, etc. To adopt this method of Mr. Whitehead's in such cases would be unwise, for it is important to treat, together with the piles, the other affections. This will, in many cases, render impracticable the plan we are discussing. Again, when in a simple case of piles there are only one or two tumours to be removed, it is unnecessary to subject the patient to the excision of the mucous membrane of the lower part of the rectum. We do not admit that there is always the pile area above spoken of, nor are all the arteries of the rectum enlarged because one or two happen to be so; the same applies to the veins. If there are many piles in the bowel, there may be only a small amount of intervening mucous membrane left unaffected; indeed, sometimes the whole lower aspect of the bowel is extremely vascular. In such cases Whitehead's operation might be used. Nevertheless, the operation is not so radical as is supposed, for when the ligature method is employed, a surface is left to granulate after the piles have been separated up to their bases. This granulating surface leaves scar-tissue, which, like all other scar-tissue, contracts slightly, and has not so much vitality as normal tissue. This tends to strengthen any weakness in the lower part of the bowel, supports the vessels, and is less likely to allow them to become varicose. Again, when the tissues within the anus are attacked with this vascular condition, the vessels which supply this area must also be enlarged. Now,

if the area is excised, and the mucous membrane drawn down, the enlarged vessels, which are contained therein or just underneath, in consequence of their size, will be likely to start the piles again. On the other hand, if they are ligatured high up, and a splice of scar-tissue is let in, from the greater support given to the lower part of the gut, the large vessels will be probably unable to dilate or increase. For they do not have to nourish such an active, soft, and elastic area.

Mr. Whitehead terms his operation simple. Simple it may be, but difficult to perform ; for with the anus, rugose and elastic as it is, even after dilatation of the sphincters, it is not at all easy to separate the mucous membrane from the skin. The length of time required for the operation is an objection; this process takes on an average at least thirty minutes, whereas a skilled surgeon can operate with the ligature in less than five minutes. The hæmorrhage by this method far exceeds in quantity the amount lost when the ligature is used, and this is of great importance in those patients who have already lost much blood from their piles.

Mr. Whitehead uses silk or catgut ligatures to attach the mucous membrane to the skin, but does not think it necessary to remove them. If they are not removed, they can only come away by ulceration, which causes pain, and may, as we have seen in one case, result in fistula.

Two or three days after the operation the parts not unfrequently become swollen, and the mucous

membrane then tears through the ligatures and retracts away from the skin. This leaves a large granulating surface, which may occupy the entire circumference of the bowel, and cause troublesome contraction.

It appears that some London surgeons are practising this operation freely, for we have now seen a large number of cases which have been treated by this method. We have noticed the following results: (1) Anal stricture. (2) Loss of sensation and power over the anus. (3) The mucous membrane, stitched down to the skin around the anus, has adhered outside the anal orifice, and is therefore always exposed to irritation of the clothes, frequently discharging mucus, and at times bleeding. We will relate the following cases from many, to illustrate the above conditions:

Cases.

Case 1.—Mr. C—— was operated upon for piles by an eminent London surgeon. We heard the operation took about an hour and a half to perform. The patient nearly bled to death. The mucous membrane did not adhere to the skin, so it retracted, leaving a tight anal stricture, which would only admit No. 4 rectal bougie, and could not be dilated beyond this size on account of the pain and the great rigidity of the stricture. The rectal wounds took two months to heal. It was necessary in this case to divide freely the tight anal stricture in many places, and to pass for six weeks bougies in order to cure the troublesome contraction.

Case 2.—Mrs. C—— was operated upon by Whitehead's method three months before we saw her, and stated that ever since the operation she had loss of power over the sphincters, and was never able to appreciate the contact of

fæces or flatus at the anal margin. Hence, these were frequently passed without her knowledge, or, rather, without sufficient warning for her to control their passage. In this case it was seen that the sphincter was very weak, and that the mucous membrane had evidently adhered to the seat of attachment near the anal margin. We advised her to apply stimulating lotions to the part, and to wait, trusting that in time the sensibility of the anus would return. In six months' time, as she was no better, we advised cauterization to tighten up the anus. This she underwent, and at last recovered control over fæces and flatus.

Case 3.—Mrs. A——, a young lady, was operated upon by Whitehead's method, by a surgeon connected with a large London hospital. She stated she was eight weeks in getting well. She suffered great pain, and ever since the operation had noticed a mucous discharge from the anus, and occasional losses of blood. Her linen was frequently soiled by these discharges. On examination, it was found that the mucous membrane of the bowel had adhered to the skin at the anal margin at one part, and was always exposed to the friction of the clothes, thus accounting for the mucous discharge and occasional bleeding. It was necessary in this case to separate freely the mucous membrane from the skin outside the anus and cut it away. The wound so formed skinned over, and thus the cause of the trouble was cured.

Modification of method.

For those who still persist in employing this method of removing piles, we may recommend the following instrument as a great assistance in simplifying this operation and in remedying some of its defects; still, we ourselves must confess that it would be only in a very exceptional case that we should ever think of performing Whitehead's operation.

After having performed a few cases of White-

Reason for invention of new instrument.

head's operation in the manner he describes, we discovered that the chief obstacles were the lax and irregular condition of the anus, and the resulting trouble in separating the mucous membrane from the skin, the time required in twisting the vessels if the case was a bad one, and the length of the operation. To secure the vessels, and to perform the operation with greater facility, we designed the instrument (see Fig. 25) made for us by Messrs. Krohne and Sesemann, which should be used as follows :

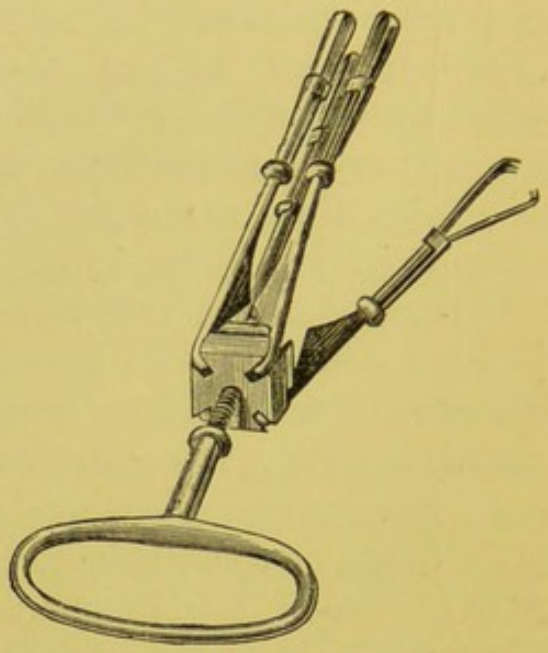


Fig. 25.

Mode of performing operation.

The patient being in the lithotomy position, the sphincters are dilated with the thumbs; then, with the instrument closed, one of its arms is attached to one part of the bowel just where the mucous membrane joins the skin. The same is done with the three other arms. The instrument is screwed open so as to make the arms square and the tissues tense. Then the anus is dilated and square-looking, as is represented in Fig. 26.

Now, with a small knife—with a finger in the bowel to guide the knife, and not allow it to perforate the mucous membrane—one should cut along at the junction of the skin and mucous membrane

all around the anus. This can be easily done with the parts thus held tense. This separation of mucous membrane from the sphincter should be effected by cutting into the submucous tissue up to the level of the internal sphincter. The assistant should turn

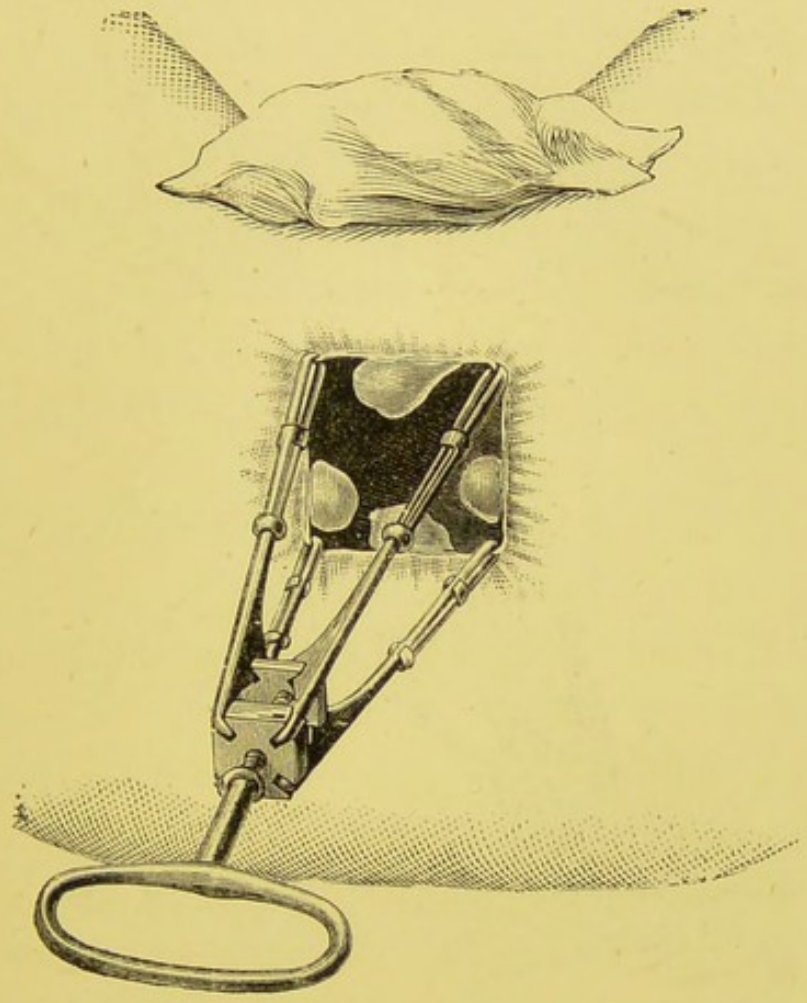


Fig. 26.

the instrument away from the side which is being cut, so as to give more room.

When this section has been completed all round, the resulting state is as is represented in Fig. 27. Then opposite the position of any large pile the skin should be taken at D with a needle fitted with a medium catgut ligature, the needle passed through

the mucous membrane at C, and then round the stem of the pile. It returns again through the mucous membrane at B, and lastly through the skin at A. Thus one has a loop inside the bowel, with the two ends coming out through the skin. The ligature is then tied up just tight enough to prevent

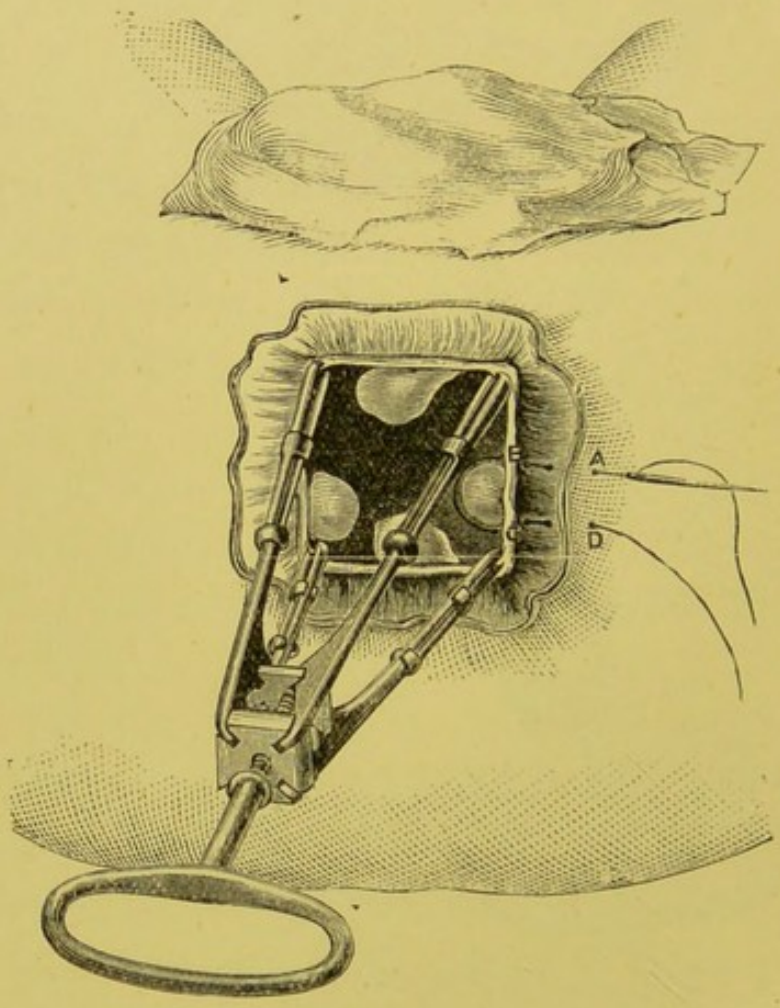


Fig. 27.

hæmorrhage when the piles are cut away. Each large pile is treated in the same manner. Then the drawn-out pile-area still attached to the dilator is to be cut off just in front of the ligatures. Finally, a few catgut sutures are put in, so as to bring to the skin the mucous membrane between the piles.

By this mode of operating the important arteries in the piles are secured, there is no difficulty in separating the skin from the mucous membrane, little blood is lost, and the operation can be rapidly executed. Advantages of this way of operating.

Catgut sutures are preferable to silk ones, because they are more elastic, and relax if there be much swelling. There is no necessity to trouble about removing them, as they are readily absorbed.

In those rare cases in which the entire circumference of the rectum has to be excised for piles, this is the easiest, quickest, and safest method of performing Whitehead's operation.

11. *The Treatment of Internal Hæmorrhoids by Ligature.*

In expressing, as we most unreservedly do, the opinion that the ligature is the safest and best operation for the great majority of cases of hæmorrhoids, we must be understood to mean the operation usually performed at St. Mark's Hospital, viz., ligature combined with incision. The operation was devised by the late Mr. Salmon, and has been practised at that institution for more than sixty years.

The patient, having been previously prepared by purgatives, is placed on the right side on a hard couch in a good light, and is completely anæsthetized; and then the sphincter muscles are gently, but completely, dilated. This completed, the rectum for three inches is within easy reach, and no contraction of the sphincters takes place, so that all is Method of operating.

clear like a map before one. The hæmorrhoids, one by one, are to be taken by the surgeon with a vulsellum or pronged hook-fork and drawn down; he then with a pair of sharp scissors separates the pile

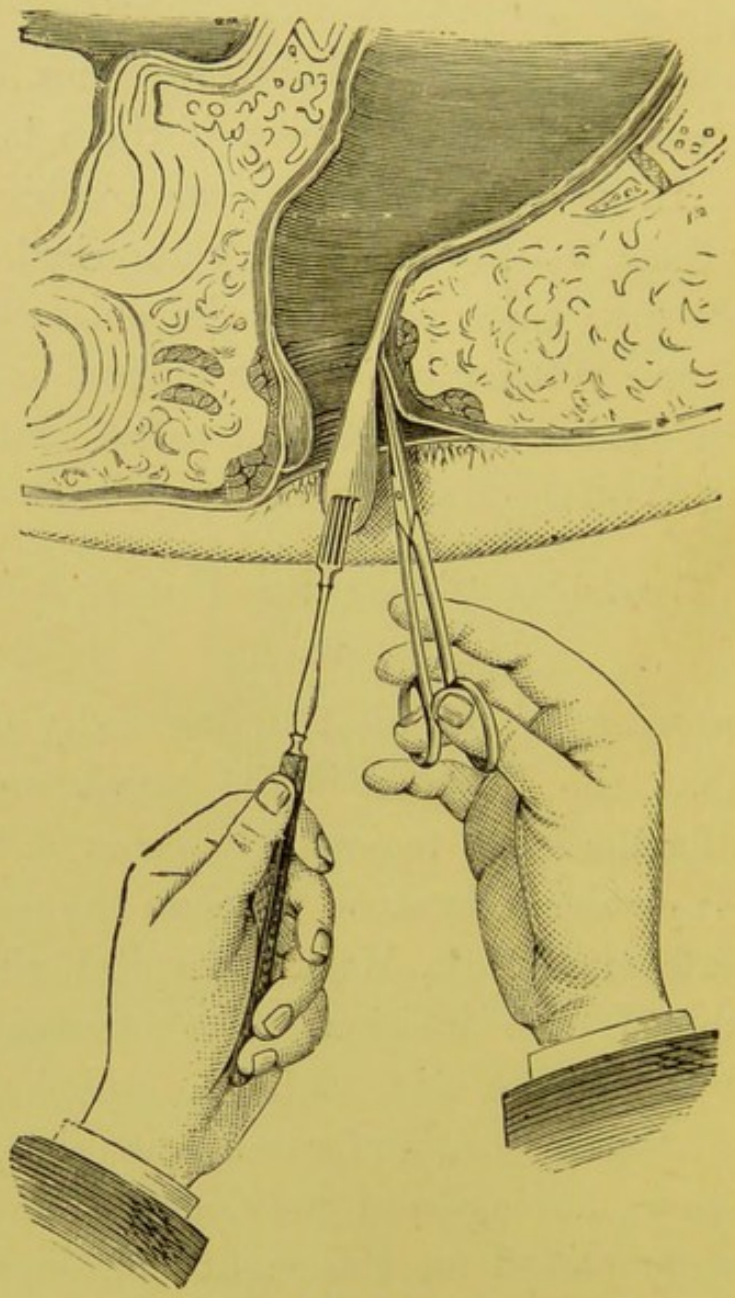


Fig. 28.

from its connection with the muscular and submucous tissues upon which it rests; the cut is to be made in the sulcus or white mark which is seen where the skin meets the mucous membrane, and

this incision is to be carried up the bowel, and parallel to it, to such a distance that the pile is left, connected by an isthmus of vessels and mucous membrane *only* (see Fig. 28).

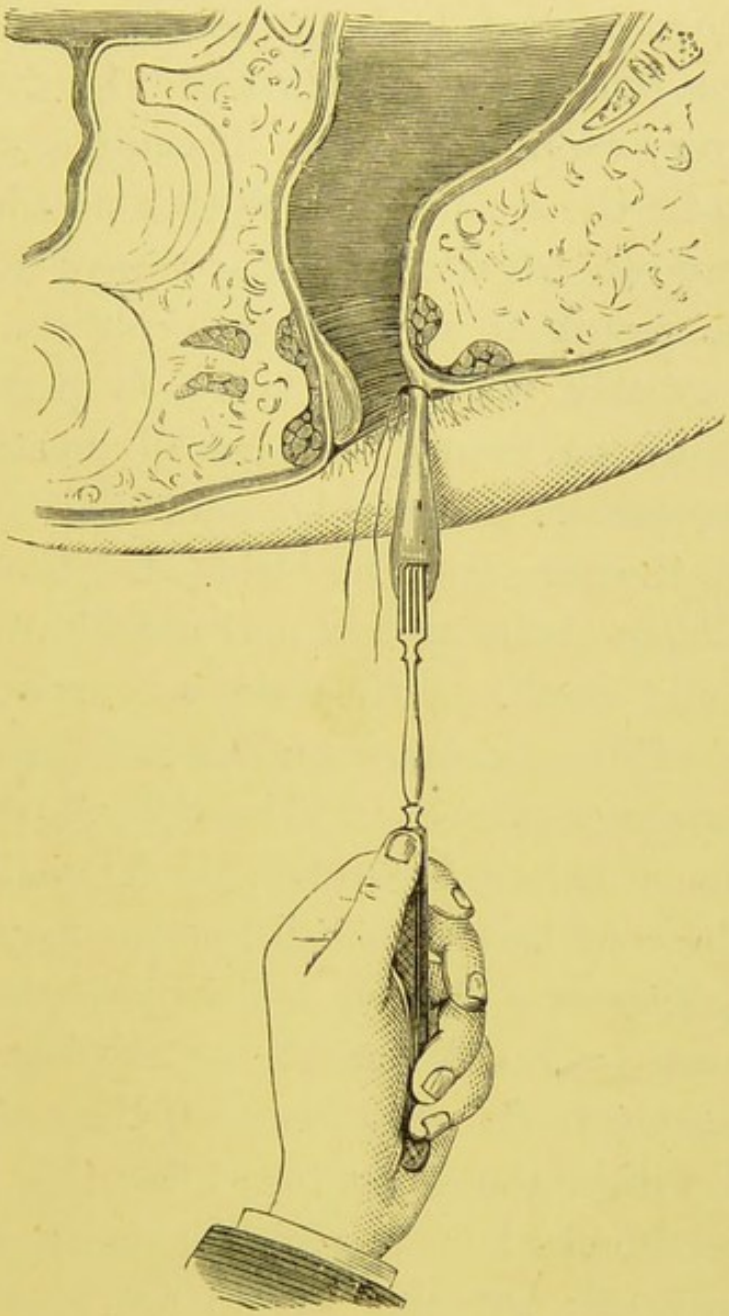


Fig. 29.

There is no danger in making this incision, because all the *larger* vessels come from above, running parallel with the bowel, *just beneath* the *mucous membrane*, and thus enter the *upper part* of the

pile. A well-waxed, strong, thin, plaited silk ligature (Turner's No. 6) is now to be placed at the bottom of the deep groove which has been made, and the assistant then drawing the pile well out, the ligature is tied high up at the neck of the tumour as *tightly* as possible (see Fig. 29). One must be very careful to tie the ligature, and equally careful to tie the second knot, so that no slipping or giving way can take place. We always tie a third knot; the secret of the well-being of the patient depends greatly upon this tying—a part of the operation by no means easy (as all practical men know) to effect. If this be done, all the large vessels in the pile must be included. The arteries in the cellular tissue around and outside the bowel are few and small, as they do not assist in the formation of the pile, being outside it. These vessels rarely require ligaturing. The silk should be so strong that it cannot be broken by fair pulling. If the pile be very large, a small portion may now be cut off, taking care to leave sufficient stump beyond the ligature to guard against its slipping. When all the hæmorrhoids are thus tied, they should be returned within the sphincter; after this is done, any superabundant skin which remains apparent may be cut off; but this should not be too freely excised, for fear of contraction when the wounds heal. It is wise to pass a small piece of wool saturated with iodoform ointment into the bowel, and then apply a pad of wool over the anus. This is held in place by a tight T-bandage, and the pressure

Tying of ligature.

relieves pain most materially, and prevents any tendency to straining. The anus is not to be stuffed with wool. If much wool is inserted, it causes spasm of the sphincter and a great desire to expel it.

It is advisable to commence operating upon those piles that are situated inferiorly as the patient lies, in order that the others may not be obscured by blood, but when the hæmorrhoids are numerous, and there is a small pile either anterior or posterior, as is frequently the case, it is better to tie the small ones first, as there is danger of their being overlooked, and if they are left they are likely to grow, and a return of the piles may be confidently anticipated in a few months; we have seen many cases in which this has occurred.

Some important points in connection with the operation.

When separating the pile from the bowel preparatory to applying the ligature, it is most important that the base to be ligatured should be as narrow as is consistent with the non-division of the chief arterial supply to the pile (Fig. 30, A). For it will be seen that if there are many piles to be ligatured, and their bases are left large and broad (Fig. 31, B), when tied up they draw the mucous membrane together, and cause a great narrowing of the rectum. If this is done, on introducing the finger after the operation, it is found nearly impossible without force to pass it beyond the tied-up parts.

This can be best explained by diagrams. Should there be many piles to be tied, one finds in C only very slight narrowing, but in D great narrowing.

In C (transverse section) there are islets of untied mucous membrane between the piles; in D (transverse section) there are none; consequently, after the operation in C there is little or no pain, in D great pain. Again, upon the action of the bowels, the motion in C can easily pass, but in D it has

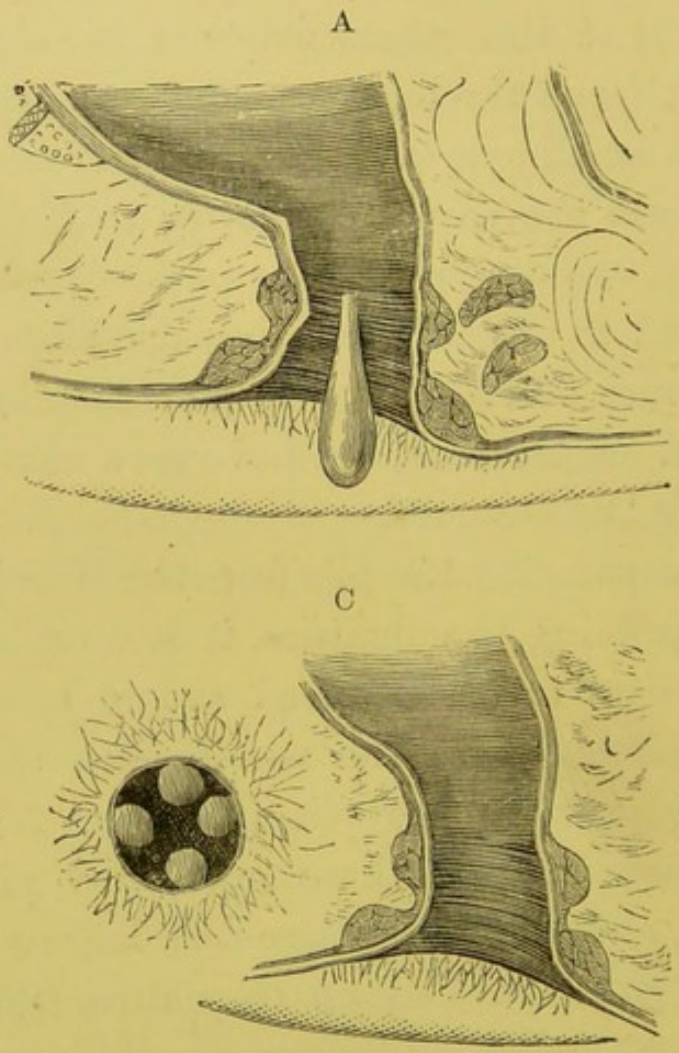


Fig. 30.

actually, from the non-elasticity of the part, to tear its way past the obstruction caused by the ligatures.

The above conclusions have been arrived at from observing that when one or perhaps two piles only

are ligatured, the pain is slight, whereas when many have been tied, unless one takes the precautions just explained in A and C, great pain is suffered, both

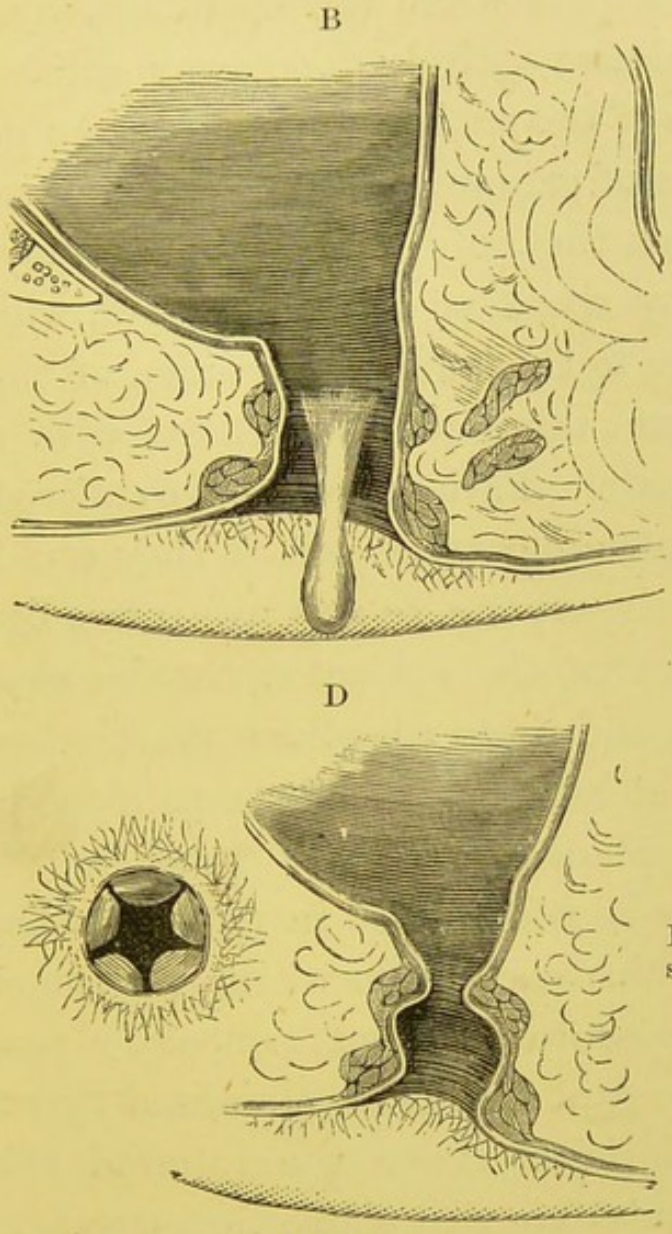


FIG. 31.

after the operation and upon the action of the bowels.

Upon the patient being anæsthetised, it sometimes happens that the protruded piles slip up into the bowel again. We have seen inexperienced operators much worried by this, but there is no need

Advantages of dilatation.

for anxiety about it; for when the sphincters are carefully dilated, the whole rectum is fully exposed and even every abrasion can be seen; moreover, the spasmodic pain after the operation, by this dilatation, is almost entirely done away with.

Spasm of sphincter muscle.

Spasm of the sphincter muscle is in a great degree the cause of pain and its long continuance. After a few hours, the only suffering that may remain is caused by spasm of the levator ani, which will act from time to time, and a retraction of the anus into the rectum takes place, attended with momentary darting pain. Patients who have suffered long from large protruding piles, which they could not keep up, scarcely experience any pain after ligature; the reason is that the sphincter muscles cause most of the pain, and those who have practically no sphincters do not have a tithe of the pain the person with a strong sphincter has.

It may be added that in patients who have very strong sphincters, and in whom it is sometimes difficult to procure sufficient temporary paralysis, the spasmodic pain should be minimized by carrying the vertical incision above the internal sphincter, so that the piles are tied above that muscle.

Statistics.

In the whole range of surgery there is no procedure worthy of the name 'operation' which can show a greater amount of success or smaller death-rate than the ligature of internal hæmorrhoids.

In St. Mark's Hospital the death-rate from all causes in operations on internal hæmorrhoids by ligature, during a space of more than forty years,

was just 1 in 670. Now, hospital practice is notoriously more fatal than private practice, yet what a brilliant result has been obtained! We have only had 5 fatal results from the ligature, both in our public and private practice, which extends to more than 4,000 operations.

Copeland, in his work, mentioned that he had only seen one death.

Bushe never had a fatal case with the ligature.

Sir Benjamin Brodie, whose experience was unusually large, stated he had never lost a case.

Mr. Syme stated: 'In the whole of my practice I never met with a case which either terminated fatally, or even threatened to do so.'

Mr. Curling, in the last edition of his work, affirmed that, 'with one exception, no fatal case of operation by the ligature has occurred either in my public or private practice.'

Mr. Quain had only one subject succumb in his practice with the ligature.

Mr. Ashton did not record a single death from his method of operating by ligature.

Mr. Gowlland, who has had a very large experience in rectal surgery, has had a most remarkable success with the ligature in hæmorrhoids; and, after a prolonged trial with the clamp and cautery, has finally abandoned it.

Our friends, Mr. Alfred Cooper and Mr. Swinford Edwards, with large opportunities for arriving at a correct judgment, inform us that they have never

had a fatal case with the ligature. Mr. Goodsall is also at one with us in preferring the ligature.

Let us for a moment see what our American *confrères* think.

Gross, in his great work on surgery, says: 'The operation (ligature) is as simple of execution as it is free from danger and certain in its results.'

Dr. Van Buren, so well known here, and whose experience in the treatment of rectal disease is very extensive, says: 'I have never had an unpleasant symptom.'

Bodenhamer states: 'I have yet to encounter my first serious accident.'

We could go on citing the favourable opinions of our American friends with regard to the safety of ligation, but nothing further is needed to prove the great success in every way of the operation when properly performed, and when the patient is well treated and placed in good hygienic conditions.

When ligature operation should be used.

This is the safest and quickest operation to employ in all cases of well-formed hæmorrhoidal tumours. For by this method of ligature there is hardly any danger of bleeding, and hence it is especially advantageous when hæmorrhage—primary, recurrent, or secondary—would be particularly dangerous, *e.g.*, in anæmic patients, and in those for whom it might be difficult to obtain surgical aid immediately.

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CHAPTER XI.

TREATMENT OF PATIENTS AFTER THE OPERATION FOR PILES.

It seems to be a custom with many surgeons to think that after a case of piles has been operated upon, no further treatment is requisite. The parts are rarely looked at again, and after about a fortnight has passed without any examination, or only a cursory one, the patients are supposed to be well, and are allowed to go about their work. It is in consequence of the frequency of this that we have determined to give in detail the treatment of a case *after operation;* for it is only by careful attention that a satisfactory cure can be assured.

Confining bowels.

After the operation, the bowels should be confined for three, or even four, days. A solid one-grain opium pill given half an hour after the operation, and repeated every two hours twice, is the best to begin with; later on, if required, a draught may be administered. The formula often used is the following:

℞

Liq. opii sedativ.	℥xv
Spt. æther. nit.	ʒi.
Mist. camph. ad	ʒiss.

Misce. To be taken night and morning or three times in the day for two days.

In very bad cases and in delicate persons, we occasionally keep the bowels quiet for a much longer period than four days. The diet at first should be light; soup, beef-tea, a little boiled fish, milk gruel, tea and toast, will be quite sufficient; no alcohol at all should be taken; perfect rest in bed enjoined.

Retention. It is not uncommon for retention of urine to be consequent on operations upon piles. This retention is by no means unusual in women, but it occurs much oftener in men. When this difficulty occurs, male patients should be told to kneel up in bed, and warm flannels may be placed above the pubes. The bandage applied at the operation should be loosened, as it may press upon the perinæum, and so stop micturition. Much straining must be avoided under any circumstances, and if, after a fair trial, the patient is still unsuccessful, a Jacques catheter should be passed. After a few days, generally when the bowels have been opened, the power to pass water will return, but nervous patients may suffer from retention for ten to fourteen days.

On the morning after the operation, the outside pad of wool is removed, and if any wool is in the anus or sticking to the wound, one should apply a poultice made of bread, carbolic lotion 1 in 20, and dusted with iodoform, to soften the dried blood and assist in loosening the wool; moreover, if there is any pain, the application of a poultice greatly relieves it. Sometimes the patient suffers from spasm of the levator ani, which may be caused by a small piece of wool becoming fixed within the

sphincters. The wool should be removed on the second day, and even on the first. If there is no pain a pad of wool soaked in Sanitas, Condy, or thymol, etc., should be applied to the part, for it keeps it moist, and tends to lessen the smell which is generally present. On the third or fourth night, according to the state of the patient, we order the following aperient:

℞

Pil. hydrarg.	gr. ii.
Pil. col. et hyoscyami . . .	gr. viii.

Misce.

And the next morning should be given, if necessary, one of the aperient mineral waters, or the ordinary black draught.

Purgative.

It is highly important to administer a purgative which is sufficiently powerful to compel the bowels to act irrespective of any will on the part of the patient. If the purgative is not strong enough, the moment the bowels are inclined to act, the patient may resist, in consequence of the pain. Sometimes the action is assisted by injecting into the bowel about 3 ounces of warm olive-oil.

When the bowels act, the patient may get out of bed, and sit on a night-stool, for the sitting position aids in the expulsion of the fæces. If, however, he is very anæmic or ill, the motions should be passed while he is in the recumbent posture.

It is well to tell the patient that some temporary, and possibly rather acute, pain may be experienced on

the first action of the bowels, and also that a slight discharge of blood *may* take place (it by no means always occurs); if one neglects this, needless alarm is often created, the patient imagining, if he sees any blood, or has much pain, that all his old trouble has returned.

Cause of straining.

Sometimes, when the bowels are acting for the first time after the operation, there is great and persistent straining with little result. When this occurs, the bowel must be examined, for a hard mass of fæces may be blocking up the anus. If such an obstruction be found, it should be broken up with the finger, and an enema of warm gruel and olive-oil should be administered; to keep on repeating strong purgatives (as is too commonly done) is absolutely useless and detrimental, until the obstruction has been broken up and removed by enemata.

Treatment after first action of bowels.

After the first action of the bowels, a warm poultice may be applied, or the lead and milk lotion (mentioned in the chapter on External Piles), whichever is most comforting to the patient.

The bowels should be kept acting daily by means of some gentle purgative, such as—

℞

Pul. glycyrrhizæ co. . . .	ʒi. to ʒii.

Omn. noct.

or

℞

Podophyllin	gr. ss.
Ext. belladonnæ	gr.
Ext. tarax.	gr. iii.

Omn. noct.

or

℞

Liq. ext. cascara sagrada . . . 3ss.

In water at bedtime.

or any of the mild purgatives previously mentioned.

On the fifth day the wounds must be treated according to circumstances; if they are inflamed, sedative lotions or ointments should be used. When the ligatures have separated or when sloughs have come away, the wounds, after the action of the bowels, should be gently syringed with a weak solution of Condy, carbolic, Sanitas, etc. This washes away any motion that may have been caught in the wounds. Then each separate wound should be dressed in the following way: A small strip of wool smeared with ointment must be passed with a probe and allowed to rest gently upon each raw surface.

The patient can greatly assist in the dressing by bearing down while the wool is being inserted.

It is hardly necessary to say that the ointments and lotions should be varied according to the nature and state of the wound.

Importance of daily passage of finger.

After the first week, the finger, well anointed with the ointment in use, must be passed into the bowel every day, to make sure that no contraction is resulting from the operation. This is most important, for when rapid healing is taking place contraction will sometimes ensue.

Recumbent position necessary.

For the first week after the operation, the patient should be strictly confined to his bed; then, if all has gone well, he may get up daily and lie for a few

hours on a sofa, but he should not be allowed to walk about or remain long in the erect position, for although the patient is convalescent, his wounds are generally still unhealed.

If a digital examination is made upon the thirteenth or fourteenth day after the operation, in the great majority of cases the rectum will not be found perfectly sound; frequently some unhealed sore remains, and in our opinion such a patient cannot be said to be well and allowed to go about his ordinary avocations without incurring considerable danger. The veins of the rectum are destitute of valves, and only badly supported by areolar tissue; these sores, therefore, much resemble in their condition varicose ulcers of the legs; and we well know in such cases rest in the horizontal position is absolutely necessary to ensure a speedy and certain cicatrization. When, from a low condition of health or from a too early return to the erect posture, wounds in the rectum are long in healing, ulceration will in all probability take place, with contraction as an almost certain result. It is in consequence of the great risk they run when allowed to get about before the wounds are completely healed that we impress upon patients the necessity of perfect rest until the bowel is sound. Nevertheless, there have been patients who have gone about their business with ligatures on their hæmorrhoids, and have sustained no injury; but this is a course by no means to be commended or followed.

Pain after the operation varies according to the

constitution and nervous sensitiveness of the patient, and also as to the condition of the parts *before* the operation; but, as has been said, by performing gentle and full dilatation pain is very considerably alleviated.

If pain should be acute at first, the opium should be pushed or hypodermic injection (morph. gr. $\frac{1}{4}$, atropine gr. $\frac{1}{60}$), should be given. A sponge wrung out of very hot water, and applied to the sacrum, nearly always affords relief, and however sharp the pain may be at first (it is always exaggerated by the want of moral control brought about by the inhalation of ether), in two or three hours it will have subsided, and the patient may be assured that the worst of his troubles will soon be over, and the pain will gradually become less.

The after-treatment advocated above applies to all the methods of operating for internal piles; when the ligatures have been used, they should be gently pulled daily, beginning on the day after the first action of the bowels. By this plan the ligatures usually separate upon the seventh or eighth day.

CHAPTER XII.

COMPLICATIONS OF HÆMORRHOIDS.

Complications not confined to hæmorrhoids alone.

THE heading of this chapter must not lead readers to think that the complications to be mentioned only occur in conjunction with piles. Such a supposition would be erroneous, and we have only chosen this phrase because complications are more frequently found together with piles.

It must be understood that a case is called one of piles if the piles predominate, but it does not follow from this that a fissure, fistula or polypus may not also be co-existent. In like manner, if a fistula is the chief cause of a patient's pain and trouble, his case is said to be one of fistula, but piles or fissure may also exist here, and may require quite as much treatment as the fistula. If complications are not carefully looked for, although the patient's predominant ailment may be skilfully and thoroughly treated, yet he will not recover his full health, in consequence of other accompanying rectal maladies.

1. *Complications in Conjunction with Hæmorrhoids.*

Fissure or ulcer.

Fissure, or small painful ulcer, is very often associated with hæmorrhoids, and a careful examina-

tion is needed to detect it, as one of the tumours may overlap the fissure so as entirely to conceal it. One should always suspect fissure or ulceration when the patient states that he suffers pain on defæcation, or pain continuing long after the bowel is relieved.

In operating on hæmorrhoids, when fissure or ulcer is found to exist, we divide the superficial fibres of the sphincter muscles so as to set them at rest, or very forcibly dilate so as to allow the fissure or ulcer to heal. It is well in these cases not to omit examining the upper part of the fissure, to see if any sinus runs up from it; if so, it must be laid open.

Fistula is not so common a complication. If the fistula be well marked, there is no difficulty in the diagnosis, but if it be of the blind internal variety, or if the external orifice be very small and concealed, as it may be, by an external flap of skin, it is quite possible to overlook it. We have frequently met with examples of this. Here is a case in point: Fistula.

A gentleman consulted us, and stated that three months before he was operated upon for piles, and was pronounced by his surgeon to be cured, but he still had occasional pain and throbbing in the anus; there was also a constantly-recurring discharge which soiled his linen; it ceased for a day or two and then returned. He had mentioned this to the gentleman who operated upon him, and had been told he was only suffering from a little weakness of the bowel, which would soon right itself; of this, however, the patient could not feel convinced, and he was alarmed, thinking that Case.

he would have a return of his hæmorrhoids. The frequent discharge and staining of his linen gave him great concern, and worried him to a degree which seemed almost absurd, and quite disproportioned to the gravity of his case. On a careful examination of this gentleman, we detected, just at the verge of the anus, and hidden by a small tag of skin, a minute orifice ; a fine probe passed into this and through a short sinus, not quite three-quarters of an inch in length, into the bowel. From the history of the case (there having been always the same purulent discharge), there was no doubt that this slight fistula had existed in conjunction with the hæmorrhoids, but the major malady had masked the minor one. We laid open this sinus, and in a week the patient was quite well and relieved from his annoying discharge.

Polypus.

Polypus or polypoid growths are sometimes found in conjunction with hæmorrhoids.

When the polypoid growths exist, they may be found on the piles, or be situated in the sulci between them. They must always be removed, as they cause great irritation, and from dropping into the wounds may prevent their healing.

Impaction of fæces.

Impaction of fæces is sometimes met with on commencing an operation for piles; for, although the patient may have been freely purged, and may assure one that the bowels have acted well, nevertheless the motion may have been only liquid, and have left behind a hard mass of dried fæces. If such a mass be discovered, it must be broken up and washed away with an enema before proceeding with the operation. If it is not removed, it will retard healing and cause great pain and discomfort.

A lax and feeble condition of the sphincters is

sometimes found in old people, and in cases in which large venous piles have existed for a considerable period and have been constantly prolapsed. In these instances it is not advisable to perform the preliminary dilatation, and occasionally, instead, it is expedient to remove some of the loose mucous membrane and skin, so that slight contraction may follow the operation. Lax condition of sphincters.

When examining a case of hæmorrhoids, one must never omit to pass the finger well into the bowel to ascertain that no stricture, ulceration, or malignant disease is present. We have made the same remark before, but do not mind repeating it, as this grave error is often committed. It has many times occurred to us to find that patients have been operated upon in Metropolitan hospitals by eminent surgeons for piles, when they were suffering at the same time from cancer or ulceration of the bowel. Malignant disease, etc.

A healthy-looking young man, æt. 28, was sent to us as a case of piles for operation; a few questions, however, elicited the fact that there was something besides the piles. An examination revealed carcinoma high up the rectum, the lower margin not being nearer than three inches from the anus. The termination upwards could not be reached. Case.

2. *Complications following upon Operation for Hæmorrhoids.*

We need only mention the chief direct complications that may follow the operation for piles.

They may occasion considerable anxiety if one is not aware that they may sometimes arise.

Loss of power in sphincter.

When large hæmorrhoids have been removed, the patient may at first experience a sense of weakness and a slight loss of power over the anus; this may be explained by the fact that the piles acted as a plug, but at the same time caused, from their prolapsing, a weakening of the sphincters. Now, when the plug has been removed by the operation, the only guard against the passage of fæces is a weakened sphincter. Moreover, the change that the operation has effected in the mucous membrane gives rise to a dulness of appreciation when fæces come near the anal orifice. Thus, the patient cannot contract the anus quickly enough to prevent some discharge of wind or motion. This need not cause any apprehension, for in a very short time the power of the sphincter will return, and the appreciation of contact become acute. This may be hastened by bathing the anus night and morning with cold water, and by injecting daily into the rectum about an ounce of some stimulating lotion.

Impaction.

Impaction or accumulation of fæces in the rectum or colon is another complication worthy of mention. It has been said that, prior to operating upon piles, the bowels ought to be thoroughly cleared; this precaution is too often neglected, or, in consequence of the patient's state of health and the condition of the rectum, it is sometimes impossible to empty the colon completely. Although at the operation no fæces may be found in the rectum, yet they may soon descend from the upper bowel and become blocked in the rectum. It is astonishing what large

and hard masses of fæcal matter may have been retained in the large intestine for some considerable time when there is any affection of the rectum. Therefore the surgeon must always be alive to the possibility of impaction after the operation. It is certain that, in the majority of those cases where the healing process does not go on kindly, a loaded colon and congested liver are the chief causes.

Cases.

We saw a lady who had been operated on for slight internal hæmorrhoids, and in whom the wounds became unhealthy and refused to heal. Prior to the operation the patient was not in bad health, and might reasonably have been expected to do well.

Before examining the rectum, inquiry was made as to the state of the bowels for some time past, and from the account given it was obvious that a good clearance had not been effected. Moreover, although action had taken place since the operation, there had been only scanty relief, and when the patient got out of bed and stood up, she experienced inclination to go to stool, and abortive straining on doing so. On introducing the finger, the bowel was found to be quite blocked up by hardened fæces. This impaction was got rid of by manipulation and enemata; then aperients were given by the mouth, and a large quantity of lumpy fæces was evacuated. When we saw this patient again in about ten days the wounds were nearly healed.

We operated for hæmorrhoids upon a young gentleman whose bowels, he said, generally acted fairly, and had done so freely before the operation; but at the end of a week he complained of abdominal pains and desire to go to stool, without having a satisfactory evacuation; this led to our examining the abdomen, and the colon was found to be quite dull on percussion nearly throughout its course. A brisk purge administered daily for three days, and followed by enemata, produced most copious action, and soon im-

proved his general condition, and hastened the healing of the wounds.

Contraction of anus.

It sometimes happens that, after a severe operation upon internal hæmorrhoids, contraction takes place in the bowel on the healing of the wounds. Especially is this the case if the patient is allowed to get up too soon after the operation, when the wounds are still unhealed. This contraction is not usually at the anus, nor does it affect the skin, but mucous membrane only; time alone will generally remove it, but as it may occasion straining and distress to the patient, it is advisable to pass a bougie for a short time, or, what answers as well, and is less alarming, to direct the introduction of the forefinger, well anointed, into the bowel night and morning. In rare cases, when the wounds have been long in healing, and also if a great deal of the bowel has been removed longitudinally, a tight hour-glass contraction takes place, leaving an aperture sometimes only sufficiently large to admit a No. 12 catheter. The contracted part may or may not be ulcerated, the patient suffers much pain, has obstinate constipation, cannot sit up without a sensation of bearing down and great discomfort, and sometimes suffers from eczema caused by the unhealthy discharge. This is the form of stricture which is so frequently found following operations when heated irons are applied, but it may also arise after any other operation if care be not taken to pass the finger daily when the wounds are healing. To get these cases well requires great attention, gentleness

and perseverance; usually constitutional treatment is required as well as mechanical; the patients are nearly always weak and unhealthy. The malady is more common in women than in men, and the uterus therefore usually requires attention. Subinvolution, retroversion, and anteversion, with flexion and chronic endometritis, are the diseases frequently complicating the rectal mischief, and no surgeon can hope to cure those patients who does not take into consideration the state of the uterus.

Here is an instance of contraction :

J. H——, æt. 32, was operated upon for very bad internal piles. He was left under the care of his general practitioner. We did not see him again until three months after the operation, when his symptoms were as follows: Great straining on going to stool; the bowels only acting after severe purgatives, with the feeling that, after they had acted, the rectum was still unemptied. He had occasional discharge of watery matter, which caused extreme irritation about the anus. We at once asked him if the bowel had been examined with the finger since the operation. To this he replied in the negative. On examining, it was found, as we expected, that there was a firm contraction about 1½ inches up the bowel, through which it was impossible to pass the finger. As his condition was so bad, and as three months had passed since the operation, he had to lie up and have the contraction divided. This we did in several places, and after the passage of bougies (increasing in size) for fourteen days, his rectum was dilated up to its normal calibre. We have seen him since, and he was perfectly well.

This certainly would never have occurred had the finger been passed daily until the wounds had healed, commencing a week after the operation.

Ulceration.

Ulceration, or a single ulcer or fissure, with or without contraction, may follow upon the operation for piles, if the patient is allowed to get up before the wounds are healed. An ulcer may become indurated, and may necessitate another operation to effect a cure. This shows how imperative it is to keep the patient quiet until his wounds are well.

James B——, æt. 30, consulted us because he was not well from an operation of piles performed two months previously. He stated that the surgeon kept him in bed for only fourteen days, and then urged him to resume his work, assuring him that he was quite well, although he informed the surgeon that he had pain lasting for half an hour after each action of the bowels. On examination it was found that a well-marked ulcer was situated just between the internal and external sphincters. This palliative measure failed to cure, thus necessitating division of the ulcer.

Abscess and fistula.

Sometimes abscess and fistula in the bowel follow upon the operation for piles. These should always be looked for when the suppuration is more profuse than is consistent with the separation of sloughs or the healing of wounds.

Bubo.

Bubo, or pelvic suppuration, may also be a sequela of these operations, and is most likely to arise in patients of a strumous nature. Here is an instance:

F. M——, æt. 50, was operated upon by us for bad bleeding piles. At that time he was weak and broken down in health. The wounds healed well, but after the operation his temperature kept high, and he suffered from very obstinate constipation; but there was no contraction or complication about the rectum. About three weeks later he complained of pain in the left iliac fossa, but nothing could be felt. We were afraid he might have malignant disease

of the sigmoid flexure, but could not detect this by the passage of bougies or by deep pressure into the iliac region. Very soon his left leg became contracted, and, as the temperature was continuously high, it was thought that some suppuration was going on in the pelvis. Accordingly ether was administered, and then a fluctuating spot was found about 3 inches below the anterior superior spine of the ilium on the left side. This we carefully cut down upon, and, pushing back the peritoneum, let out about 2 ounces of pus. After this he got quite well.

Pyæmia, erysipelas, etc.

In addition to the above complications, pyæmia, erysipelas, etc., may of course supervene, as they do on operations in other parts of the body.

CHAPTER XIII.

HÆMORRHAGE AFTER OPERATIONS UPON PILES.

This will occasionally take place, and it may be either primary, recurrent, or secondary.

Just as in midwifery one may go on for years without the occurrence of an untoward event, and then have a batch of troublesome cases, so it is in this operation; one may perform it a large number of times without the slightest unpleasant symptom resulting, and then have a run of cases which cause more or less anxiety.

When called to cases of hæmorrhage, one should be armed with a full-sized bell-shaped sponge and plenty of cotton wadding, and take also some sub-sulphate of iron wool, or Ruspeni's styptic, or powdered alum or tannin.

Primary hæmorrhage.

If the operation for piles be carefully done, primary hæmorrhage is very rare; occasionally, when large and very vascular hæmorrhoids are ligatured, and there is also much superabundant skin cut away, a small vessel, even after pressure has been applied, may continue to bleed.

When a bad case of piles has been operated on,

there is frequently an oozing of serum and blood from small vessels and capillaries of the surface from which the piles have been removed. To those unaccustomed to these operations, this may occasion needless alarm, and cause them to loosen the bandage, take off the pad of wool, and try to find the vessels.

If, an hour after the operation, one looks at the bandage and wool applied to the anus, he will generally see that they are stained with blood. Should this be the case, one must place more wool upon the parts and tighten the bandage. The wool, however, may be soaked with blood, and there may be some trickling of blood from between the skin and the pad. This will take place if the sphincters have been dilated prior to operating, for there cannot be retention of blood in the rectum without some of it oozing outside, as there is no contraction of the anal orifice. In cases in which this trickling cannot be stopped by tightening the bandage, the nurse should be told to place her hand over the parts and continue this pressure for an hour or two. That failing to arrest the oozing, it is then necessary to remove the wool, to see if there is any large vessel that is causing this trouble. Should no important vessel be discovered, a little subsulphate of iron wool must be introduced into the anus and pressure continued. The buttocks should be exposed, and an ice-bag applied. This is generally successful.

Recurrent hæmorrhage.

But a much more serious matter is recurrent hæmorrhage. Although the bleeding may have

been completely arrested at the operation, and none may have occurred for some hours, or even a day, yet, when the patient recovers from the operation, the arterial tension increasing, and perhaps the temperature rising, recurrent hæmorrhage may supervene.

When the surgeon is called to such a case, he should at first employ the treatment already described, but at the same time wait a while to see if the bleeding continues. If it does, and especially should the patient express a desire to pass wind or fæces, and if he complains of feeling distended and uncomfortable in the abdomen, then, most probably, internal bleeding is going on. Prompt action is then necessary. One must remove the bandage, pass the finger into the bowel, and tell the patient to bear down. This is generally followed by a great outpour of dark blood and clots. The rectum should then be well syringed with cold water, for this empties the bowel of warm, fomenting blood, and may cause contraction of the vessels, and thus arrest the hæmorrhage. If the bleeding still continues, two fingers should be passed into the rectum and the bowel examined until the part is found where pressure controls the hæmorrhage.

If another medical man is near, he should be sent for at once to administer ether, the surgeon's fingers being kept all the while on the bleeding part. When such aid is not procurable, the nurse must apply the digital pressure while ether is administered by the surgeon. As soon as the patient is

thoroughly narcotized, the nurse should continue administering the anæsthetic, which she may safely do if one watches the patient's breathing. Then with a vulsellum the bowel should be pulled down and the bleeding vessel picked up. If this cannot be found, clips should be left on the piece of mucous membrane at the place where pressure with the fingers arrested the hæmorrhage. If this, too, proves ineffectual, the bowel must then be plugged in the following manner:

Use of sponge as a plug.

The surgeon should pass a strong silk ligature through a cone-shaped sponge near its apex, and bring it back again, so that the apex of the sponge is held in a loop of the thread. He must then wet the sponge, squeeze it dry, and powder it well, filling up the lacunæ with the iron or other astringent. The forefinger of the left hand is passed into the bowel and upon that as a guide the sponge is pushed up, apex first, by means of a metal rod, bougie, penholder, or a rounded piece of wood, if nothing better can be found. This sponge should be carried up the bowel at least five inches, the double thread hanging outside the anus. When this is so placed, the whole of the rectum below the sponge must be thoroughly and carefully filled up with cotton-wool well powdered with alum or iron. When one has completely stuffed the bowel, the silk ligature attached to the sponge is seized, and while the sponge is pulled *down* with one hand, the wool is pushed *up* with the other hand. This joint action will spread out the bell-shaped sponge,

like opening an umbrella, and bring the wool compactly together; if this is carefully done, no bleeding can possibly take place either internally or externally. Half-measures in these cases are worse than useless, as valuable time is thereby lost. This plug should remain in at least a week, and it may be retained a fortnight or more. It might be thought that much straining and pain would be caused by it. This is not the case; if the patient is fairly under the influence of opium, he very rarely complains; the only trouble may be wind, and this often will find its own way out. If one fears this, and has a male catheter or flexible tube handy when the plugging is done, it may be introduced through the centre or by the side of the sponge, the wool being packed around it. We have done this several times, and found the patients passed through it not only wind, but also broken-down blood and liquid fæces. One need never fear a case of hæmorrhage if the plugging is methodically and thoroughly done.

Gowlland's tubes.

Practitioners who are not frequently operating on hæmorrhoids cannot be expected to possess all the most modern appliances, but we can recommend Mr. Gowlland's tubes, which are made of vulcanite, shaped like a bougie, 7 inches in length and about 1 inch in diameter; the base terminates in a rim, which is perforated, so that it can be sewn to a bandage. We have had tubes made with holes 2 inches from the apex, so that sponge can be sewn on around them. This is passed up the rectum, and wool packed all around it. The advantages are

obvious; flatus, liquid fæces, and broken-down blood can pass; one can also inject frequently a weak solution of Condy's fluid, or Sanitas, which will keep the part clean and sweet.

Secondary hæmorrhage.

As a rule, *secondary* hæmorrhage is more to be feared; this usually comes on at or about the time of the separation of the sloughs. This form of bleeding occurs generally in elderly people of broken-down constitutions, or in those who have been very free livers.

This bleeding generally takes place internally in consequence of the sphincter having partially recovered its tightness, and thus preventing the escape of blood. The patient will say that he feels something running inside the bowel, and this may continue until the rectum (and even the sigmoid flexure) is full of clots and fluid blood. He then has intense desire for his bowels to act, and passes a quantity of blood, which may be the first indication of hæmorrhage having occurred.

We have found it utterly futile in cases of secondary hæmorrhage to try to place a ligature round the vessels, as the tissues are generally so rotten. It is usually the large veins or venous sinuses which are opened by sloughing or ulceration, and when an attempt is made to tie or clip the vessels, they break away.

The bowel must at once be syringed out and plugged with a sponge, as previously described.

After-treatment.

The after-treatment of these cases requires considerable care and attention to details; generally

the patient is very greatly alarmed at the bleeding, but his fears will be soon allayed if he finds the surgeon prompt and confident of his own powers to succour him. After the hæmorrhage is arrested by the plugging, the recumbent position must be maintained, and on no account whatever should an upright posture be assumed. If the packing be tight, frequently retention of urine will occur, and a catheter must be passed. The buttocks and lower part of the back should be kept cool. A hot bottle placed to the head wonderfully revives patients who are faint from severe hæmorrhage. Stimulants may be given, but not in excess. As soon as it can be taken, nourishment is to be given, *e.g.*, Liebig's Cold Soup,* Brand's Essence, Valentine's Juice, etc. Hot liquids are to be avoided. It is not necessary to keep these patients entirely on fluid diet; they should have solid food as soon as they can take it, but it should be nourishing and easy of digestion. As secondary hæmorrhage generally occurs in persons whose blood and tissues are deficient in plastic material, the aim of treatment must be to remedy that defect, and thoroughly nutritious food judiciously administered is the most valuable means to that end.

The internal use of astringent remedies in such hæmorrhages does not appear to be of much value. The hypodermic injection of ergotine may be of some

* Liebig's Cold Soup is prepared thus: Take 8 ounces of raw lean beef, finely minced, put it into 20 ounces of cold water, add 10 drops of strong hydrochloric acid and a little salt; let it stand half an hour and then strain. One or two ounces may be given every half-hour.

assistance, and iron in some form, not only as a hæmostatic, but also for its blood-repairing property, is very useful. If the stomach bears this well, full doses may be given twice or thrice in the day ; in addition, a pill containing 1 grain of solid opium night and morning, or at night only, if the bowels do not exhibit any tendency to act and there is no straining, will generally meet the requirements of the case. Should the hæmorrhage have been very severe, and the patient placed in a critical condition, he may be saved by the intravenous injection of 4 to 5 pints of saline solution. The injection may be given as recommended by Mr. Mayo Robson in the following manner : A vein is to be exposed in the arm and divided. Into the proximal end a glass nozzle is placed, and this is attached by indiarubber tubing to an ordinary Higginson's syringe. Then the saline solution, 1 drachm of salt to 1 pint of water at temperature 100, is slowly injected into the vein. One mentions this simple apparatus as it is easily obtainable—in fact, is found in almost every house, and can be at once used. Of course, in such serious cases the proper transfuser is rarely to be obtained speedily. The only precaution necessary when using the Higginson's syringe is to see that most of the air is out of it before injecting the saline solution.

The methods of arresting hæmorrhage that have been already narrated are the best to employ in all cases, but we may add to these a few other suggestions which have sometimes succeeded.

Ligatures as tourniquet.

Primary and recurrent hæmorrhage following the use of the ligature may sometimes be stopped by drawing down the bowel by the ligatures, the patient assisting one by straining. The surgeon will then, in all probability, be able to see the bleeding vessel and tie it. If he cannot see it, or if a general oozing is apparent, he should pass all the ligatures through a hole made in the middle of a small round sponge, then tie them across a piece of stick and twist this round. In this way a sort of tourniquet is constructed, and firm and strong pressure can be made with the sponge, so that no further bleeding can take place. In a few hours after the hæmorrhage is arrested the stick may be removed.

Evils of transfixing piles.

In the old plan of operating with a double ligature and transfixion of the base of the hæmorrhoid, bleeding used from time to time to occur from perforation of a vessel—usually a vein—by the needle. When this took place, on the ligatures being tied, the vessel would be more or less torn open, and bleeding would occur at the time, or shortly afterwards. This accident is easily remedied by drawing down the piles by the ligatures, and placing a ligature above the spot where the bleeding hæmorrhoid was transfixed.

After use of cautery or crusher.

When hæmorrhage follows on the use of the clamp and cautery or the crusher, it is unwise to search long for the bleeding vessels, for this searching is very likely to disturb other areas or crushed portions, and so cause bleeding from many points.

Therefore, in these cases, if simple means fail, we at once plug the bowel.

Advantages of Whitehead's operation as regards hæmorrhage.

After Whitehead's operation, primary or recurrent hæmorrhage must take place outside the bowel, as the mucous membrane has been stitched all round to the skin. Thus the hæmorrhage is very easily stopped by pressure. But when secondary hæmorrhage takes place, it can only be due to the fact that the stitches have not held, and so the mucous membrane has slipped back up the bowel. In this state plugging must be resorted to.

Pressure from vagina.

In women hæmorrhage from the rectum may be controlled by passing two fingers into the vagina, and making backward pressure against the sacrum. When the hæmorrhage is from the anterior wall of the bowel, this can be made visible by pressure effected from the vagina towards the anal orifice.

We will now relate a few cases of hæmorrhage.

Cases.

A case of accidental hæmorrhage occurred to an elderly gentleman who had a very large hæmorrhoid, which had undergone fibroid degeneration; it was situated dorsally, was as large as a hen's egg, and always came down at stool, giving a great deal of trouble. Ulceration had taken place at the upper part of the pile. A ligature was placed upon it, and the tumour was then cut off. At the time of tightening the ligature we felt that the tissues were very friable, and examined the site of the ligature to see if it had cut through much, but could not discover that it had done so, and there was no bleeding. We found that considerable hæmorrhage had taken place since 4 a.m., the cause being probably as follows: He had not passed any water, and feeling a very urgent desire, he jumped quickly out of bed, and strained violently to empty his bladder; at the time he

was doing this he felt something give way in the rectum, and on his getting back into bed the nurse observed that he was bleeding. With a vulsellum we drew down the bowel, and placed another ligature above the first one. This at once arrested the bleeding, but the next day but one it recurred to an alarming extent, and the parts were so soft and sloughy that no ligature would hold; under these circumstances the rectum was plugged. This plug was retained for about ten days, and he had no more hæmorrhage, and eventually did well.

A gentleman, æt. 23, had all his life suffered from rectal disease; when a child from procidentia, and by the time he was eighteen from bleeding hæmorrhoids. When we saw him he had a prolapse of the lower part of one side of the rectum, which came down on very slight exertion; he was very thin and weak, and subject to fainting. Two ligatures were applied upon his prolapsus.

This gentleman went on very well indeed until the eighth day, when the ligatures came away on the bowels acting. Soon after this—he had returned to his bed—he said he felt faint, then that he wanted to go to stool, and on being assisted up to do so he nearly filled the pan with dark blood and fainted away. As the patient had lost a large quantity of blood, this was not a case in which one could afford to temporize, so we at once plugged his bowel with cotton-wool and subsulphate of iron. The plugging immediately arrested the hæmorrhage, and the wool was kept in for ten days; then we carefully removed it, and no further bleeding took place. The patient soon got quite well. This is the only case of severe secondary hæmorrhage we ever had in a young person.

An elderly gentleman came from the country to be under our care. He had been much in hot climates, had led rather a dissipated life, and worked very hard. He was only fifty-four, but he looked sixty-five at least. He suffered from a constantly prolapsed hæmorrhoid. We saw

no reason why it should not be removed, and accordingly applied a ligature in the usual way. The patient did capitally until the seventh day, when the ligature came away on his going to stool. He was seen in the afternoon, and was very comfortable, and said he should get up and lie on the sofa.

At night we were summoned hastily, as he was bleeding. On our arrival he was quite collapsed, and the blood was literally pouring out from his rectum. The hæmorrhage had come on suddenly when he was moving from his sofa in the sitting-room to the bedroom on the same floor. We plugged instantly and arrested the bleeding; he suffered a good deal of distress from flatulence, which compelled us to remove the wool and sponge on the ninth day. To our intense annoyance, after twenty-four hours the hæmorrhage recurred quite as badly as at first. Ether was given, and the rectum replugged with the sponge, but this time, not wishing to remove the plug early, we adopted the precaution of introducing a full-sized elastic catheter at the side of the wool, so that he was able to get rid of flatus through it. This was all retained for nineteen days, when gradually and carefully the plugging was removed; there was no further bleeding. This was a very anxious case.

A man, æt. 42, was operated upon by us. He was a feeble man, and had no power in his sphincter muscles. He suffered from prolapsed hæmorrhoids, which were always down. The crusher was used.

On the first night hæmorrhage commenced; at first the blood was small in quantity, and passed only when he moved or coughed; it came away fluid, and also in small clots: it was venous in character. Ice-water with perchloride of iron was injected, but failed to arrest it. When he was seen he was very pale and faint, and the hæmorrhage was nearly constant, the blood slowly trickling out of the anus. The bowel was found to be full of blood. Ether was administered, and clips put on the bleeding points. These were removed in forty-eight hours' time.

The patient was very weak and ill for some time, and he suffered from an attack of purpura. He rallied, however, under good diet and stimulants, and finally quite recovered.

Choice of anæsthetic.

Chloroform should not be given in these cases of hæmorrhage; ether is far better, as it is a direct stimulant to the heart. Moreover, when the patient is under ether, hæmorrhage is easily controlled; whereas an attempt to find vessels when the patient is not under ether is cruel, only increases the shock, occasions great pain, and does not give the surgeon a fair chance of success.

CHAPTER XIV.

PROCIDENTIA RECTI.

Confusion between the terms prolapse and procidentia.

As there is sometimes a confusion of ideas occasioned by the use of the terms procidentia and prolapsus, we will point out the distinction between them, for these conditions are very different in appearance, and hence it is most important to retain the two names, for by so doing we thoroughly understand what affection we are speaking about; moreover, the best operative methods for obtaining a radical cure of the two diseases are very different from one another. Prolapse, as we shall describe it, may best be treated by excision, whereas procidentia requires the use of the actual cautery.

Prolapse.

By prolapse is meant a protrusion outside the anus of a *portion or portions* of the mucous membrane, not in its entire circumference, and unaffected by piles.

Internal hæmorrhoids, when they have come down outside the anus, are said to be prolapsed, and the case should be termed prolapsed hæmorrhoids.

To these two conditions only should one restrict

the term prolapse; they may and should be cured by removal.

Procidentia.

The term procidentia must be confined to a descent of the *whole* circumference of the rectum.

This may take place in three ways:

1st variety.

First, when the entire circumference of the mucous membrane, or all the coats of the rectum, appear outside the anus.

2nd variety.

Second, when the upper part of the rectum descends through the lower part, and then *appears outside* the anus.

3rd variety.

Third, when the upper part of the rectum descends through the lower part, but does *not appear outside* the anus.

These two latter conditions are kinds of intussusception, but had better be described as forms of procidentia.

Symptoms in 1st and 2nd kind.

Procidentia, when it occurs as is represented in Figs. 32 and 33, presents the following symptoms: When the bowels act, the mass protrudes, and in old cases frequently bleeds. Constipation is the usual symptom in children, but in the old a nasty teasing diarrhœa is more commonly present. There is then often a discharge of mucus. In children the mass generally protrudes only on going to stool, but in adults is constantly down or comes down on the slightest exertion, and therefore may become ulcerated or inflamed.

In very old and bad cases of procidentia more or less incontinence of fæces always exists. As before said, there may be two reasons for this symptom.

First, loss of tone in the sphincters, the frequent protrusion stretching these muscles so that they lose

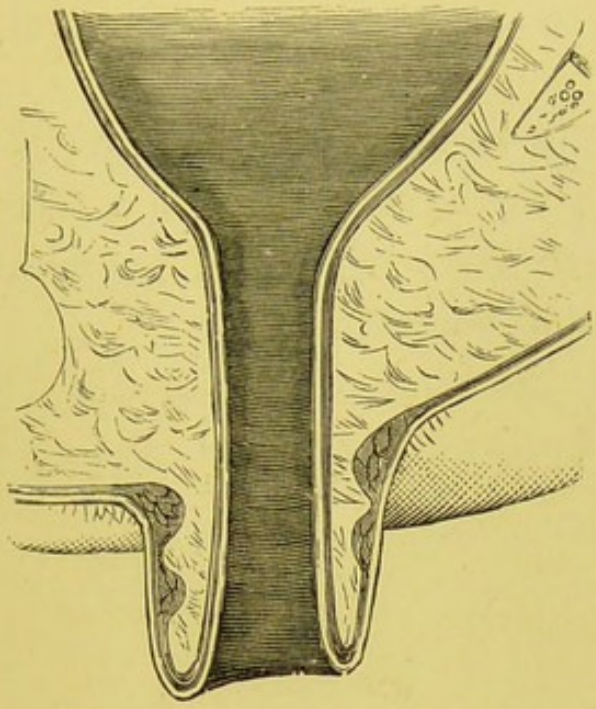


Fig. 32.

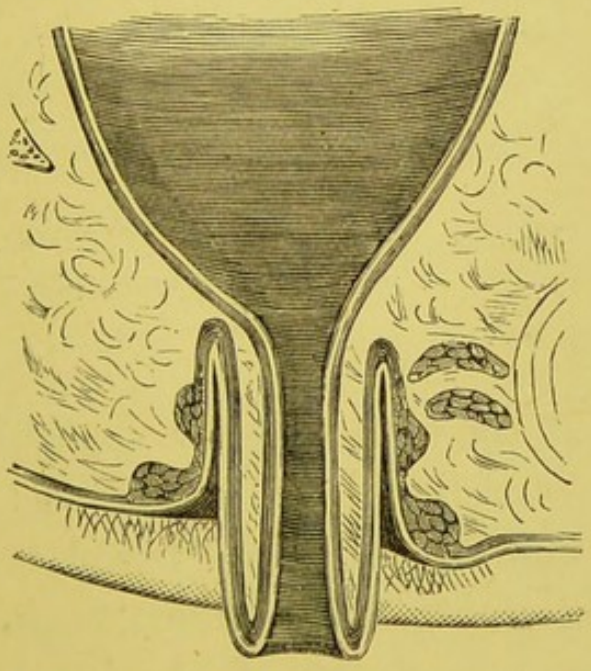


Fig. 33.

a great deal of their contractile power; and secondly, the mucous membrane becomes so altered in structure as to lose, in a great degree, its natural sensi-

tiveness; thus when fæcal matter comes into the lower part of the rectum, the sphincters are not stimulated to action, nor is the patient aware of its presence.

Procidentia varies greatly in size; it is sometimes very large; we have seen it in a woman larger in circumference than the fœtal head, and seven or eight inches in length.

Symptoms in 3rd kind.

In the third kind of procidentia (Fig. 34), the symptoms are as follows: There is no protrusion of

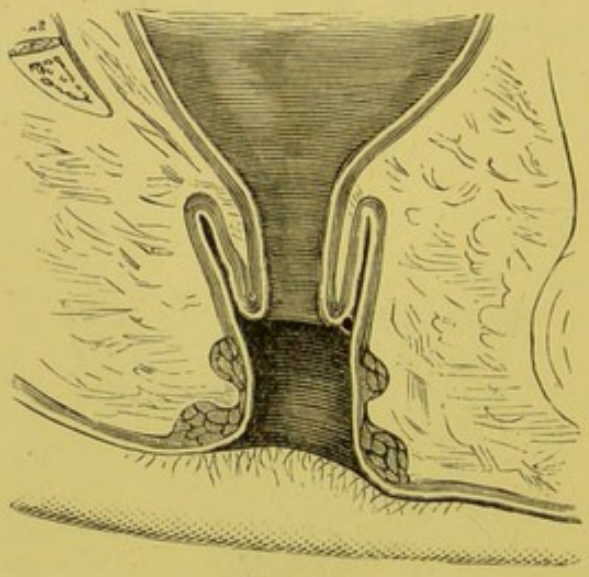


Fig. 34.

the mass from the anus; there is generally obstinate constipation unrelieved by purgatives; a sensation of burning and fulness in the bowel attended with tenesmus, straining, and difficulty in defæcation with occasional discharges of blood and mucus.

Diagnosis of 3rd kind.

The diagnosis of the first two kinds is obvious. The third variety (Fig. 34) is not always easy to diagnose, as the mass never appears outside the anus. Upon a patient presenting himself with the

symptoms above described, this condition of procidentia should be suspected, and sought for in the following manner. The patient should stand up, the finger be introduced into the bowel, and then being kept close to the anterior or posterior wall, passed up until it meets with an obstruction, *i.e.*, it has passed into the cul-de-sac ; then the finger is slightly withdrawn, and the centre of the gut examined, until one finds the orifice, into which the finger or a bougie may be passed for some inches, high up into the rectum. If the intussusception is rather far up the rectum, the patient should bear down.

Procidentia in children.

Procidentia of the rectum is more often seen in children than in adults, although it is by no means a rare affection in women—particularly those who have borne many children—and in men in advanced years. Procidentia in children is much favoured by the formation of the pelvis, the sacrum being nearly straight. Moreover, all infants strain violently when their bowels act, even when their motions are quite soft. There appears to be some physiological necessity for this ; but these facts are not quite sufficient to account for the proneness of children to this malady ; there is always, in addition, some inherent weakness or extraneous source of irritation present by which excessive straining is caused. We may mention diarrhœa—often the result of strumous inflammation of the intestines—worms, stone in the bladder, phymosis, polypus recti, etc. There are many cases, however, in which we can assign no special cause, where the child is not manifestly

unhealthy and no source of irritation can be detected.

Suggested causes of procidentia.

The very bad custom of placing a child upon the chamber utensil, and leaving it there for an indefinite period, as practised by many mothers and nurses, is a fertile cause of procidentia.

We think some possible cause of procidentia, both in children and adults, may be found in the length of the mesentery. We know that the second portion of the rectum is normally covered by peritoneum only on its anterior surface, and is fixed to the sacrum at its posterior part. Now should this portion of the bowel during the course of development be completely covered by peritoneum, as it sometimes is, and be connected with the sacrum by a mesentery, here there might be a condition of itself likely to cause a procidentia.

The circumstance that children generally recover from procidentia, but sometimes do not, may be explained by the following line of argument. First, as growth takes place and the sacrum becomes curved, this curve adds a support to the bowel. Secondly, the growing intestines may increase in a greater proportion than the mesentery, and so become fixed to the sacrum, or at least be not so freely movable. In a similar way hernia in children is frequently rectified by advancing development giving increased strength to the weakened parts.

In women who have borne children, procidentia may be occasioned by the loosening of the parts consequent on pregnancy.

In men the pelvic muscles may keep up the rectum during youth, but when age causes a loss of tone in these muscles, procidentia may then arise, and it may also occur in those who have an abnormally long rectal mesentery.

Returning procidentia.

Sometimes when a large portion of the bowel comes down, there is much difficulty experienced in returning it. The passing up the bowel of a large, flexible bougie, so as to carry before it the upper part of the descended gut, may be of great service; gentle taxis should at the same time be used, and in this manner the mass can generally be returned. When the gut comes down, and the patient cannot put it back and does not seek assistance, it becomes tightly girt about by the sphincter, great swelling takes place, and sloughing may ensue. We have seen cases of this kind, but, as far as experience goes, the sloughing is partial, and only the mucous membrane separates. After a few days' rest, with the buttocks well raised to favour the return of blood, the part can be replaced, and considerable benefit may result. The only case we ever saw where anything like dangerous or deep sloughing took place was in consultation with a medical man who had most assiduously and constantly applied a bladder of ice to the protruded part, and this had so much favoured sloughing that nearly the whole mass came away, and there was free secondary hæmorrhage. In this case the sloughing was so considerable that a very intractable stricture resulted. This shows the necessity of care in the application of ice; if

it be too long continued, or if the patient be old or of feeble constitution, dangerous results may ensue.

Hernial sac in procidentia.

One has seen many cases of procidentia in which there was a hernial sac in the protrusion, and in all it was situated anteriorly, as from the anatomy of the part, of course, it must be. The intestine could be returned out of the sac, and it went back with a gurgling noise. Directly the bowel is protruded the presence of a hernia is made known by the fact that the opening of the gut is turned towards the sacrum; when the hernia is reduced, the orifice is immediately restored to its normal position in the axis of the bowel. The condition is not very uncommon, but we have never found it in children.

Palliative treatment in children.

In children palliative treatment is generally successful. It should first be addressed to the removal of any source of irritation; this accomplished, a cure is speedily effected. When no source of irritation can be discovered, the general health must be attended to. The child should never be allowed to sit and strain at stool; the motions should be passed lying upon the side at the edge of the bed, or in a standing position, and one buttock should be drawn to one side, so as to tighten the anal orifice while the fæces are passing.

When the bowels have acted, the protruded part ought to be well sluiced with cold water, and afterwards a solution of

Alum. sulph.	ʒi
Dec. quercûs	Oi.

Misce.

to be increased in strength if it can be borne; or an infusion of matico, krameria, weak carbolic acid, or hamamelis, should be thoroughly applied with a sponge. The bowel must then be returned by gentle pressure, and the child should remain recumbent for some little while, lying upon its face on a couch, before running about. If there be any intestinal irritation, small doses of

Hyd. c. cretâ	gr. ii.
Pulv. rhei	gr. iii.

Misce.

should be given at bedtime, and steel wine two or three times in the day. When the child is very ill-nourished, cod-liver oil does much good; the diet should be nourishing and digestible.

Operative treatment in children.

If mild measures do not succeed, the application of strong nitric acid is the best remedy. Chloroform should be given, and the protruded gut well dried. The acid must be applied all over it, care being taken not to touch the verge of the anus or the skin. The part is then to be oiled and returned, and the rectum stuffed with wool; a pad must after this be applied outside the anus, and kept firmly in position by strapping plaster, the buttocks being by the same means brought closely together; if this precaution be not adopted, when the child recovers from the chloroform, the straining being urgent, the whole plug will be forced out, and the bowel will again protrude. When the pad is properly applied, the straining soon ceases, and the child suffers little

or no pain. A mixture of aromatic confection with a drop or two of tincture of opium should be given, so as to confine the bowels for four days. Later the strapping is to be removed and a teaspoonful of castor-oil taken. When the bowels act the plug comes away, and there is no descent of the rectum.

This treatment in a great many cases effects a cure, and rarely fails if properly carried out; sometimes it is necessary to apply the acid more than once.

In adults. Procidentia in the adult is a very much more unmanageable affection, and is supposed in many instances to be quite incurable.

Sometimes a procidentia occurs conjointly with internal hæmorrhoids; in this case, when the procidented gut is gently returned, there still remains outside the anus a ring of hæmorrhoids, or loose and thickened mucous membrane; when the procidentia is small, it will almost certainly be cured by ligature of the piles.

Nitric acid. The application of fuming nitric acid, or, preferably, the acid nitrate of mercury, often does some good, although, unfortunately, the relief is usually only temporary; we have had patients to whom the acid has been frequently and very thoroughly applied, but without effecting a cure. The use of the acid in such cases is not at all painful if the skin be not touched; it causes only a burning sensation, which soon passes off. As in children, the gut should be oiled before returning it, and the bowels should be confined for a few days.

In old persons, or in those with a broken-down constitution, a very free application of the acid is to be deprecated, as a deep slough may form, some vessel be opened on its separation, and severe hæmorrhage take place. This complication occurred to us in the person of an elderly woman of feeble powers; she lost very much blood, and the bleeding was arrested only by plugging the rectum.

A stricture of the rectum may result from the use of the fuming nitric acid; we have seen this occur on several occasions, and very notably in a girl at St. Mark's Hospital, to whom acid had to be applied three times, and in whom a stricture formed about three and a half inches from the anus; this gave us much trouble, as, although the bowel did not come down, the symptoms were quite as distressing as those of that affection.

Carbolic acid.

Strong carbolic acid has been used in these cases; it is not likely to produce a slough, and it may be applied frequently—in fact, every day, if necessary to do so; benefit results, but the effect is not so good as that derived from the acid nitrate of mercury.

Injections.

Injections of various irritants into the cellular tissue in the ischio-rectal fossæ have occasionally been reported to be beneficial. Dr. Ferrand recites a case in which he injected

Glycerina	15 parts
Aqua	
Alk. hydrated extract of ergot .	2 ,,

into the ischio-rectal fossa beside the procidentia.

Four injections were given at intervals of twenty days, with the result of effecting a cure. Injections of carbolic acid or any other astringent may be used with occasional benefit, for they set up a low form of inflammation which binds the tissues together. We do not recommend these injections, as they are not at all certain in their action, and may cause abscesses around the anus without curing the procidentia.

Removal of elliptical portion.

In the conditions of procidentia represented in Figs. 30 and 31, when the cases are slight, temporary benefit may result from dissecting off triangular or elliptical portions of the mucous membrane, and bringing the edges together with sutures of horsehair or carbolised catgut. One may clamp portions of the gut, cut them away and use the actual cautery, or else apply a ligature. We have tried all these methods, but with only very partial success; the patient may leave the hospital very well, but in a few months the bowel will again protrude, in all probability as badly as ever.

Elastic ligature.

Dr. Kleberg relates, in the 'Arch. für klin. Chirurg.,' vol. xxiv., that in very bad cases of procidentia he has used the elastic ligature for removing the mass. He says:

'An assistant surrounded with all the fingers the prolapsus from above, the points of the fingers being directed towards the free end of the prolapsus, and pressed as hard as possible into the gut at a point perhaps half an inch below the supposed sphincter. Immediately in front of the ends of the assistant's fingers I then placed an unfenestrated drainage-tube

of rubber, one and a half lines in diameter, around the prolapsus, and drew it only as tight as seemed necessary to stop the circulation. The elastic ligature was brought to the necessary tension by means of an easily untied slip-knot of silk thrown under it.

'A few lines beneath the ligature I made a longitudinal incision two inches long through the prolapsed gut, and in this way opened the sac formed by the drawing down of the peritoneum. Then I seized the elastic ligature with the forceps and fixed it firmly. It was thus an easy matter to push back into the peritoneal cavity a protruding loop of intestine without the slightest bleeding taking place into the wound or any air entering the peritoneal cavity; because the elastic pressure follows so rapidly all the movements that no opening can exist anywhere.

'After I had convinced myself that the peritoneal sac was empty, and that no invagination of the intestine was present, but, on the other hand, only that part of the gut which was to be removed lay in front of the ligature, I thrust the largest size Luer's pocket trocar through the prolapsus, immediately below the elastic ligature, from before backwards, and passed through the cannula two elastic drainage-tubes of one and a half lines in diameter, and, after removing the cannula, tied them as tightly as possible, one on the right side, the other on the left. These knots were secured against slipping by means of the knot of silk. The first provision against hæmorrhage — the elastic ligature applied after

Esmarch's plan—was then removed, and the prolapsus cut off with the scissors one inch in front of the permanent ligatures. I covered the parts around the stump with cotton, and soaked that part of the prolapse which still remained above the ligature with a solution of chloride of zinc, and then covered the whole with dry cotton-padding, giving the patient instructions to remove this as soon as it became moist and to replace it with dry, and to give the air all possible access to the parts.'

Dr. Kleberg goes on to say that the ligatures separated one on the fifth, the other on the seventh day, and that in a short time the patient was perfectly cured.

Excision of the prolapsed portion, which in the fifth edition of this work we briefly advocated, in cases which failed to be cured by the actual cautery, presently to be described, has been carried out by Mr. Treves. In the *Lancet*, 1890, vol. i., he narrated three cases which he treated in the following manner : The patient is placed in the lithotomy position. The relaxed mucous membrane is pulled down with forceps and kept outside the anus. A circular cut is made round the base of the procidentia at the junction of the skin and mucous membrane. The mucous membrane is only incised, dissected off, and turned down like a cuff. The next step is to divide the inner layer with scissors at the level of the anus, pressure-forceps being applied to the proximal end of the cut bowel. The mucous membrane is then attached to the skin at the anal

margin by silkworm gut sutures. Mr. Treves, in discussing his three cases, remarks that the method gives a clean surface, the operation is reduced to a minimum, no damaged bowel is left in the pelvis, there is no risk of hæmorrhage or stricture, the method is simple, final, does not necessitate long after-treatment, and causes little pain.

Dr. F. Lange, of New York ('Annals of Surgery,' vol. v., p. 497), narrates an operation for the reduction of the calibre of the rectum and the production of a narrow muscular ring. He proceeds on the assumption that the levator ani plays an important part in the closure of the rectum, and that it not only lifts but draws the orifice forwards against the perinæum. The patient is placed in the genu-pectoral position. An incision is made from the lower part of the sacrum down to the anus, until the posterior wall of the rectum is reached; the coccyx is then removed. The object in view is to narrow the gut as high up as possible, and to lessen the impediments to the action of the levator ani. The calibre of the rectum is lessened by introducing 'buried étage sutures of iodoform catgut,' which do not perforate the entire thickness of the gut. The first row are inserted near the middle line, and form a fold in the posterior wall, which protrudes into the bowel. In this manner the more lateral portions of the gut are brought into apposition without causing too much tension. Similar sutures are employed to unite the cut surfaces of the levator ani and sphincter externus, which he previously dissected back in order

to lay bare the posterior wall of the rectum. The cavity thus formed is filled up with iodoform gauze, and the flaps of integument are united with sutures. Dr. Lange had a successful case in which a procidentia, which was six inches in length, had existed for twenty years, and had been treated on five different occasions by cauterizations and excision of the mucous membrane.

A somewhat similar operation has been performed by the late Professor Verneuil,* for the purpose of *raising the bowel and attaching it to the region of the coccyx*. The procidentia being replaced, and the patient being in the lithotomy position, two incisions, from one and a half to two inches in length, are made at right angles to the long axis of the anus, from the orifice of the latter in an outward direction. From their terminations, on each side, incisions are carried to the apex of the coccyx, and the triangular flap thus made is loosened from behind forward, and left attached to the tissues surrounding the anus. This flap is drawn up with blunt retractors, and the posterior wall of the rectum is detached for a breadth of about two and a quarter inches, and above to a height corresponding to the distance from the anus to the apex of the coccyx. Four threads are now passed transversely through the posterior rectal wall, parallel with each other and not including the mucous membrane. The highest of these sutures is in close relation to the apex of the coccyx, while the lower one is about 15 millimetres

* 'Annals of Surgery,' March, 1891, p. 218.

from the anus. By means of a needle with an eye near the point, which is passed through the skin from without, the threads are drawn through the points of emergence of their respective ends, at about one and a half inches on either side of the median line. The uppermost suture should be on a level with the articulation between the first bone of the coccyx and the sacrum, and the lowest at about the apex of the former bone ; the intervening sutures are placed about equidistant between. The first and second and the third and fourth sutures respectively are tied together, rolls of iodoform gauze being placed between the loops to prevent the latter from being buried in the skin. Strong traction upon these secures the rectum in its new position, and the other ends of the threads are similarly secured. The triangular-shaped flap is now removed, the muco-cutaneous anal margin being preserved, and after the insertion of a drainage-tube the wound is closed by sutures.

Some years ago Dr. Macleod,* Professor of Surgery in the Calcutta Medical College, described a method of attachment of the upper part of the rectum to the wall of the abdomen, for dealing with severe cases of procidentia in which ordinary measures have failed. The operation is as follows : The bowels having been previously well cleared out, carbolic lotion (1 to 40) is applied to the protrusion, which is then reduced. The left hand is passed into the bowel, and the fingers are made prominent above

* *Lancet*, July 19, 1890.

Poupart's ligament. A long steel acupressure needle is passed through the abdominal parietes into the cavity of the gut, guided across its interior by the fingers, and passed outwards till it emerges about three inches from the point of entrance. The needle should be parallel to, and one inch above, Poupart's ligament. Another needle is passed in the same way three inches above the first, and external to it, so as to secure the intestine in an oblique position from below upwards. The upper end of the rectum (or, it may be, the lower end of the sigmoid flexure) is thus temporarily fixed in the desired position; the hand is then withdrawn. The next step is to make an incision, three inches long, between the needles and at right angles to them, in the longitudinal axis of the intestine, as near as possible to the middle of the attached portion. The layers are to be divided separately, until the peritonæum is reached; the membrane will usually bulge out. The left hand is now reintroduced into the bowel, and, guided by the fingers, two series of loops of silk thread are inserted, four on each side, at a distance of about an inch apart, so as to attach the mucous and muscular coats of the intestine to the abdominal wall. A series of these loops, also penetrating the two outer walls of the intestine, are placed between successive pairs of these rows, in order to bring the lips of the wound together; and between them smaller horsehair stitches of adaptation are inserted. Antiseptic precautions and dressings are employed, and after the operation a morphine suppository is

introduced into the bowel, and opium is given every three hours.

A very similar operation to that narrated by Dr. Macleod was suggested by us in the last edition of this work, but its application was intended only for what we described as the third form of procidentia, *i.e.*, when the upper part of the rectum prolapses into the rectum, but does not appear outside the anus.

Treatment of third kind.

We have already stated our reasons for thinking that procidentia arises from the presence of an abnormally lengthened rectal mesentery. As it is sometimes impossible to cure this third condition by the application of the cautery, it occurred to us to make a small incision through the anterior abdominal wall on the left side just above the outer third of Poupart's ligament, then introduce the fingers into the abdomen, catch hold of the rectum and pull it up. When it had been pulled up as high as possible —in fact, sufficiently to straighten the rectal tube, and so remedy the procidentia—we thought of passing silk threads through the mesentery, and fastening the latter to the abdominal wall. The wound should then be closed after the method pursued in abdominal section. By such a procedure we thought that a firm adhesion would be formed, and that thus the upper part of the rectum would be prevented from becoming intussuscepted into its lower portion. We have not seen a case of the third variety in which the procidentia was sufficiently high up to necessitate a trial of this suggestion, but in two

cases of the first variety of procidentia we have applied it with considerable success, at the same time having to use the actual cautery to effect a thorough cure. We give one case:

Miss Mary G——, aged 40, a hospital nurse, for fifteen years had suffered from procidentia of the rectum, which of late had become considerably worse, was almost always outside the anus, and incapacitated her from work. On examination it was observed that the rectum came down through the anus for about eight inches. The sphincters were enormously dilated and had lost all power, so that when the mass was reduced it at once reappeared. We determined to see, under an anæsthetic, what could be done by pulling up the procidentia by traction through an opening in the abdomen. The abdomen was therefore opened on the left side close to Poupart's ligament, about its outer part. The procidentia, which was well outside the anus, could be easily drawn within the anus by pulling upon the lower part of the sigmoid flexure, which was brought outside the opening in the abdominal cavity. When, by traction upon the intestine within the abdomen, all the procidentia was reduced well within the anus, the mesentery was transfixed with silk, and stitched with several sutures to the abdominal parietes in the neighbourhood of the incision in the abdominal wall. The abdominal incision was then closed in the usual way. In about six weeks' time it was noticed that, on the patient walking about, half an inch of the bowel protruded in its entire circumference through the large patulous anus, which, although the bowel had been well fixed so as to prevent the larger part of it from lapsing, still failed to recover itself. In another month's time, as it remained in the same condition, it was decided that the only way to effect a cure was to cauterize thoroughly the prolapsed portion of bowel, the burning being also carried freely through the sphincters. This burning caused great contraction of the anal orifice, and cured the patient.

Our friend Dr. Caddy, of Calcutta, has related a similar case, in which he operated by the above method with excellent results.*

In extreme cases Dr. J. B. Roberts, of Philadelphia, claims to have had some success in removing portions of the sphincter and of the wall of the rectum. He makes two incisions, so as to include a V-shaped piece, from one and a half to two inches in length, its apex being at the point of the coccyx, and its base consisting of the posterior part of the sphincter; another V-shaped piece is then removed from the posterior part of the rectum, including its entire thickness, its base being the above-mentioned portion of the sphincter, and its apex being about four inches up the bowel. Interrupted sutures of fine silk are used to close the rectal wound, but thicker stitches are required to bring together the ends of the sphincter and to close the wound between the sphincter and the coccyx. At the apex of the coccyx a drainage-tube is inserted, and is passed up behind the line of suture in the rectum.

Cauterization.

We intend now to describe in detail the operation with the hot iron or Paquelin cautery, as first recommended by Dr. Van Buren, of New York.

When operating upon cases as represented in Figs. 30 and 31, the patient is put under the influence of ether, and if the part be not quite down, it can be readily drawn fully out of the anus by the vulsellum. We then, having the intestine held

* *Indian Medical Gazette*, April, 1895.

firmly out, with the iron cautery at a dull red heat, make four or more longitudinal stripes from the base to the apex of the protruded intestine, taking care not to make cauterization so deep towards the apex as at the base, because near the apex the peritonæum may be close beneath the intestine, while a deep burn near the base is not dangerous. One should avoid the large veins which can be seen on the surface of the bowel. If the procidentia be very large, as many as six stripes may be made; the intestine is then oiled and returned within the anus; having done this, we partially divide the sphincters on both sides of the anus with a sawing motion of the hot iron, and then insert a small portion of oiled wool. From the day of operation the patient must be kept in bed; the motions are all passed lying down, consequently the part never comes outside. If the wounds have not all thoroughly healed in a month, he must continue the recumbent position for two weeks more, by which time it very rarely happens that all is not healed. The patient can then arise and get about, but still for some time evacuation of the motions should be accomplished lying down. The reason for the success of the treatment is simple enough. When the burns are all healed, the bowel, by contraction of the longitudinal stripes, is drawn upwards, and circumferential diminution also takes place. In these cases, before operation, the sphincter muscles have quite lost power, the anus is large and patulous; by sawing through the anus with the iron, the muscles contract

and regain their power, the patient having strength to cause the anus to close at will, and even to some extent to squeeze the finger when introduced. Should one operation not succeed, a repetition of the burning must be tried. With this method of treatment we have had great success, many persons being quite cured, while others have been greatly benefited, so as to be able to work, by only wearing a pad of cotton wadding.

Cauterization in third variety.

In the condition represented in Fig. 32—that is to say, when the procidentia does not appear outside the anus—benefit may sometimes be derived by applying the cautery in the following manner, as advised by Mr. Cripps :

Having placed the patient in the lithotomy position, the sphincters are kept dilated with retractors, and Sims' speculum is introduced. The procidentia is then seized with a vulsellum, and pulled down as near to the anus as possible, care being taken to insert the speculum between the mass and the lower rectal wall. The actual cautery should then burn the mass in three or four places, the speculum being adjusted with each burn, so as to prevent injury to the lower part of the bowel. Should the part of the rectum below the procidented mass appear to be lax and capacious, it also must be burnt in three or four places. This method is practicable only when the mass approaches to within two inches of the anus.

We are of opinion that this variety of procidentia could be more safely treated by the method of fixing

up the gut through an abdominal incision, as previously described.

Taking into consideration the various operations that have been advocated for the treatment of procidentia, it may be well to formulate our opinions as to the best modes of operating upon the various conditions.

In children, all sources of irritation should be removed, and strict attention be paid to the methods of retaining the procidentia within the anus. If this fails, the parts may be treated by some powerful acids.

In adults, with procidentia of the first or second variety, the best mode of treatment is, no doubt, the free application of the actual cautery, assisted, if necessary, by opening the abdomen and pulling up the gut from within.

For the third variety, the pulling up the gut from within, and fixing it to the abdominal wall, is without question the safest and best mode of treatment.

We are not aware of any internal remedy which is of much use in cases of procidentia; but in patients broken down in health, or old people, small and frequent doses of opium with confection of black pepper may be of benefit.

Powdered acorns have been used frequently with advantage for the diarrhœa. The acorns should be baked and grated to powder, and the dose is one teaspoonful in half a tumbler of milk every morning.

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This answers better than either gallic or tannic acid.

The frequent and bountiful application of cold water in these cases is most strongly to be recommended. Ordinary astringent lotions are not more useful than plain water.

CHAPTER XV.

POLYPUS RECTI AND POLYPOID GROWTHS.

Comparative rarity of polypus.

POLYPUS was formerly looked upon as a very rare disease; recently, however, it has been considered rather more common, and it is supposed that in times gone by, rectal maladies not being so well understood, many cases of polypus escaped diagnosis.

It has generally been believed that polypi are much more frequently found in children than in adults; this has not been so in our experience, as out of 117 cases operated upon, 68 existed in children under fourteen years of age, and 49 in older persons. This may be explained by the fact that children not infrequently shed their polypi.

By 'polypi' must be understood *pedunculated* growths attached to the mucous membrane of the rectum, and generally situated not less than an inch from the anus. They may be found quite two inches up the bowel, but only occasionally more than that distance. In the majority of cases they grow from the dorsal portion of the rectum, but they may also be found on the perinæal and lateral segments, or, when they are multiple, all around the bowel.

Dr. Daniel Mollière, of Lyons (whose work on rectal surgery surpasses all others in its pathology), says: 'There is no word in surgery that has been more abused in its use than the word "polypus," especially when applied to tumours of the rectum. As a matter of fact, the term, "polypus of the rectum" is used to describe any neoplasm, no matter whether benign or malignant, hard or soft, provided only that it adheres to the rectum by a stalk or relatively limited base.'

Varieties of polypi.

A most valuable and original account of polypi in children by the late Dr. Bathurst Woodman, and founded on his experience at the North-Eastern Hospital for Children, may be found in the *Medical Press and Circular*, May 5, 1875. He names five kinds of polypi: 1, the soft or gelatinous; 2, the cystic; 3, the papillomatous; 4, the dermoid; 5, the sarcomatous. To these we would add the fibrous, and would also state that all of these may be found in adults. In the great majority of our cases we have found either the soft gelatinous or the fibrous polypus. Polypi may be single, or two or three may exist at the same time in the rectum; or there may be disseminated polypi, such as have been observed by Fochin, Richet, Van Buren, Cripps, and others. Specimens of disseminated polypi may be seen in the museums of Middlesex, Guy's, and King's College Hospitals.

The soft or gelatinous polypus.

The soft or gelatinous polypi are small vascular tumours with a peduncle often two inches long. They

are about the size of a raspberry, and resemble a small half-ripe mulberry more than anything else; they bleed very freely at times, and occasion in the young great debility. They are said to be hypertrophies of the glands of Lieberkühn, or of the mucous follicles of the rectum. They are true adenomata.

Fibrous polypus.

Fibrous polypi take their origin from the submucous connective tissue of the bowel, and may vary with regard to their hardness, some approaching in appearance to the soft gelatinous polypus, while others are extremely hard. All of these very hard ones that we have seen have been nearly as large as an English walnut, sometimes much larger; they creak when cut, and the incised surface is of a pale colour. The peduncle is about one and a half inches long, and is always attached above the sphincters.

Polypi may have two stems with one head only. The pedicle may be an inch or a little more in length, and is not uncommonly hollow. Usually in adults the polypi are neither very hard nor soft, and are easily compressible; they are sometimes cystic; a large vessel runs up the stem; in some cases it can be felt to pulsate. The soft follicular polypus of children is rarely met with in adults. When it is found, it is generally in women, the stem being remarkably long and rather slender.

Symptoms in children.

The usual symptoms in children are: frequent desire to go to stool, accompanied by tenesmus; occasional bleeding, with discharge of mucus; and a

fleshy mass protruding from, or appearing at, the anus when the bowels are acting.

When the peduncles are more than an inch in length the polypi usually protrude at stool, and require to be returned after the bowels are relieved. They are sure to be described by the child's mother as piles, or as 'the body coming down.'

They may be dangerous when high up, by occasioning intussusception of the bowel, with total obstruction and death.

The peduncle is sometimes so slender that it breaks on very slight traction, and no doubt many polypi become detached when the child is straining or passing a hard motion, and are thus spontaneously cured.

Symptoms in adult.

In the adult the history, carefully inquired into, may be found peculiar. The patient will say that, without any previously marked discomfort in the rectum, he all at once discovered that a substance protruded on going to the closet. This is characteristic of the malady. Until the peduncle becomes long enough to allow of the polypus being extruded or grasped by the external sphincter, but little or no inconvenience is felt; therefore the onset of the disease is considered by the patient as sudden. This is quite different from the history of hæmorrhoids.

When the polypi are of the hard fibrous variety, and come down near to the anus, the fæces as they are passed may be grooved. These tumours do not usually appear outside the anus; they do not bleed, but when they do protrude they cause pain, irrita-

tion, and spasm, and often set up an ulcer in the bowel. The discharge from them is of a very ichorous and ill-smelling character.

Diagnosis. The diagnosis of polypus has been stated to be difficult; but the history of the case and the symptoms will usually lead one to suspect what the disease is.

When the surgeon examines a patient digitally, Mollière advises the passage of the finger first up to its fullest extent, and then its gradual withdrawal, it being swept round the entire rectal surface. In this way the finger will hook the pedicle, and one will thus discover the polypus. On the other hand, were the examination made from below upwards, the tumour might be pushed up out of reach.

It is possible to mistake this disease for internal piles, procidentia recti, or dysentery. An examination after an injection will clear up the doubt in the first two cases; in the last, the presence of fever, the abdominal pain, and the appearance of the motions, are sufficiently distinctive indications.

Treatment. The only treatment to be recommended is the removal of the growth. It is not safe either to cut or tear polypi off, as troublesome arterial hæmorrhage may ensue. We have seen them bleed very freely indeed, and, as they are attached at some distance from the anus, it would be by no means easy to place a ligature upon the bleeding vessel.

The simplest method is to seize the peduncle close to its base with torsion-forceps and gently twist the polypus until it comes away. There is no danger of

hæmorrhage, no pain, and scarcely any necessity for resting more than one day.

If the polypus is of large size, it is expedient to use a ligature. The polypus should be seized and drawn down; a threaded needle is then passed through a small piece of the mucous membrane only, at the basis of the pedicle. A single knot is tied; after this the pedicle must be surrounded with the ligature and tied up tightly; the polypus is then cut off, not too close to the ligature. By securing the pedicle in the above manner, there is no danger of the ligature slipping off when the bowels act. It is very desirable that the patient should rest until the ligature separates, and it is wise to order a mild astringent draught to keep the bowels confined for three days; then administer an aperient, and on relief taking place the ligature comes away.

Should more than one polypus be felt on examination, it is well to dilate the sphincters so as to obtain a good view of the interior of the bowel. If this be not done, other polypi may escape notice.

Occasionally it happens that polypi recur after removal. We are inclined to think that most of these are not cases of recurrence, but are polypi which existed at the time of the first operation, but were not discovered.

Cases.

Thomas B——, æt. 4. For more than twelve months he had what was supposed to be procidentia of the bowel. He lost a good deal of blood at times, and was very feeble and anæmic. After an injection, there came down to the anus a spongy, irregular-shaped, bleeding mass, fully as large as

a medium-sized walnut; it felt soft and gelatinous. A tolerably long pedicle connected it with the anterior wall of the rectum. It was carefully twisted off. He was ordered an astringent draught to confine the bowels for a few days. Four days afterwards he took a dose of castor-oil. There was no bleeding.

Jane H——, æt. 7. Her mother said that something came down when the bowels acted, and she lost much blood; she was obliged to put the substance back again. After an injection, two largish tumours made their appearance, which were thought to be hæmorrhoids; but on closer examination, by passing the finger into the rectum, it was found that they were polypi, arising by two peduncles from quite an inch and a half up the bowel. One appeared to be attached dorsally, and the other laterally. Two ligatures were applied and the growths snipped off. In six days the ligatures came away, and she was soon quite well.

Henry C——, æt. 26, came to St. Mark's. His health was generally good. For twelve months he had had something protrude from the anus on visiting the water-closet, and he had lost a quantity of blood. It retracted spontaneously on his rising up after the action. He had been under the care of many physicians and surgeons, and had always been treated for bleeding piles. He had a pain of a dragging, burning character in the rectum, but it was not severe. On examination, a large hard polypus (the size of a walnut) could be felt in the rectum. The pedicle was rather thick, and not so long as usual. This was ligatured as described, and cut away.

Disseminated polypi are, fortunately, a rare disease, and appear to be peculiar to certain families. By this is meant that, as a rule, it will be found that several members of the same family are affected. We know of three families in which three in each of two families are affected, and in the other case two members suffer.

Why this should be so we are at a loss to explain. In these cases, on examination, it will be found that the rectum is studded with many polypi, varying in size from a pea to a hazel-nut. Sometimes they are equally distributed over the entire rectum, extending up into the sigmoid flexure, and, as we know from specimens, into and along the whole length of the large intestine. In other cases the polypi are collected together in groups, a patch being, we will say, on the anterior wall of the gut, and another on the dorsal or lateral wall. This state also exists in various places about the sigmoid and large intestine. It is important to bear this in mind, as it will explain the unfavourable results as regards cure when these cases are operated upon.

Symptoms

The symptoms of disseminated polypi are much the same as those of the single gelatinous polypus found in children—very frequent desire to go to stool, tenesmus, mucus in quantities, tinged with blood, and occasional sharp bleeding. Nothing protrudes from the anus on the bowels acting. The motions are always liquid or only semi-solid, being mixed with the blood and mucus.

The history of these cases is curious and interesting. The patients affected in our cases varied in age from twenty to thirty-five. With one exception, they were all women. There had been no history of any intestinal trouble till about the age of fifteen, when in most of the cases tenesmus and passage of mucus and blood, etc., began. But for the rectal symptoms, the patients enjoyed fair

health, and in no case was there a history of any constitutional disease.

There is no difficulty in the diagnosis of this disease. On inserting the finger into the bowel, many of these soft polypi can be felt.

Treatment.

The treatment is uncertain and difficult. When first we met with these cases of disseminated polypi, we attempted to relieve them by large injections into the rectum of astringents, such as nitrate of silver, iodine, Pond's extract of hamamelis, but with no satisfactory results. Finding these of no avail, we now thoroughly dilate the sphincters under an anæsthetic, and carefully scrape away the polypi with the finger-nail, assisted by a Volkmann's spoon. The polypi, as high as can be reached, are removed, even those situated in the lower part of the sigmoid flexure. By so doing it is found that the tenesmus and rectal discomfort are remedied; but of course this cannot in any way affect the polypi which are situated in the upper part of the sigmoid flexure and colon, consequently the loose motions of mucus and blood still continue. This scraping may have to be repeated once or twice before the rectum is thoroughly and permanently cured of the polypi. We may remark that there is sharp bleeding when the polypi are scraped away, but this is soon arrested by washing the rectum out with a solution of methylated spirit and very hot water. As has been said, although a perfect cure is impossible, on account of the height to which these polypi may extend, viz., as far as the

large intestine, still, many of the purely rectal symptoms can be cured, and thus the patient's life is rendered much more comfortable.

Jane G——, aged 24, related that ever since the age of 15 she had had bowel trouble—frequent straining and passage of blood and slime; and that the motions were always liquid, causing her to go to stool many times in the day. Except for this, she was in fair health, and never suffered from any serious illness. For this condition she had been treated for piles and diarrhœa by several doctors. She stated also that she lived in the country, and that two of her sisters were in like manner affected as regards the bowels, but not to such an extent. On examination, it was found that her rectum was studded all over with polypi, varying in size; and this condition could be felt extending upwards into the sigmoid flexure. She was ordered for some time various kinds of astringent injections, but without any benefit; accordingly, under an anæsthetic, the rectum and lower part of the sigmoid flexure were thoroughly scraped out. This operation had to be repeated in two months' time. Since then she has been relieved of her rectal symptoms, but still passes loose, and at times blood-stained, motions.

Later her two sisters were examined by us, and were found to be suffering from the same disease, but not so severely.

Complications of polypus.

From the polypus of the adult we have seen abscess, ulcer or fissure, and fistula, arise. A short time ago we had a patient with a fistula complete and dorsal; the probe passed readily through it into the bowel. On introducing the finger, it was found that the internal opening was large, a hard polypus as big as a marble projected into it; the stem was quite half an inch long, and was attached near the promontory of the sacrum. When fissure exists

with polypus, the removal of the polypus and gentle dilatation will cure both maladies.

If a polypus cannot be felt by the finger, and the history points to the presence of one, an enema should be given, as it is only by seeing the patient just after the bowels have acted that one can make certain of the diagnosis. The polypus is then brought down, or even protrudes from the anus.

Polypoid growths.

By polypoid growths are meant small growths protruding from the mucous membrane of the rectum, but not absolutely pedunculated. They rarely protrude outside the anus. These growths are of great importance, as they occasion or keep active several diseases of the rectum, as pruritus ani and fissure. It is only by the removal of these polypoid growths that the above-mentioned ailments can be combated. There are two varieties, both of which must be carefully distinguished from warts, which chiefly affect the outside of the anus. The one kind of polypoid growth consists of little tags of mucous membrane, never more than one inch long, soft, freely movable, and generally situated upon a small pile, or at the upper part of a fissure. The second variety is hard and nipple-like, the base being broad at its attachment to the mucous membrane, and the apex pointed and hard. On section these growths appear to be dense fibrous tissue.

Varieties.

Symptoms.

It is rarely that patients come for consultation about the growths themselves; they complain only of the symptoms occasioned by them, viz., discharge of the mucus, or, rather, a watery, moist condition of the anus, which causes fissure or pruritus ani.

If these symptoms exist, a careful examination should be made with the finger, when the growths may be felt as tag-like projections from the mucous membrane. If they are of the soft variety and difficult of detection, they may be seen by means of a speculum. Examination.

The patient should have them removed, and this may be done by snipping them off with scissors. They rarely bleed much. Treatment

Warts around the anus may be as warts in other parts of the body, sessile or pedunculated, the peduncle being single or multiple, the surface smooth or branched. Warts.

They may arise, like other warts, from a natural predisposition in the patient, or they may follow on gonorrhœa, leucorrhœa, discharges during pregnancy, or, in fact, on any watery mucous discharge. They are quite distinct from the condylomata of syphilis. They rarely extend into the rectum, being chiefly confined to the parts around the verge of the anus.

Several methods of treatment have been tried: the antisyphilitic treatment, which is useless, as they are not syphilitic; the application of powders to dry them up, or the cutting them off, which is ineffective, as it does not destroy the base, and they may therefore recur. The best treatment is to apply fuming nitric acid to each wart, and at the same time to scrape them off with the end of a wooden match. When this has been done, the acid should be applied to their bases. This causes little pain, and is a most certain and speedy cure.

CHAPTER XVI.

PRURITUS ANI.

Pruritus.

PRURITUS ANI, or, as it may be well called, painful itching of the anus, is a most distressing malady; patients often say that life is rendered almost unendurable by it. In fact, one very nervous invalid told us that unless he had obtained relief he believed that he should have gone out of his mind. It is very intractable, but it is always curable if the patient will strictly, patiently, and persistently follow the advice of his medical attendant. We have rarely, if ever, failed to cure a patient who adhered rigidly to directions; and when a person, the subject of bad pruritus, comes to us, we always say: 'Unless you intend to conform most religiously to our directions as long as we think necessary, you had better consult some other surgeon.'

General causes.

Pruritus is not by any means so common in women as in men, nor is it frequently met with in young persons. It may be caused by various general and constitutional disorders and derangements, hereditary predisposition, as in strumous individuals in whom the skin is very delicate and easily irritated, or in

debilitated conditions of health. Gout, whether latent or active, is a very frequent cause of pruritus.

The disorder is frequently induced, or, at all events, kept up, by habits of too free eating and drinking, and its successful treatment therefore calls for a considerable amount of self-denial on the part of the patient; and thus it often happens that as soon as the sufferer gets relieved he forgets all his prudent resolutions, and relapses into his old way of life—a step which is pretty certain to result in the return of his enemy in full force. He then usually blames his doctor, very rarely himself, and either gives up in despair all hope of cure, or seeks new advice, so that the affection comes to be considered as not only an exceedingly troublesome one, but almost incurable. Although free living often induces pruritus, it frequently occurs in very abstemious persons. Particular articles of diet or drink affect some persons in a remarkable manner. We once had a patient who invariably got an attack of pruritus from eating lobster or crab, and of these shellfish he was inordinately fond, but rarely dared to indulge his taste. We have seen a similar result from eating salmon. Other patients were sure to suffer if they drank any quantity of champagne or ale, and the irritation, once started, was very difficult to arrest. Spirits and coffee are also likely to induce this disease. There is but little doubt that excesses at table, combined with a want of active exercise, are not only predisposing, but also exciting causes. Excessive smoking is another excitant of the dis-

order. We have seen several instances (where patients had a tendency to the malady) of over-indulgence in smoking being followed immediately by an attack of pruritus. In women it may result from uterine disorders.

Doubtless there are many cases of pruritus for which we are unable to assign an ordinary cause, and it may then be considered as a pure neurosis, being occasioned, or greatly aggravated, by mental worry or overwork.

Local causes.

There are numerous local conditions that may give rise to pruritus ani. Among these is constipation, which causes pressure on the hæmorrhoidal veins; this stagnation of blood may lead to a low inflammation of the skin around the anus, resulting in eczema, a very potent cause of pruritus. As a parallel to this may be cited eczema of the legs caused by varicose veins. Piles, polypus, and polypoid growths, fistula or fissure, may, from the irritation they set up and the abnormal secretion they occasion, have as their sequela pruritus ani; chronic diarrhœa, or in women all vaginal discharges, may also be a cause. Thread-worms, pediculi, and other parasites, often produce much itching. Erythema, herpes, any variety of eczema, whether acute or chronic, or a condition described by Von Hebra as eczema marginatum, caused by a vegetable parasite (trichophyton) —from these alone, or together with the above-mentioned affections, pruritus may arise.

Symptoms.

The irritation in the majority of cases is worse at night, especially when the patient gets warm in

bed, so that often the greater part of the night is rendered sleepless and inexpressibly wretched; towards the morning, irritable and worn out, he falls off into a fitful slumber, from which he often awakens himself by scratching; this, of course, makes the part more or less raw, and materially adds to his discomfort in the daytime. The more the sufferer scratches, the worse he makes himself, although it is very difficult indeed to avoid seeking the temporary relief it affords. Many persons have told us they would infinitely prefer decided pain to the dreadful and constant itching they have to endure, which really, after a time, becomes pain of a most sickening character. Excitable people are often greatly troubled in the day as well as at night, the itching setting in badly after exercise, or on leaving the cold air and coming into a warm room.

It is generally stated that there is very little alteration in the aspect of the part affected, and that nothing is to be observed beyond a roughened, thickened, and more rugose state of the skin just around the anus. This, in our opinion, is by no means usually the case; sometimes there is a distinctly eczematous, erythematous, or herpetic rash, the part being always moist from exudation; at others there is a dry, rugose condition, with bright redness consequent upon scratching; occasionally there are a quantity of minute scales to be seen, forming irregular rings; often cracks are seen radiating from the anus, and even extending

up to the sacrum; but what we consider the characteristic condition—which may always be noticed when the disease is severe, and has lasted for any length of time—is the loss of the natural pigment of the part. To such an extent does this often obtain, that patches around the anus, extending backwards as far as the sacrum and forwards to the scrotum, are of a dull dead white, the skin looking more like very white parchment than natural integument, and if pinched up it will be felt to have lost its normal elasticity. A similar condition is induced by genital pruritus in women.

When considering a case as to the question of treatment, it is always important to discover the cause of the irritation. The more one treats pruritus ani as a general disease, the more successful one will be; the difficulty in curing it has arisen in great measure from its having been considered as merely a local affection, and only local means having been applied for its relief.

General treatment.

When there is no ascertainable local cause, and the patient is of a strumous nature, or in a debilitated state of health, much benefit may be derived from liq. potassæ arsenicalis in full doses, cod-liver-oil, or iron and quinine.

When gout, active or latent, is the cause of pruritus, diet is a most important element in the treatment. The irritation is best allayed by a strong solution of bicarbonate or bisulphite of soda frequently applied in a poultice. We have formed a good opinion of the usefulness of lithia-water and

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the effervescing citrate of lithia. In some cases, where the irritation is very severe, colchicum with alkalies answers best, but, if it can be managed, a course of waters at Baden-Baden, Ems, or Carlsbad will be found most beneficial.

If pruritus be caused by excesses in eating or drinking, or should the patients be stout and plethoric, a rather low diet should be enjoined, they should avoid all rich and highly seasoned dishes, eat but little meat, and take fish, poultry, vegetables, and ripe fruits. One must interdict both beer and spirits, and restrict the drinking to a little light hock or claret and Apollinaris, Johannis, or Seltzer water. Coffee should be given up, weak tea or cocoa being taken at breakfast. The patient should walk three or four miles daily, and, if possible, at such a speed as to induce slight perspiration; let the patient take a sponge bath every morning, a warm or Turkish bath once in the week, and every night when retiring to bed wash the anus and parts around with warm water and tar or Castile soap. If the bowels are at all confined, one of the following purgatives may be beneficial:

℞

Mag. sulph.	℈ i.
Mag. carb.	gr. x.
Vin. colchici	♏v.
Syrup. sennæ	℥i.
Tinct. card. co.	℥ss.
Aquam	ad ℨi.

Misce.

℞

Pil. hyd. subchlor. co. . . . gr. ii.
Pil. rhei co. . . . . gr. iii.
M. Every other night for a week.

Mag. sulphite in gr. v., gr. x., or gr. xx.
Once or twice a day in water.

Borotartrate of potash . . . ʒi.
In scales.

(Martindale's) . . . . (in water)
T. d. s.

Mag. sulph. . . . . ʒi.
Pot. nitratis . . . . . gr. xv.
Syrup. sennæ . . . . . ʒii.
In water every morning.

℞

Tinct. nuc. vom. . . . . ♏ vii.
Liq. ext. cascara sagrada . . ♏ x.
Sodæ bicarb. . . . . gr. x.
Ammon. carb. . . . . gr. iii.
Glycerine . . . . . ʒi.
Tinct. card. co. . . . . ʒss.
Aquam . . . . . ad ℥i.
M. T. d. s.

The mineral waters of Carlsbad, Friedrichshall, Hunyadi Janos, Pullna, Rubinat, etc., are also good remedies, and we frequently employ them. In women the uterine functions should be attended to.

When the essence of the disease is in the nervous system, as it often is, particularly in spare and delicate, excitable people, one should give arsenic and quinine freely, and be prepared to push them to their physiological effect. They may be taken separately or combined. We have rarely failed to

cure this class of case by perseverance in these remedies, at the same time, of course, using local means to allay irritation.

Very excitable, nervous patients, who frequently get an attack of pruritus when they are mentally overworked or irritated, are often benefited by

Pot. bromid.	gr. xx. to xxx.
Chlor. hydrat.	gr. x. to xv.
Aq. chloroform.	ʒi.

Misce.

or larger doses of sulphonal at bedtime. An extended experience in this class of cases has induced us to think most highly of the bromide of potassium ammonium or sodium and chloral in combination. In alternation with the chloral, great advantage results from the succus conii in full doses (one to two drachms given three times in the day); to this may be added cod-liver-oil after meals, by which means one may improve nerve-function and induce a more regular distribution of nerve-force.

In the treatment of pruritus ani it is well to avoid the internal administration of opium in any form; a night's rest may be procured by its use, but it will be paid for dearly afterwards in an increase of the disorder.

Local treatment.

Having considered the remedies for the constitutional and general causes of pruritus, we now turn to the local treatment, for though constitutional derangements alone may give rise to pruritus, at the same time they may be accompanied by local causes. These local changes in the parts may require treat-

ment to accomplish a cure. For instance, a patient may be afflicted with gout, causing eczema around the anus, and this eczema, when once started, may be kept active—although the gout may be cured—by the secretion from piles, polypoid growths, fissures, etc. In speaking of the local treatment, it is impossible to state in what conditions each powder, ointment, or lotion may be found beneficial. For in cases which appear best suited to ointments, the ointments may utterly fail, and a powder which one feared would be useless may effect a cure. Therefore we must advise our readers to ring the changes between ointments, lotions, powders, and caustics.

As a general rule, in acute cases, soothing lotions or ointments are advantageous, but in chronic cases more stimulating applications are required.

We subjoin some of the most valuable prescriptions. Previously to the application of any of the following remedies, the parts should be washed with oatmeal and water, and if any soap be used, the best is Castile.

℞

Hyd. subchlor.	gr. x.
Ung. sambuci	℥i.

Misce.

℞

Chloroform	℥ii.
Glycerine	℥ss.
Ung. sambuci	℥i.ss.

M. This is a most useful preparation.

℞

Sodæ bicarb.	ʒii.
Morph. hydrochlor.	ϑ i.
Acid. hydrocyan. dil.	ʒi.
Glycerine	℥i.
Vaseline	℥iii.

Misce.

℞

Hyd. subchlor.	ʒii.
Bismuth. subnit.	ʒi.ss.
Tinct. aconit.	♏viii.
Glycerine	ʒii.
Ung. sambuci	℥i.

Misce.

℞

Bals. Peru	ʒi.
Acid. boric.	ʒi.
Vaseline	℥i.

Misce.

℞

Cocaine	gr. xv.
Lanoline	℥i.

Misce.

℞

Ung. picis liq.	ʒii.
Ung. hyd. ammon. chlor.	ʒvi.
Ol. amygdal.	ʒi.
Vaseline	℥i.

Misce.

Very advantageous when there is great thickening of the skin.

℞

Ung. picis	ʒiii.
Ung. belladonnæ	ʒii.
Tinct. aconitæ rad.	ʒss.
Zinci oxidi	ʒii.
Ung. aquæ ros.	ʒiii.

Misce.

℞

Camph.	ʒi.
Sp. vin. rect.	q.s.
Vaseline	℥i.

Or the ointment of boracic acid, carbolic acid, and salicylic acid.

The following are lotions for pruritus :

℞

Sodæ biboratis	ʒii.
Morph. hydrochlor. . . .	gr. xvi.
Acid. hydrocyan. dil. . . .	℥ss.
Glycerine	ʒii.
Aquam	ad ℥viii.

Misce.

℞

Acid. boric.	gr. x.
Vin. colchici	gr. xx.
Aquam	ad ℥i.

Misce.

The following prescription of the late Mr. Startin has been of great service to many patients suffering from eczema :

℞

Liq. carbonis deterg. (Wright's) .	℥i.
Glycerine	℥i.
Zinci oxidi	ʒss.
Pulv. calamin. precip. . . .	℥ss.
Pulv. sulph. precip. . . .	ʒss.
Aquam	℥vi.

Misce.

The part affected to be painted thickly over once or twice daily, and allowed to dry.

℞

Liq. plumb. subacetatis . . .	℥i.
with milk .	℥ii.

℞

Argent. nitratis	gr. x. to xx.
Aquam	ad ℥i.

Painted once or twice daily on the affected parts.

One must not omit to mention carbolic acid, with glycerine or water and peppermint-water, as being very useful, and also prophylactic, after other treatment has succeeded.

Powders consisting of boracic acid, oxide of zinc, pulv. calaminæ, calomel, bismuth, and starch, or iodoform, may sometimes be of service. Powders.

In obstinate, old-standing cases the treatment should be commenced by rubbing the parts thoroughly with a solution of nitrate of silver, ℈ii. to the ounce; this softens the skin and induces a more healthy action and secretion. At times Condy's fluid, undiluted, may be useful for the same purpose; it should be applied twice or oftener in the week.

When pruritus is caused by thread-worms, they should be got rid of by the means mentioned when speaking of them in the chapter on fistula.

When it is caused by any other animal or vegetable parasite, it is readily cured by the application of sulphur ointment; or—what is much cleaner and equally efficacious—a lotion of sulphurous acid of the strength of one part to six of water.

If these do not succeed, the application of ung. hyd. ammoniatum, or a lotion made of

Hyd. perchlor.	gr. iv.
Aquæ calcis	ʒiii.

Misce.

may be tried.

Plug.

When the irritation of pruritus is so great that the patient is quite worn out for want of rest, we have for years past recommended the introduction into the anus at bedtime of a bone plug, shaped like the nipple of an infant's feeding-bottle, with a circular shield to prevent it from slipping into the bowel; the nipple should be about an inch and a half in length, and as thick as the end of the forefinger. This is most efficient in preventing the nocturnal itching; a good night's rest is almost sure to result from its use. It appears that it benefits by exercising pressure upon the venous plexus and filaments of nerves close to the anus. The idea of this plug occurred to us from several patients saying that the only way they could obtain relief and sleep, when the itching was very bad, was by introducing the end of the forefinger into the anus, and making pressure; this instantly arrested the irritation.

Complications.

If when one examines a patient with pruritus, piles, polypoid growths, or fissure are discovered, it is always wise to tell him that it may not be possible to effect a cure of the pruritus without removing the probable cause or aggravating agent of the disease. Of course, any palliative treatment advocated above may be tried; but should this fail, we are perfectly convinced that many cases of supposed incurable pruritus may be cured by resorting to operative measures.

We have over and over again effected a cure of most troublesome cases by removing piles or polypoid growths. Even in some cases where there is no discoverable cause for the pruritus, great benefit may be derived from forcibly dilating the sphincter.

During the last few years, in cases of pruritus which resist all varieties of medical treatment, or cases in which the patient is running down in health from the inability to sleep occasioned by the irritation, we have speedily effected a cure by cutting off, under an anæsthetic, all the thickened skin, and thoroughly dilating the sphincters. By so acting the unhealthy skin is removed, and the deeper structures and the nerve-ends are evidently altered by the free dilatation.

CHAPTER XVII.

FISSURE AND PAINFUL, IRRITABLE ULCER OF THE RECTUM.

Fissure.

THIS is an excessively painful and by no means uncommon affection; it is more frequently found in women than in men, although not rare in the latter. We have seen fissure in a baby in arms, and in an old woman of eighty.

Fissure, although really so simple a matter, and its cure generally so easy, wears out the patient's health and strength in a remarkable manner; the constant pain and irritation to the nervous system are more than most persons can bear; women suffering from small anal ulcer have even thought they must have cancer in consequence of their extreme illness and pain. What under these circumstances is very extraordinary is the length of time people go on enduring the malady without having anything done for it. It is not an uncommon thing for one to see fissures of many years' duration, especially in young women, who, through delicacy of feeling, often conceal rectal affections.

It is common for fissures to heal for a time and

then break out again, so that patients are apt to think a perfect cure will presently result, and defer proper treatment.

Causes.

Fissure or ulcer may be brought about by an injury or tearing of the delicate mucous membrane at the verge of the anus; it may therefore be caused by straining, or by the passage of very dry, hard motions; sometimes it follows severe diarrhœa.

Gelatinous and fibrous polypi are not at all uncommon causes of fissure. The polypus is usually situated at the upper or internal end of the fissure, but it may be on the opposite side of the rectum. The origin of many fissures is syphilis.

It may also result from a congenital narrowness of the anal orifice, or it may be caused by a hypertrophied condition of the sphincters, which hypertrophy may have arisen from severe constipation or any other rectal affection.

Fissure is frequently the sequel of a confinement, and is commonly caused or aggravated by uterine displacement. We have stated that operations upon hæmorrhoids under similar conditions are not satisfactory; the same observation applies with quite as much truth to *fissure* and uterine disease. The successful treatment of the uterine disorder may be sufficient to cure the fissure (if no polypus exist), or at all events the ulcer will afterwards yield to local applications and general treatment. If the fissure should be benefited by operation, as long as the uterine malady exists there will be a constant danger of a relapse taking place. The most common

forms of uterine displacement in connection with fissure are, according to experience, anteversion and retroversion, and associated with these we have observed affections of the bladder, chronic cystitis, and spasmodic pains in micturition. When these three disorders are united, the case will call for all skill and patience to bring it to a successful issue.

Kinds. We have headed this chapter 'Fissure and Painful, Irritable Ulcer' because the symptoms and treatment do not differ whatever form the ulcer assumes, whether it be elongated and club-shaped, oval, or circular; but, as a rule, the small circular ulcer is situated higher up the bowel than fissures are, which generally extend to the junction of the mucous membrane with the skin, the ulcer being more commonly found above or about the lower edge of the internal sphincter.

These ulcers and fissures vary in depth and size, some looking only as small abrasions of the mucous membrane and extending to no depth, others being as large as a shilling and laying bare the muscular fibres. These fissures may be simple wounds, or they may be inflamed, callous, indurated at their edges, or even have a sloughy base.

By far the most usual position of fissure is dorsal or nearly dorsal, although it may be anterior or lateral.

Symptoms. As a rule, patients suffering from fissure of the rectum imagine that their symptoms are due to hæmorrhoids; they state that they have a discharge of blood and matter, a swelling outside the

bowel and pain at stool, and they believe they have piles. Unfortunately, not infrequently the medical attendant is satisfied with the patient's diagnosis, and treats the case as one of external hæmorrhoids.

Generally, when a patient complains of great pain on defæcation, it is not piles he is suffering from, or certainly not uncomplicated piles.

In fissure the pain on the bowels acting is more or less acute; some describe it as like tearing open a wound, and doubtless it is of a very excruciating character. We have known patients who for hours could not bear to stir from one position, the least movement causing an exacerbation of the pain. This agony induces the sufferer to postpone relieving the bowels as long as possible, the result being that the motion becomes desiccated and hardened, and inflicts more grievous pain when at last it has to be discharged. After action of the bowels, the pain may in a short time entirely cease, and not return at all until another evacuation takes place; but often it continues very severe and of a burning character, or it is of a dull, heavy character, and accompanied by throbbing, which lasts for hours, sometimes even all day, so that the patient is obliged to lie down, and is utterly incapable of attending to any business. In some instances the pain does not set in until a quarter or half an hour after the bowels have acted.

The pain may not depend at all upon the size of the ulcer, but rather upon its position; for even a small crack, situated at the anal orifice over the external sphincter and involving the skin, may cause

much greater pain than a large ulcer situated higher up in the rectum.

Why are ulcers near the anus so very painful, while those situated higher up the bowel are not generally so? There are two reasons which suggest themselves at once: First, the great mobility of the external sphincter; second, the supply of nerves. The lower part of the rectum and the anus are very fully supplied by branches from the sacral plexus, and more especially from the pudic. These nerves send numerous branches between the fibres of the sphincters and immediately beneath the mucous membrane; thus, very superficial ulceration exposes a nerve, and the slightest touch, contraction, or stretching of the sphincter causes intense pain.

In the circular ulcer there is less severe pain at the moment of defæcation, but it comes on from five minutes to a quarter or half-hour after that act, and then in some cases is quite as intolerable as that resulting from the fissure.

A great many apparently anomalous symptoms are produced by small painful ulcers of the rectum —retention of the urine, pain in the back, pain and numbness down the back of the legs, leading to unfounded fears of paralysis, may be mentioned as not uncommon. When in a fissure the nerves are exposed, the pain is most acute at the time of an evacuation; when they are not so exposed, the pain generally sets in shortly after the action, in consequence of the irritation to the sphincter. In many of these ulcers an examination with a magni-

fying-glass has shown the fibres of the external sphincter laid quite bare. Patients sometimes say that the first time they suffered pain was after a very hard motion, when they felt something give way with a crack.

Examination.

With a patient suffering from the above-described symptoms, a thorough examination must be made for fissure. The usual position on the side is the best, the patient raising the upper buttock with the hand. The surgeon should look around the anal margin, at the part where the skin and mucous membrane join, for an external pile or warty growth, as a fissure is frequently situated above them, and is sometimes hidden by them. The patient may greatly assist in the search by placing his finger on the spot outside the bowel where he feels the pain. The painful spot often shows where a fissure is situated, or even the position of an ulcer higher up in the bowel. Generally the sphincter will appear hard to the touch and hypertrophied. When the patient is told to bear down, he will have difficulty in doing so, for the act of straining causes pain in the fissure, and the anus will then be thrown into a state of alternate contraction and relaxation.

With the forefinger and thumb the anus should be opened gently as far as possible ; one will then be able to see just within the orifice an elongated, club-shaped ulcer ; the floor of it may be very red and inflamed, or, if the ulcer is of long standing, of a greyish colour, with the edges well defined and hard.

Frequently at the upper part of the fissure is a small clavate papilla or minute polypoid growth; this must not be confounded with ordinary polypus, and, although perhaps not the cause of the fissure, will, unless removed, prevent its getting well, because of its daily falling into the fissure, and so keeping open the wound.

If a polypoid growth be found at the upper part of a fissure, there is no occasion to pass the finger into the bowel, for, having found a cause of the fissure not healing, such an examination is unnecessary, as it gives rise to extreme pain.

Method of digital examination.

If no polypoid growth can be seen, an examination with the finger is then desirable, in order to discover the cause, and should be conducted in the following manner: If the fissure be situated dorsally, the finger should be introduced, pressure being made towards the perinæum, for by this the fissure is not so pressed upon as when the finger is inserted in the ordinary manner. In this way a thorough examination can be made without causing the patient severe pain. If the fissure be situated anteriorly or laterally, the finger should be pressed towards the opposite side of the bowel.

No fissure existing at the external sphincter, a search should be made for an ulcer situated higher up in the bowel.

Speculum.

These ulcers are more difficult to find than the fissures, as they often cannot be seen without the use of a speculum or getting the patients to strain violently, which they can do more easily than in the

case of a fissure situated at the verge of the anus. Moreover, the introduction of the finger or of the speculum is not attended with so much pain. An educated finger detects these ulcers directly; they feel much like the internal aperture of a fistula, but the edges are harder, and therefore more defined, and there is no elevation above the surface of the surrounding mucous membrane, as is frequently the case in fistula. These ulcers often burrow, and then they become the internal openings of blind internal fistulæ.

Palliative treatment.

In children and young persons, unless a polypus or polypoid growth, or congenital contraction, complicates the fissure, it is almost always curable without operation. Many cases resemble the following:

A child, æt. 4½. For twelve months or more he had been subject to procidentia every time his bowels acted; he was usually rather constipated. About five or six months before he began to suffer pain, which lasted for hours after the bowels had been relieved; this was so severe that he screamed and rolled about in his bed; he often passed a little blood; the pain was much aggravated when he was costive. On an injection being given, the rectum came down, and a very distinct fissure was seen. There was no polypus in the bowel. Ung. zinci, with extract of belladonna and opium, was ordered to be used night and morning, and confection of senna with sulphur to be taken to keep the bowels gently acting. This prescription afforded immediate relief; in three weeks the ulcer was healed and the child perfectly cured.

In children suffering from hereditary syphilis, numerous small cracks round the anus are common,

and they cause much pain. Mercurial applications and extreme cleanliness soon cure them, but they will return from time to time unless anti-syphilitic medicines be taken for a lengthened period.

If the fissure is of recent origin it may often be cured without operation, especially if it be situated anteriorly. In women this can almost certainly be accomplished. Of all the varieties of fissure, the syphilitic is most amenable to general treatment. When of syphilitic origin, they are often multiple.

In all cases, rest in the recumbent position should, as much as possible, be adopted. Mild laxatives should be given, not to purge, but to keep the bowels acting once daily; this may sometimes be effected by diet alone. The domestic remedy of figs soaked in sweet oil, or onions and milk at bedtime, may be sufficient. We often order a combination of equal parts of the confection of sulphur and confection of senna, small doses of sulphate of magnesia or sulphate of potash, half a tumbler of Rubinat or Friedrichshall water taken in the morning fasting, the compound liquorice-powder of the German pharmacopœia, or the liquid extract of the rhamnus frangula.

One must be prepared to alternate the medicines as one or other seems to lose its effect. All drastic purges should be avoided, but there is no objection to small doses of the aqueous extract of aloes, especially when combined with nux vomica and iron. It will be an advantage if the patient can manage to get the bowels to act the last thing at night instead

of in the morning, as the rest is very beneficial, and the pain does not continue so long when lying down. After the action

℞

Liq. opii sedativ.	ʒss.
Mist. amyli.	ʒii.

Misce.

may be injected. This is especially valuable if the patient has the bowels relieved at bedtime. As an application, nothing is better than the following ointment:

℞

Hyd. subchlor.	gr. iv.
Pulv. opii	gr. ii.
Ext. belladonnæ	gr. ii.
Ung. sambuci	ʒi.

Misce.

—to be applied frequently. Another excellent ointment sometimes used is:

Bismuth subnit.	ʒii.
Cocaine	gr. x.
Hyd. subchlor.	gr. xv.
Vaseline	℥i.

Dr. Mathews, of Louisville, recommends an injection of one ounce of olive-oil containing five grains of iodoform, to be injected after each action of the bowels.

An occasional very *light* touch with the nitrate of silver (not to cauterize, but to sheathe the part with an albuminate of silver) is useful, and it relieves pain for some time. If there be very great spasm of the sphincter, extract of belladonna may be thickly

smeared around the anus over the muscle. If ointments do not agree with the sore, lotions may be preferable; Goulard water with opiates and sedatives may afford some temporary relief, but one must acknowledge that the best-devised and most-carefully-carried-out general treatment frequently fails, save in favourable cases.

Some authors specify the time at which this disease may be curable without operation, and say, 'If it has existed more than three months the attempt is hopeless'; but really the time is not of importance; the question is, What pathological changes have been brought about? We have cured fissure of months' standing when there was no great hypertrophy of the muscles. Here are some cases:

Cases of cure by palliative treatment.

Mrs. E——, æt. 24. Five months before she had been confined with her first child after a somewhat lingering labour. The first time the bowels acted she had pain; and ever since then she had never had an action without suffering. This had been gradually increasing, and her life had become almost unendurable, the pain lasting for hours and compelling her to lie down, so that she was quite unable to attend to her household duties. On examination, a very characteristic dorsal fissure was seen; there was no polypus or piles. The rectum was generally healthy, and there was not very marked spasm or thickening of the sphincter. The bowels were confined. Ordered: Magnes. sulph. ʒi., ferri sulph. gr. i., acid. sulph. dilut. ℥ v., inf. quassiæ ʒi., ter die; and to use the following ointment: Ung. hydrarg. subchlor. ʒi., ext. opii, ext. belladonnæ, āā gr. iii.; to be applied after action of the bowels and also at night. The ulcer was touched every other day with a solution of perchloride of mercury. In a fortnight the fissure was nearly

healed, and she had scarcely any pain after defæcation. Soon after this she got quite well.

A City dignitary consulted us some time back, on the recommendation of his physician. His history was that for eighteen months or more he had suffered pain on defæcation; at times he was much better, and only experienced uneasiness, and then again the pain returned as bad as ever. Homœopathy had been tried for some six or seven months, and he had derived benefit as far as his constipation was concerned, but the pain was no better. He had cultivated the habit of getting his bowels to act about six o'clock in the morning, so that afterwards he could return to bed and lie quiet for a couple of hours; he was then able to get up and come to town by train without suffering much, but if he had to travel soon after visiting the water-closet he was in pain all day. He was very careful in his diet, drank very little wine, and was accustomed to take oatmeal porridge, brown bread, fruits, and vegetables. On examining this patient, we found a small circular perinæal ulcer situated at the upper edge of the external sphincter; it was clean-cut and inflamed. The rectum was otherwise healthy, and the sphincter was not much hypertrophied. Taking into consideration the length of time the ulcer had existed, we advised incision, but that he would not listen to, so we prescribed an ointment, but were speedily obliged to leave out the extract of belladonna, as he was so sensitive to the action of this drug as to get dry mouth and dilated pupils with affected vision in twenty-four hours after applying it. After three weeks the ulcer was not any better, although treatment had been varied. We observed that there was one minute spot most excessively tender, much more so than the rest of the sore. There, no doubt, was an exposed nerve, so, taking the hint from the late Mr. Hilton's work on 'Rest and Pain,' we applied, once, some acid nitrate of mercury. From that day the ulcer rapidly healed, and soon this gentleman got perfectly well.

There is often great difficulty in determining

Choice between palliative and operative treatment.

whether a fissure can be cured by drugs or whether an operation is required. We have come to the following conclusions: When a fissure is anterior or lateral, it can always be cured by local applications; when it is dorsal and there is little or no spasm, and no hypertrophy of the sphincter, it can be cured by drugs. When, however, a dorsal fissure exists, with spasm and hypertrophy of the sphincter, there is no good in waiting to try palliative treatment, even if with great trouble the fissure does heal; and should the spasm be stopped, still the hypertrophy exists, and soon the fissure is sure to break down again and again. Therefore it is better at once to obtain a permanent cure by division or very free dilatation of the sphincter, which does away with the fissure and spasm, and allows the sphincter to return to its normal condition, relieving the hypertrophy, the cause of the recurrence of the fissure.

Incision.

There has been a controversy at various times as to the depth of incision necessary to cure a fissure, some surgeons advocating a slight cut and others a free one. There is no doubt that in some cases a very superficial incision through the base of the fissure, so as to divide the fibres of the muscles immediately beneath the ulcer, or even to cut through an *inflamed filament of nerve*, may be enough; for if one carefully examines an ulcer or fissure, one or more spots will be found that are most exquisitely tender; this is where the nerve is exposed. The lightest drawing of the knife across the ulcer, if done at the right point, will be sufficient to divide

this nerve, and to induce cessation of the pain for some little time; but the muscle beneath being irritated and hypertrophied prevents, by its movements, the ulcer from healing, and very soon the pain will be re-established; hence the necessity in all but the slightest cases for the division of the sphincter.

When the muscle is cut the divided fibres retract, and they do not unite so quickly as the ulcer heals; the result is that the muscle, being set quite at rest, soon loses its hypertrophy and irritability. We have often noticed, after a fissure has been cured, how much reduced in size and thickness both the sphincters have become. The cause of failure after imperfect division of the muscle is, that entire quiet is not obtained; the undivided fibres, though paralyzed for a time, soon recover themselves, and the old contraction is resumed before the ulcer has had time to heal, so that very speedily it reassumes its former character.

There is no need to cut right through both sphincters into the cellular space beneath, as the older surgeons used to do, but a fairly free incision heals quite as quickly as a small one, and it is much better to cut rather too deeply than too superficially.

Those who are in favour of a slight cut say that incontinence of fæces may be brought about by too free an incision through the muscles. That may be the case when the cut is not properly made, *i.e*, when the muscles are not cut at right angles to the direction of their fibres. An incision at right angles

will join so as to leave a perfect narrow scar, but an oblique incision leaves a very weak, wide scar. We are quite certain that both the internal and external sphincter muscles (on one side only) may be divided entirely in a healthy person, without any danger of a weak bowel following.

A patient will not readily pardon one not curing him at the first operation, and will be very disinclined to submit to a second incision should the first have failed. Most likely he will seek other advice; it has occurred to us to have to operate upon patients, both hospital and private, where eminent surgeons had failed to effect a cure, and it was found that failure had resulted from one of two causes: either the too sparing use of the knife, or the overlooking of a polypus.

If the operator is not very *au fait* at rectal surgery, it is advisable to introduce a speculum to see exactly where the knife should go, and the parts are also rendered tense, so that their division is facilitated. The incision should commence a little above the upper end of the fissure, and terminate a little beyond the outer end, so that the whole sore is cut through; as a general rule, the depth of incision should not be less than a quarter of an inch. If the outer end of the fissure be marked by a swollen inflamed piece of skin, it is better to remove that with a pair of scissors, for by so doing the healing process is greatly expedited; the small polypoid growth also, so frequently found in fissure, should at the same time be snipped off. It is well

to note that we are not recommending the cutting off of true rectal polypi.

It has been suggested that a curved bistoury may be passed beneath the ulcer, and the cut made from beneath towards the bowel. There is no advantage in this mode of operating; we always insert the forefinger into the bowel, feel the situation of the fissure, pass upon the finger a straight knife with a rounded point, then turn the edge to the base of the ulcer and make the incision; or the knife-blade can be laid flat upon the forefinger and both introduced together into the bowel, and the cut then made; this is a good plan where there is much spasm of the sphincter. When the fissure is quite dorsal, the cut should be made, not directly through it, but somewhat laterally, by which means one is certain of completely dividing the fibres of the muscle, and the wound will heal more readily. A small piece of cotton-wool may be placed in the wound, and allowed to remain for twenty-four or forty-eight hours. It is well to keep the bowels confined for two or three days.

Usually the patient should be kept in bed until the wound is completely healed. The after-treatment must be the same as that advocated after the operation for fistula. It is absolutely necessary when there is any uterine complication that the patient be kept entirely at rest and lying down until the wound has soundly healed, for, most assuredly, if she gets about too soon either the wound will not close, or a worse result—viz., un-

healthy ulceration—will ensue. We have seen many cases showing the good policy of long-continued rest, and numbers more where bad results have followed a speedy resumption of ordinary duties.

Case. Ada T—— was admitted into St. Mark's Hospital. She was 24 years of age, was married, and had five children; she was in the hospital three months before, and was operated upon by Mr. Lane for fissure; she left not quite well. It was noted on her card that she suffered from retroversion, and had an enlarged uterus. On examining her on her re-admission, rather extensive, but superficial, ulceration was found to have taken place since her going out. The ulceration extended above the upper edge of the internal sphincter. She had a good deal of pain and frequent harassing diarrhœa. There was no history or sign of syphilis. After three months' treatment by injections, sedative and astringent, and the internal administration of iodide of potassium and tonics, she was discharged cured. The uterus was kept in its place by means of a Hodge's pessary.

Sometimes there may be noticed three distinct, well-marked fissures in one patient. If one is obliged to operate upon a multiple fissure, *one* incision through the sphincter will be sufficient.

By dilatation. Dr. Dolbeau, of Paris, is strongly in favour of forced dilatation of the sphincter, originated by Recamier, in the treatment of anal fissure; in fact, he scarcely admits of any other method.

This method of forcible dilatation should never be employed without the use of an anæsthetic. When anæsthetics cannot be administered, incision is more rapid and less painful.

The method of dilatation is to introduce both thumbs, one after the other, taking care to press the ball of one thumb over the fissure and the other directly opposite to it; this prevents the fissure from being torn through and the mucous membrane stripped off. The surgeon then gradually separates the thumbs, and repeats the stretching in the opposite direction, *i.e.*, at right angles to the first; then in other directions, until he has gone round the anus. After this he applies considerable pressure to the sphincter muscles all round, pulling apart the anus with four fingers, two on each side, and kneading the muscles thoroughly; by thus gently pressing and pulling, the sphincters completely give way, and the muscle, previously hard, feels like a well-beaten beef-steak, or even putty. This will occupy at least five or six minutes to do thoroughly; there is scarcely more than a drop or two of blood seen, but the anus will be bruised, and for a few days extravasation is noticed, the part gradually undergoing the changes of colour usually observed in any bruise. This operation is perfectly safe and almost painless, and never fails to cure in suitable cases. A suppository of half a grain of morphia is then placed in the rectum and cold applied.

A post-mortem examination was made in Paris on a girl who died of cholera within a few hours of having forcible dilatation made for the cure of fissure. The surgeon stated that none of the fibres of the sphincter muscles were in the least degree

torn, though the mucous membrane was slightly lacerated.

We will now endeavour to point out the cases which appear to be most suitable for incision, and those suitable for dilatation.

Incision. It is wise to incise all ulcers situated about the *internal* sphincter, for only by so doing can a certain cure be effected. If dilatation is employed, the sphincters rapidly recover their power, and fæcal matter may collect in the ulcer, irritate it again, and prevent healing. But by a complete division of the external sphincter one can obtain a somewhat lengthy paralysis and a good drain, so that motion cannot be retained in the ulcer ; moreover, the ulcer can be easily dressed and made to heal from the bottom.

In old, large, or indurated fissures situated about the external sphincter, division is the safer operation. When fissure or ulcer is complicated with piles or fistula, division is best, for the wound caused by the cut heals at the same time as those caused by the removal of the piles or the division of the fistula.

Dilatation. Forcible dilatation may be used with advantage in simple fissures about the verge of the anus over the *external* sphincter. It is the safest operation to employ in the old, in phthisical patients, or those broken down in health. In children it may be used as a method of cure when there is congenital narrowness of the anus, or when the fissures are multiple and probably caused by constipation. If a polypus

or polypoid growth exists in conjunction with fissure, the polypus must be ligatured, the polypoid growth snipped off, and dilatation effected to cure the fissure.

Subcutaneous division as a mode of treatment.

Years ago we were in the habit of subcutaneously dividing the sphincter in cases of fissure, and recently Mr. Pick, of St. George's Hospital, has spoken favourably of the method. We gave it up because there is great difficulty in knowing whether enough of the sphincter muscles has been divided. Again, when the patient is under ether the muscle has little tension, and it is nearly impossible to cut with precision. The results were very uncertain; abscesses occurred in more than one instance.

CHAPTER XVIII.

NEURALGIA AND HYSTERIA OF THE RECTUM.

NEURALGIA or hysteria is a term frequently applied to a painful condition of the rectum when nothing is found to cause the symptoms. But it must be remembered there are many very slight lesions that may be overlooked, and, if so, will prevent this so-called neuralgia or hysterical state from being cured. Therefore, before saying that we have to deal with a real neuralgic or hysterical state, it is well to point out the lesions, which may be easily overlooked if not borne in mind.

Local causes.

Very slight erosions, or even inflammation, of a spot in the rectum—high up or low down—may set up much pain, and at the same time be so difficult to discover as to baffle the closest and most searching investigation.

Fissures or irritable ulcers not very uncommonly give rise to a train of nervous and hypochondriacal sensations, which continue even after the ulcer itself has healed. It is possible that some filament of

nerve is included in the cicatrix of the wound, and thus irritation is kept up, as one sees occasionally after amputations of the extremities. We have also observed cases of spasmodic contraction of the sphincter inducing obstinate constipation and attended with pain, but not at all strongly resembling the paroxysm due to fissure, and no fissure was present. If no gross lesion is found, and, moreover, if the above slight lesions are absent, it is evident that the pain must be due to some nerve irritation or disease. With this idea in view we shall try to enumerate the different nerve causes giving rise to this so-called neuralgic or hysterical bowel.

Nerve causes.

Dr. Mathews, of Louisville, in his excellent work on 'Diseases of the Rectum,' devotes three chapters to this important subject. He altogether opposes the hysterical origin of these affections, and thinks that in most cases there is a diseased condition *simulating* hysteria, caused by disease or irritability of the periphery of a nerve. He also strongly holds that in nearly every case a local lesion does exist, and that if a lesion cannot be found in the rectum, the symptoms must be set down as a reflex condition. In the main we agree with Dr. Mathews, but, as will be seen, we think that there may be actual neuralgia and hysteria, although these conditions are very rare.

The sufferers from these obscure affections are for the most part healthy patients, whose only apparent trouble is in the rectum, for which we as rectal

specialists are consulted. They come to one with some of the following symptoms: sharp, stabbing pain in the rectum, having no relation to the action of the bowels, often commencing with no apparent cause, and being at times very intense. Others complain of a sense of fulness and burning, in no way relieved by purgatives or by washing out the rectum, and occurring at irregular times. Again, others, from a sense of discomfort, are frequently obliged to go to stool, nothing passing and no relief being obtained. Others say that they feel they have a rectum, and this constantly keeps that organ upon their minds, but, at the same time, they are unable definitely to describe their symptoms.

Symptoms.

Now, in these cases, after several most careful examinations, nothing local is to be discovered; that is to say, there is no hypertrophied sphincter, no pruritus, no piles or fissure, no congestion of the mucous membrane, no increase of temperature, no ulceration high up in the bowel. In fact, to all appearance, the rectum is perfectly healthy. Yet the pain exists, the patient is greatly distressed, and relief is urgently sought for. This is what is called a neuralgic or hysterical rectum.

The various conditions.

We are convinced that the explanation of these cases is to be found in one or other of the following conditions:

Congestion of the Rectal Vessels.—This congestion may not be marked enough to be observable by the eye or the touch. Still, as in varicose veins in the leg, there is often an aching, heavy discomfort about

the legs, without any actual varicosity being made out, so in some cases these rectal symptoms may be due to weakness or congestion of the vessels. These congested vessels of themselves, or by their pressing upon the nerve-trunks or the nerve-ends, may thus cause vague symptoms.

Reflex actions may explain many of these rectal symptoms, even when the rectum itself is perfectly healthy. Thus, any uterine or ovarian disease, any kidney, bladder, prostatic, or urethral trouble—in fact, any abdominal disease—may by reflex irritation refer its pain to the rectum. The condition of these organs must therefore be carefully investigated when no rectal lesion is discoverable.

Locomotor Ataxy. — The investigation of this disease is a most important point. Often these vague rectal troubles are among the very earliest signs of locomotor ataxy. A careful search must be made into the condition of the reflexes, pupils, etc., to make sure that this is not the case.

Mania.—We have seen cases in which this obscure rectal trouble was one of the first indications of insanity. The patient is impressed with the idea that the rectum is at fault, and, if the case be followed up, it will be found that in a short time he becomes mad. This may be explained by the circumstance that the brain, from first having the one weak spot, viz., as regards the rectum, later on develops more weak spots, and probably one of these necessitates his being confined in a lunatic asylum. Then, curiously enough, he may quite forget the

rectal trouble, and may be possessed by some other fancy.

Epilepsy.—The sharp pains in the rectum may be an aura of epilepsy, and we must inquire carefully whether there have been previous attacks, or whether there is a family history of epilepsy.

True Neuralgia.

Eliminating the above possible causes of the rectal symptoms, we believe that there may also be a *true neuralgia.* But of course this should not be thought of until all other possibilities have been negatived. Neuralgia occurs in other parts of the body as a neuritis; for instance, herpes zoster, where the neuritis gives rise to a vesicular eruption, and is afterwards followed by intense neuralgia in the parts supplied by the nerve affected. In some cases it is known to cause an altered condition of the skin. We also see this in cases of severe pruritus. The itching is most intense, but except for the rather shiny condition of the parts, we should not believe that anything was the matter. Hence we can easily understand that, if a neuritis happens in some or one of the rectal nerves, pain of a severe character may be felt without there being any perceptible lesion of the mucous membrane.

Hysterical Rectum.

Lastly, there is no doubt that a real *hysterical rectum* may exist; that is to say, there is no cause for presupposing it unless the brain itself be regarded as the cause, for in the brain alone the discomfort exists, and in these cases the patients may have other vague discomforts in other parts of the body, *e.g.*, difficulty in swallowing, loss of voice, etc.

Treatment.

As to the treatment, if a *local* lesion is found, it must be remedied by local measures; on the other hand, if the pains are due to *reflex* causes, the origin of these discomforts should be attacked by measures which affect the organs from which they arise. We trust that by the above classification we may have been able to convert this obscure subject into one which comes within the bounds of practical medicine or surgery.

Cases.

Reflex Action.—Mrs. C——, aged 40, gave the following history: For some months she had been troubled with vague pains in the rectum, not depending in the slightest degree upon the action of the bowels, nor was there any discharge of mucus, pus, or blood. Upon examination, nothing whatever of an abnormal nature was to be made out. Moreover, she was in no way relieved by laxatives or by soothing applications to the rectum. On inquiry into the uterine functions, it was learnt that the periods were profuse and prolonged, and that at times there was discharge of rather offensive matter from the uterine cavity. She was advised to consult an obstetric physician, who performed curetting of the uterus. This entirely cured her, not only of her uterine, but also of her rectal symptoms.

Similar cases might be recounted in the male, in which a cure of urethral stricture or chronic prostatitis completely rid the patient of rectal discomfort, for which he came to consult.

Locomotor Ataxy.—Major K——, aged 54, came complaining of a spurious diarrhœa, with sharp pains about the region of the anus. His symptoms pointed to malignant disease of the rectum. Accordingly, the rectum was thoroughly examined, with a negative result. On testing the patella reflexes, they found were to be absent. Dr.

Samuel Fenwick, in consultation, confirmed our opinion, that the rectal trouble was merely a symptom of early locomotor ataxy. The patient was therefore strongly advised to have no operation performed. He, however, was so fully convinced that his symptoms were due to piles that he consulted another surgeon, who, finding he had a few external piles, advised an operation. He performed this, and, needless to say, the patient was worse rather than better in his rectal symptoms, the surgeon having altogether missed the fact that the patient had locomotor ataxy. In a few months ataxic symptoms rapidly developed, and he soon died.

Mania.—Mr. G——, aged 46, stated that many years previously he had been operated upon for piles, and ever since then he had had uncomfortable feelings about the rectum. During the last few months, besides having these uncomfortable sensations about the bowel, he had lost a small amount of blood. The patient appeared to be extremely nervous, and worried about his rectal trouble, declaring that he was sure he never could be cured. On examination two small piles could be discovered, which were not nearly sufficient to account for the severity of his symptoms. Seeing, however, the acuteness of his worry about the rectum, it was deemed advisable to operate upon these piles. At first the patient appeared to be greatly relieved, but about six weeks after the operation he became acutely mad. It was then found that there was a bad history of mania in the family, and no doubt these rectal symptoms were only one phase of his madness. It is obvious that when the mental worry is greatly in excess of the local symptoms, the question of mania should be carefully taken into consideration.

Epilepsy.—Mr. J——, aged 35, came complaining of waking up at night with excruciating pain in the rectum. This occurred only about twice a month. These attacks made him feel quite faint, and his facial aspect, it is said, became blue. Laxatives and washing out the rectum in no way relieved these attacks. On examination the rectum was

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found to be perfectly healthy. Inquiry into the family history elicited the fact that several members of the family had suffered from epilepsy, and that the patient when young had had several epileptic fits. That being the case, one naturally inferred that these rectal attacks were epileptic in nature. A large dose of bromides rendered them much less frequent.

True Neuralgia.—Mrs. H——, aged 37, stated that she had had three bad attacks of influenza, which had been followed by pain along some of the nerves of the face, and that she had constantly an aching sensation in the rectum, referred chiefly to the left side of the gut. At times this discomfort was very severe, being generally worse in damp weather or when she was run down in health. On examination, the rectum was found to be perfectly healthy, and no tenderness was to be made out. Therefore, considering the history and the pains about the face, we regarded it as a neuritis of some of the nerves supplying the rectum. This was proved to be the case by the fact that change of air and the administration of arsenic, quinine, and phenacetine eventually cured not only the rectal, but also the neuralgic head symptoms.

Hysteria.—Miss J——, aged 22, complained of vague rectal pains, unrelieved, according to her account, by any local or general drugs. The rectum and anus were found to be perfectly healthy, and on inquiry into her general condition, it was discovered that she was subject to so-called fainting fits, and that on two occasions she had entirely lost her voice. This, she stated, had been at once restored on each occasion by the application to the throat of galvanism.

CHAPTER XIX.

PERSISTENT CONSTIPATION CONSIDERED FROM A SURGICAL POINT OF VIEW.

As to use of drugs in constipation.

MANY able and interesting papers have been written upon the medical treatment of this common and troublesome complaint, for it often greatly affects the constitution of the patient, making him dull and nervous, deranging the digestive system, and thus giving rise to very severe reflex symptoms. No doubt ill-health may be the cause of constipation, but, on the other hand, constipation may be the primary cause of ill-health. For retained fæces poison the blood, and then the body is ill nourished. Therefore for the cure of constipation the system should be speedily relieved of the poisonous matter. Patients have been purged over and over again for constipation, or have been treated by stimulating drugs, such as belladonna, strychnia, etc., when the system was not fit properly to assimilate them. Drugs, of course, act differently on people in different conditions; quinine given to a healthy person will act more powerfully, being readily absorbed into the system. But in fever larger

doses may be required to produce the effect of a small dose given to a patient in moderately good health. In constipation there is a lack of vitality and of the power to absorb or assimilate. As a result of this, the drugs that have been given may become accumulated, and may only tend to add to the disturbance of the system instead of relieving it.

For this reason, previously to the medical treatment of bad constipation, one should, as far as possible, empty the colon of its poisonous contents by mechanical means. After this, medicine will be more likely to be assimilated properly, and to prevent a recurrence of this distressing complaint.

No doubt the first beginnings of constipation may be cured by the use of drugs, for then the patient is in a tolerably normal state of health. But when this constipation has become inveterate and much fæces have been accumulated, it is then that the system becomes poisoned and medicines lose their due effect.

It is proposed here not to deal with the medical treatment of constipation, but to consider this state only from a surgical point of view.

Spasm with hypertrophy of the sphincters is not at all an uncommon cause of *persistent* constipation. This spasm with hypertrophy may not primarily exist, being first induced by an *attack* of constipation, and then itself making the constipation persistent, and perhaps incurable.

Spasm with hypertrophy as a cause.

These slight attacks of constipation may have been brought about by many causes, especially by

the irregular way in which the patient has attended to the action of his bowels. He does not go to stool at fixed times, or resists the call of nature. Somewhat later he tries to make his bowels act when nature is reluctant. As a consequence of this, no evacuation may follow. Then he waits another day, and again does not respond to nature's promptings. After a time the colon and rectum resent this treatment, and fæces begin to accumulate. Then at last the mischief commences. The colon and rectum become over-distended, and cannot act with full force. Moreover, the fluid matter of the fæces gets absorbed, leaving the fæces themselves hard and dry, and the muscular tissue of the bowel, being ill-nourished, and perhaps poisoned by the blood which is impregnated with this poisonous matter, cannot exert sufficient power. The patient, on going to stool, strains often with little or no result. From this straining and from the irritation set up by the fæces the sphincters become hypertrophied and thrown into spasm. Hence worse constipation.

Examination.

It may be noticed that when a patient suffering from constipation is told to bear down, in consequence of the spasm with hypertrophy, no dilatation of the anus will follow. The anus pouts and looks nipple-like, and on the introduction of the finger the sphincters are found to be very tight and broad. Not unfrequently in adults a little proctitis caused by retained fæces may, by giving rise to induration, assist in promoting this condition; the same may be said of patients afflicted with syphilis.

But also this spasmodic hypertrophy may occur with no perceptible cause, though really due to reflex irritation set up by the retained fæces.

We may perhaps make this matter clearer by citing a parallel case.

We know what spasm occurs in the orbicularis palpebrarum when the eye is affected with corneal ulcer. The explanation of this is not quite certain; but some say that the irritation excited in the nerves of the cornea, either by light or by the movement of the lids, reflexly causes spasm and hypertrophy of the orbicularis palpebrarum. Now, may not the sphincter ani in the same manner become hypertrophied, or at least thrown into spasm, by the irritation of an abnormal amount of fæces in the colon and rectum?

No doubt the corneal ulcer is the primary cause of the spasm of the lids; but this spasm, when once induced, keeps the ulcers active and prevents their healing. Then one cannot cure the ulcers by attacking them locally or constitutionally, but must remedy the spasm by division of the orbicularis palpebrarum.

In like manner slight constipation may be the cause of the spasm of the sphincter ani, but this spasm, when once started, keeps the constipation active and prevents its cure.

Then one cannot relieve the constipation by purgatives, but must first put an end to the spasm by forcible dilatation or by the passage of bougies.

Another very important cause of constipation is

Congenital narrowness of anus as a cause.

a congenital narrowness of the anal orifice, which is generally not sufficiently marked to be noticed when the child is born. Perhaps the only symptom the mother observes is that the child is costive; this she usually puts down to errors in diet. Again, it is not so noticeable when the child is very young, for then the fæces are liquid and can pass away more easily. As the child grows older, and the motions become more solid, the trouble begins. He only succeeds in obtaining an evacuation when the contents of the bowels have been made liquid by purgatives. We have seen patients at the age of twenty, or even older, who say that they have always been costive, and have rarely obtained relief without the use of purgatives. With such a history a careful examination of the rectum should always be made.

Atony.

In those of feeble constitution, and especially in the old, constipation may result from atony of the muscular tissue and of the bowel, combined with a loss of muscular sense.

Intussusception.

Intussusception of the rectum, or what we have described as the third kind of procidentia, may also lead to severe constipation, and should be sought for when other causes are not apparent; malformations of the uterus or enlarged prostate may also be troublesome causes of constipation, by mechanically interfering with the passage of fæces. All the above-mentioned conditions may give rise to constipation unaccompanied by any other symptoms. Thus they will not be referred to by the patient, and may not be suspected by the surgeon. Consti-

pation may be one of the results of polypus, piles, fissure, malignant disease, or stricture. In these conditions the patient generally complains of the particular symptoms of his ailment, of which constipation may only be one among many others. Other causes.

Another cause of constipation may be an irreducible hernia. A mass of omentum may be fixed in the scrotum. This drags on the transverse colon, and causes a kinking in the gut, or inhibits its free action. Should such a hernia exist, it should be cured, for to free the gut by removing the omentum may cure a most obstinate case of constipation. We have operated upon such cases with marked result. Hernia.

When treating a case of persistent constipation, one should make a thorough examination of the anus and rectum, for by finding any of the above-enumerated causes much time may be saved in the treatment, and the patient be permanently cured. Unless this search is made, purgatives may, as is too frequently the case, be administered for years, giving only temporary relief; for if any of these causes or perpetuators of constipation do exist, a permanent cure cannot be effected until they have been removed.

As an adjunct to all methods of treatment of constipation, the colon and rectum should be fully cleared out by a copious enema. Enemata are often given in such a perfunctory manner that a few words on their proper use may not be amiss. The ordinary enema-tube is too small—that is to say, the opening does not allow a sufficient volume of Treatment. Enemata.

water to be poured into the bowel at one pump. Now, a large jet of water soon breaks up a mass of fæces, whereas a small jet only gently plays upon it and is of no real, material use. Moreover, as a rule, the part of the tube to be introduced into the bowel is not long enough, and we should never recommend one shorter than six inches. The calibre of the tube should be not less than one-third of an inch in diameter, and the opening should be at the top. The tube just described is sufficiently large for administering an ordinary enema, but in bad cases of constipation a much longer tube is very advantageous.

Mode of introducing long tubes.

Much has been said as to the difficulty of introducing these longer tubes. When passed into the bowel the tube often curls up in consequence of its impinging on the promontory of the sacrum. It then bends round again towards the anus, so that, although twelve inches or more of the tube have been introduced, it may have reached hardly any way into the bowel, and its point be near the anus. Even if the promontory of the sacrum has been successfully passed, another difficulty may arise: the end of the tube may be caught in the sigmoid flexure, especially if that has a long mesentery or is much convoluted. Often on reaching this part the tube is stopped, and, on account of its flexible nature, no directing from the portion outside the anus can affect its point.

We will now describe how a long tube should be used:

The left forefinger is introduced into the rectum, and the promontory of the sacrum is felt for. Then the tube is passed along the finger and is guided beyond the promontory into the sigmoid flexure, at which point, viz., the juncture of the sigmoid with the rectum, the gut is considerably narrowed. One probable barrier has then been passed. Now, to assist the tube's onward progress into the sigmoid flexure, one should inject water, simultaneously pushing the tube up the bowel. By so doing the intestine just in front of the tube is dilated, and any possible hitching prevented. However, even in the most skilled hands there have been frequent failures to pass long tubes.

Forcible dilatation.

When persistent constipation is complicated with, or caused by, spasm with hypertrophy of the sphincters, a cure may be effected by forcible dilatation of the anus. This does away with a mechanical obstruction, and also seems, in some manner which we cannot quite explain, to influence the action of the large intestine.

Bougies.

In less severe cases, or in those who will not submit to forcible dilatation, some good may be obtained by the passage of bougies daily increasing in size.

When one has to deal with constipation caused by congenital narrowness of the anus, forcible dilatation or division of the sphincters, followed for some considerable time by the use of bougies, is the only satisfactory mode of treatment.

Galvanism.

Constipation in the old or feeble, when it is due to a want of power of the muscular tissue of the rectum

and colon, may be benefited by a systematic course of galvanism, one pole being placed in the rectum and the other being moved about over the surface of the abdomen.

Massage.

Massage, too, has sometimes proved very serviceable.

Abdominal belt.

In those women whose abdominal walls are lax and pendulous from repeated pregnancies, an abdominal belt will sometimes, from the support which it gives to the intestines, materially assist in relieving obstinate constipation.

When it has been found that constipation is the result of malposition of the uterus, enlarged prostate, intussusception, fissure, piles, polypus, etc., these causes should, as far as possible, be removed.

Injection of irritant.

A good deal has been said about the efficacy in constipation of injections of glycerine into the rectum. It, like most other injections, is only of service so long as it acts as a local irritant. As soon as the rectum becomes accustomed to it, it is of no more benefit than the ordinary injection of warm water.

We will now very briefly relate one or two typical cases :

Cases.

Case 1.—Mrs. C——, aged 41, consulted us about obstinate constipation, from which she had suffered for many years. On examination it was found that the sphincter ani was in a state of spasm with hypertrophy. Forcible dilatation was performed. After thorough dilatation, and the administration of enemata in the way described, she soon improved, and is now perfectly well, the bowels acting daily.

Case 2.—May T——, aged 15, was brought by her mother. She had suffered from severe constipation all her life, and on examination it was found that the anus was so small as not to admit the little finger. In this case we forcibly dilated the sphincters, and advised her mother to pass a good-sized bougie daily for a month, and then once a week for six months. The result was perfect, as she was entirely cured of her constipation.

Case 3.—Mrs. D——, aged 40, had for many years suffered from bad constipation. She had consulted many physicians and taken all sorts of drugs. On examination the rectum was very healthy, but she said she had a rupture, which we found was an irreducible femoral one. This we operated upon, removing a large amount of adhesive omentum. Since then she has been perfectly cured of the constipation.

CHAPTER XX.

IMPACTION OF FÆCES AND CONCRETIONS IN THE RECTUM.

Impaction.

THE result of an attack of constipation may be a collection of clayey fæces, formed in the cæcum or in any part of the colon; but the term 'impaction' is generally used when the accumulation takes place in the pouch of the rectum immediately above the internal sphincter muscle. This is its most frequent situation, and here a very large deposit, more or less globular in shape, is often found. We have purposely considered the ailment in a separate chapter from that on persistent constipation. Impaction of fæces may follow from a single attack of constipation, whereas persistent constipation may never, or only after a long period, cause impaction. Again, the symptoms of the two conditions are very different; impaction is generally marked by diarrhœa, whereas in persistent constipation the prominent symptom *is* constipation. It occurs in females more commonly than in males; old women, and women shortly after their confinements, being especially liable to it. In aged people very often one of the first indications of

failing nerve power is loss or diminution of the contractile force of the colon, and consequent inaction of the bowels, leading to impaction.

We have seen some cases of impaction in hysterical young girls and in middle-aged females. It is also met with in elderly men. We have found it occur more than once in children. A little boy, only three years of age, had a veritable impaction, which gave a good deal of trouble; but when it was removed the bowel soon regained its tone, and regular action was afterwards kept up easily.

Causes.

The cause of the accumulation is nearly always a loss of power of the muscular coat of the rectum. This loss of power may have been produced by the pressure of the child's head during a long-protracted labour, or by over-distension of the bowel through neglect of the calls of nature, in which case the condition of the rectum much resembles that of a bladder paralyzed from retention of urine.

In impaction spasm of the sphincter always exists, in some instances to such a degree that, when the patient strained, we have observed the anus protrude like a nipple, and an injection return in a fine stream, as if coming out of a squirt.

Symptoms and diagnosis.

The symptoms of impaction are not uncommonly very obscure, and the malady may be mistaken for something else. We were once called to see a lady labouring under impaction, and found that an eminent physician had recently declared her to be suffering from neuralgia of the bowel, and had ordered her quinine and steel; and we have heard

of another case which was treated as gout in the rectum. Sometimes patients have been supposed to be the subjects of malignant disease of the cæcum or sigmoid flexure, from the fact of there being a tumour present, and from the patient's aspect, which is frequently very suggestive of cancer. We attended a gentleman who was believed by his physician to have incipient disease of the brain, so much nervousness and hypochondriasis resulted from a very loaded colon and impacted rectum. We had also a case in a young lady, which was said by more than one medical man to be phthisis, constant cough being present, with hectic at night, and much emaciation. And, lastly, a very common but sad error is often committed: these patients are treated for diarrhœa with tenesmus, as a considerable fluid discharge from the bowel is not at all incompatible with great retention of solid fæces.

In the history of these cases it is not rare to find that severe pains have been experienced in the right lumbar and left inguinal regions. This symptom points to the fact that the cæcum had been the seat of obstruction and distension, and that when this was removed the fæces again lodged in the rectal pouch. The symptoms of impaction might be expected to be generally those of obstruction, and resemble in many respects those of stricture of the rectum, but the absence of any jelly-like or coffee-grounds discharge is an important point to be noticed in the diagnosis. The patient often really complains of a tendency to diarrhœa, liquid motions being frequently passed,

especially after an aperient, but without any sense of relief, and on assuming the erect position, straining—severe, continuous, and irresistible—takes place. On lying down, this generally passes off gradually for a time.

Dyspepsia, irritability of temper, nervousness and despondency, the patient supposing herself to be suffering from an incurable malady, a very muddy-yellow skin suggestive of malignant disease, morning vomiting, and a loathing of all food as soon as a few mouthfuls have been taken, excessive and very painful thirst, are among the common symptoms of this disorder. A peculiar ringing, barking cough, particularly in women, and also night-sweats, are not uncommon. In both men and women we have seen very obstinate retention of urine caused by impaction. All these symptoms may continue more or less urgent for months, and aperients and injections may be given without affording more than temporary relief.

Examination.

When examining a patient, if one makes careful palpation over the abdomen, tumours may be felt in the cæcum, the transverse colon, or the sigmoid flexure; under any circumstances, in the majority of cases the anus will be seen to be nipple-shaped, and if one feels around the anus, the sphincter muscle will be tightly contracted, and almost as hard as a piece of wood. It is only with difficulty that the finger can be introduced into the bowel, and then a ball of hardened clayey fæces will be found filling up the rectal pouch. This ball may be almost as large

as a fœtal head, and quite movable, so as to admit of liquid or thin motion passing round by its sides, thus giving rise to the impression that diarrhœa rather than constipation exists. So deceptive is the feeling this mass gives to the finger, that it may be thought that one is touching a tumour ; we have been called in consultation several times by medical men who had discovered the impaction, but could not believe that what they felt was only a collection of fæces.

Points in Diagnosis.

The diagnosis, however, is usually not difficult, if observations be carefully made. There are two points of distinction which may always be noticed : First, an examination from time to time will show that the tumour differs in size and shape ; this the patient will often be the first to remark. Second, a very careful manipulation will detect that the tumour is irregularly soft and has a decided doughy feeling. When the tumour is in the sigmoid flexure or rectum, the introduction of the finger will at once clear up the doubt, if there be any.

Treatment.

In bad cases one must commence the treatment of this malady by thoroughly breaking up the ball of fæces.

The best mode of accomplishing this is first to put the patient under an anæsthetic, and then forcibly but slowly dilate the sphincters ; this done, the interior of the rectum can be reached without any difficulty, and the mass can be broken up with the finger, or a lithotomy-scoop, or the handle of an old-fashioned silver spoon. The spasm of the sphincters

being thus overcome, one can do a great deal at one sitting—in fact, quite empty the rectum.

In women this process of breaking up may be assisted by introducing two fingers of the left hand into the vagina, and, by pressing backwards, fixing the mass against the sacrum so that it cannot slip up the bowel.

After the impacted mass has been thoroughly broken up, one may administer injections of soap-and-water, oil and fresh ox-gall, and in this way get rid of enormous quantities of fæces. When the ball occupying the rectal pouch is cleared away, other masses generally come down, and we have seen as much as would fill two or three chamber utensils pass at one operation.

In several instances the rectum has been so much dilated that the upper part of the bowel opened into the pouch like a pipe into a bladder.

It is often a considerable time before the rectum recovers its power after its great distension, and therefore one must take care that no re-accumulation occurs.

As in the treatment of persistent constipation, injections of cold water, kneading the abdomen, and the exhibition of the compound decoction of aloes with nux vomica, will be found useful. As soon as the bowel is thoroughly cleared out, it is well to prescribe the following pill, which is very effective in restoring power to the colon and rectum, thus inducing a regular action of the bowels :

℞

Ferri sulph. exsicc.	gr. ¼.
Quiniæ sulph.	gr. i.
Ext. nuc. vom.	gr. ¼.
Ex. aloes aq.	gr. i.
Ext. tarax.	q.s.

Misce. Fiat pil.

Take one three times a day after meals. Faradization is most advantageous in these cases.

Persons of sedentary habits are especially liable to these attacks; exercise in the open air must therefore be taken daily.

Case. A very interesting case was sent to us by Dr. Frodsham. The patient was an elderly person from the country, who was placed under Dr. Frodsham's care. She had been for a long time ill with severe pains in the bowels of a colicky character, not especially restricted to one part of the abdomen, which was much swollen. No tumour could be detected. She was subject to hiccough and flatulence. This was attended with dyspnœa and palpitation of the heart. She had on several occasions fainted away, and fears were entertained that the heart was not sound. Always, or nearly so, in conjunction with the abdominal pain she had diarrhœa, copious coloured watery stools. For the correction of this, she had been prescribed opium with carminatives; a few doses generally gave her much relief. Her appetite was bad, and she had frequent retching, and sometimes vomiting. She was fifty years of age, not ill nourished; her face wore an anxious expression, and the complexion was muddy. Her general symptoms had existed over two years. The tongue was quite clean, and too red. On examination the heart and lungs were found sound. The abdomen was much distended and the diaphragm forced upwards, causing dyspnœa when she lay down. The abdomen was globular, and there was no particular pro-

minence in any one part. The skin was not shiny; on manipulation the abdomen felt doughy; it was also tender, so that she could not bear much kneading, but after a little pressure the transverse colon started into action, and it was felt to be very large. A flexible tube was easily passed fourteen inches, and on withdrawal it was in parts smeared with fæces; on introducing the finger into the rectum, the latter was found filled with clayey fæces. The diagnosis was great fæcal accumulation and slight impaction. We ordered her a pill of podophyllin, calomel, belladonna, and pil. colocynth co., three times in the day, and every morning an injection of a pint and a half of thin gruel with two ounces of fresh ox-gall in it. On the third morning of this treatment she passed an enormous motion, more than enough to fill an ordinary chamber utensil. The same pills and enemata were continued now every day, and were followed by several enormous evacuations. After ten days the medicine was changed to a combination of laxatives and tonics, which she continued for some time; at the termination of three weeks all her discomforts were gone, and she was quite slender as regards the abdomen.

Concretions.

Concretions in the bowel are rarer than impactions, but when they exist frequently give rise to the latter. They differ from these in that they are often formed round some foreign body, and are usually cylindrical in shape. Concretions consist of animal and vegetable fibres matted together around a nucleus which may vary according to circumstances.

Cases.

In one case a quantity of human hair formed the core; the patient had been in a lunatic asylum, and in a fit of mania had swallowed the hair. She had suffered from attacks of intestinal obstruction for months, and she always said there was something in the bowel which would not pass through the anus. She was brought to us at St.

Mark's Hospital. Forcible dilatation of her sphincter was performed, and with a lithotomy-scoop and the finger it was possible, after some trouble, to remove a conical-shaped mass more than six inches in length by two inches and a quarter in diameter; it was covered with pus and extremely fetid. On cutting through it, the centre was found to consist of human hair.

Another patient, an elderly gentleman, had an obstruction of the rectum, which was thought to be an ordinary impaction, but it was not globular in form, and could not be broken up, as it slipped away and was too tenacious. After dilating the sphincters, it was possible to get hold of it with a pair of lithotomy-forceps and gradually draw it out. The nucleus was a large biliary calculus, and around it were vegetable and animal fibres and dried fæces; the whole was covered by a thick coating of mucus and pus. Eighteen months before, he had suffered from an attack of gall-stones, and no doubt this calculus had then lodged in the bowel, probably in one of the sacculi of the colon.

One more case we will record, as it is peculiar; here a sovereign formed the nucleus. The patient, a woman, came to St. Mark's Hospital suffering from stricture of the rectum; when the stricture was dilated, a large mass was found to be above it. Purgatives and enemata not effecting its removal, it was eventually brought down with a scoop and the finger; it was cylindrical in form. On tearing it up to examine its structure, the coin was found in its centre. Quite fifteen months before the woman had swallowed a sovereign, and she had sought for it in her motions, but had failed to find it; she had not any idea that it had not passed. It is very likely that at that time she had incipient stricture of the rectum, and consequently the piece of money did not escape from the bowel.

When the mass comes down near the anus, it must be removed bodily. It will be found so tenacious that it cannot be broken up like an

ordinary impaction. Unless the sphincter is dilated there will be very great difficulty in extracting these concretions; in fact, it will be almost impossible to do so.

It is very curious how sometimes small substances fail to traverse the alimentary canal safely, and how, at other times, very large bodies pass without producing any severe or dangerous symptoms. There are cases related by Sir James Paget, Dr. Mathews, of Louisville, and others, where a considerable portion of a set of false teeth mounted in gold was swallowed, and not arrested anywhere in the intestines.

There is one thing we should recollect when such a case comes before us—that is, never give a purge. One should tell the patient to eat very freely of solid material, such as suet-pudding, bread, and the like, so as to form full-sized cohesive motions. Treatment.

CHAPTER XXI.

ULCERATION OF THE RECTUM.

Ulceration extending above the internal sphincter, and frequently situated entirely above that muscle, is not a very uncommon disease; it inflicts great misery upon the patient, and, if neglected, leads to conditions quite incurable, and the patient dies of exhaustion unless extraordinary means are resorted to. In the earlier stages of the malady, careful, rational, and prolonged treatment is often successful, and the patient is restored to health. We wish we could say the same of the severe and long-standing cases. Ulceration of the rectum can be mistaken only for malignant disease; but when the symptoms are carefully considered, and the finger is well educated, there can but very occasionally be any error committed in diagnosis. As the earlier manifestations are fairly amenable to treatment, it is of the utmost importance that the disease should be recognised early. Unfortunately, it rarely is so; the symptoms are obscure and insidious, the suffering at first but slight, and thus the patient deceives

not only himself, but his medical attendants, by the little heed he gives to the complaint.

Varieties of ulceration.

There are various causes of ulceration of the rectum proper, and each variety gives rise to a specific kind of ulceration. These, for practical purposes, may be divided into tubercular, dysenteric, syphilitic, and traumatic. The history, in the majority of cases, alone will indicate from which kind of ulceration the patient is suffering, and too much reliance should not be placed upon the feel or character of the ulceration. If tubercular, it may be proved to be so by finding the tubercular bacillus.

Symptoms.

In the majority of these cases the earliest symptom is morning diarrhœa, and that of a peculiar character; it is quite indicative of the disease, and can be confounded only with similar symptoms due to cancer. The patient will say that the instant he gets out of bed he feels a most urgent desire to go to stool; he does so, but the result is not satisfactory. What he passes is generally wind, a little loose motion, and some discharge resembling 'coffee grounds' both in colour and consistency; occasionally the discharge is like the 'white of an unboiled egg' or 'a jelly-fish'; more rarely there is matter. The patient, in all probability, has tenesmus, and does not feel relieved; there is a somewhat burning and uncomfortable sensation, but not actual pain; before he is dressed, very likely, he has again to seek the closet; this time he passes more motion, often lumpy, and occasionally smeared with blood. It may also happen that after break-

fast, hot tea or coffee having been taken, the bowels will again act; after this he feels all right, and goes about his business for the rest of the day, only, perhaps, being occasionally reminded by a disagreeable sensation that he has something wrong with his bowel—not infrequently mucus or muco-pus exudes from the anus. Not by any means always, but at times, the morning diarrhœa is attended with griping pain across the lower part of the abdomen and great flatulent distension. When a medical man is consulted the case is, in all probability, and quite excusably, considered one of diarrhœa of a dysenteric character, and treated with some stomachic and opiate mixture, which affords temporary relief. After this condition has lasted for some months, the length of this period of comparative quiescence being influenced by the seat of the ulceration and the rapidity of its extension, the patient begins to have more burning pain after an evacuation; there is also greater straining, and an increase in the quantity of discharge from the bowel; there is now not so much jelly-like matter, but more pus—more of the coffee-grounds discharge and blood. The pain suffered is not very acute, but very wearying, described as like a dull toothache; and it is induced now by much standing about or walking. At this stage of the complaint the diarrhœa comes on in the evening as well as the morning, and the patient's health begins to give way—only triflingly so, perhaps, but he is dyspeptic, loses his appetite, and has pain in the rectum during the night, which

disturbs his rest; he also has wandering and apparently anomalous pains in the back, hips, down the leg, and sometimes in the penis. There is yet another symptom present in the later stages, marking the existence of some slight contraction of the bowel—viz., alternating attacks of diarrhœa and constipation, and during the attacks of diarrhœa the patient passes a very large quantity of fæces. These seizures are attended with severe colicky pains in the abdomen, faintness, and not infrequently sickness.

Patients suffering from ulceration are very liable to attacks of a low form of peritonitis, attended with considerable abdominal pain, often intense for a short period. There are generally one or more spots that are tender on pressure; there is tympanitis, often vomiting, especially on first assuming the erect position in the morning, and generally the pain is brought on by standing or moving about; these attacks are sure to end in diarrhœa.

When making post-mortem examinations in such cases, we have observed effusion into the peritoneal cavity, and often considerable recent and old adhesions between the intestines; the peritoneum is also thickened. In bad ulceration it can be seen what great destruction of tissue has taken place. The whole of the rectum and sigmoid flexure may be involved in ulceration, together with great thickening and contraction of the calibre of the bowel, caused by the attempts at repair in various parts. The connective tissue here and there is so

much removed as to leave large bridges of indurated muscle and roughened mucous membrane; and there is ulceration, so deep in places that perforation must have occurred but for the adhesions kindly made by nature to the adjacent parts. In other situations the muscular coat is laid quite bare, and we have seen more than one case in which necrosis of the sacrum had taken place.

Examination.

On examining these cases of ulceration of the rectum, various conditions may be noticed according to the stage to which the disease has advanced. In the earlier period one may often feel ulcers situated about one and a half inches from the anus, varying in shape, some an inch long by half an inch wide, surrounded by a raised and sometimes hard edge; others may be undermined at their edges or punched out; there is acute pain caused on touching them, and they may be readily made to bleed. With a speculum these ulcers can be seen distinctly, the bases being greyish or very red and inflamed-looking or sloughing, the surrounding mucous membrane being probably healthy. In the neighbourhood of the ulcers may often be felt some lumps, which, when syphilitic, may be either gummata or enlarged rectal glands. This is the stage in which the disease is often curable. Later in the progress of the malady one will observe deep ulcers with great thickening of the mucous membrane, often also roughening to a considerable extent, as though the mucous membrane had been stripped off. At this stage one generally notices outside the anus swollen and

tender flaps of skin, shiny, and covered with an ichorous discharge; these flaps are commonly club-shaped, and are met with also in malignant disease; but in the early development of the disease *no ulceration is found near the anus, nor at the aperture.* It is in private practice that we have the best opportunity of seeing these cases early, and the large majority do not commence by any manifestation at the anus, such as growths or sores. Occasionally a fissure may be the first lesion, and the ulceration extend from the wound made in attempting to cure it; this is, however, the exception to the rule. So definite is this external appearance in long-standing disease that one glance is sufficient to enable an expert to predicate the existence of either cancer or severe ulceration; these external enlargements are the result of the ulceration going on in the bowel and the irritation caused by almost constant discharge. The ulceration may be confined to a part of the circumference of the bowel, or it may extend all round, and for some distance up the rectum. It also probably will have travelled downwards close to the anus, and then the pain is sure to be very severe, because the part is more sensitive, and more exposed to external influences and accidents.

When the disease has reached this stage, of course stricture and most probably fistulæ will be present; and possibly, but not frequently, perforation into the bladder, into the vagina, or the peritoneal cavity, may occur. The state of the patient

is now most lamentable ; his or her aspect resembles that of a sufferer from malignant disease, and no remedy short of colotomy offers much chance of even temporarily prolonging life. One may relieve these patients, but can rarely do more ; a cure can scarcely be expected. We have seen ulceration utterly destroy both the anal sphincters, so that the anus was but a deep ragged hole. In the earlier stages of ulceration, from whatever cause, save cancer, treatment carefully selected, judiciously varied, and persistently carried out, may do much good, and in favourable cases even effect a cure, but the patient must have faith in his surgeon, and be prepared to submit to long-continued watching, even when much improved ; if the sufferer runs about from one doctor to another his fate is sealed, as he gives neither himself nor his surgeon a chance.

Palliative treatment.

In all stages of ulceration, we have great confidence in the efficacy of rest in the recumbent position, and in a wholly, or mainly, fluid diet, and, in our opinion, milk should be the essential element in such a diet. We could relate many cases we have had with Dr. Thin, in which patients have been entirely cured by rigidly being kept on milk from six weeks to two months. There is very little use in internal medication ; occasional slight applications of a caustic solution and injections of bismuth and morphia, and a gentle regulation of the bowels, are sufficient. These patients, confined to the sofa, and fed entirely on milk, often improve in general health and gain weight.

When the ulceration is deep, and contraction has commenced, the disease is much more serious, and a very doubtful prognosis should be given ; still, in all cases a good deal may be done, and hope may be instilled, if only the patient will give up everything

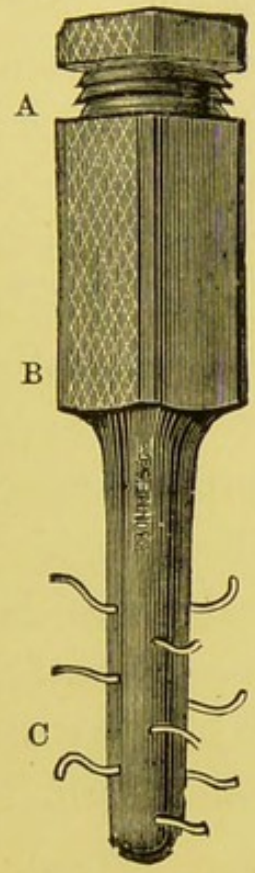


FIG. 35. — IMPROVED AMERICAN OINTMENT INTRODUCER.

The screw A being removed, the box B is to be filled with the ointment. On introducing the instrument into the rectum, and turning the screw, the ointment passes out of the apertures, as shown at C.

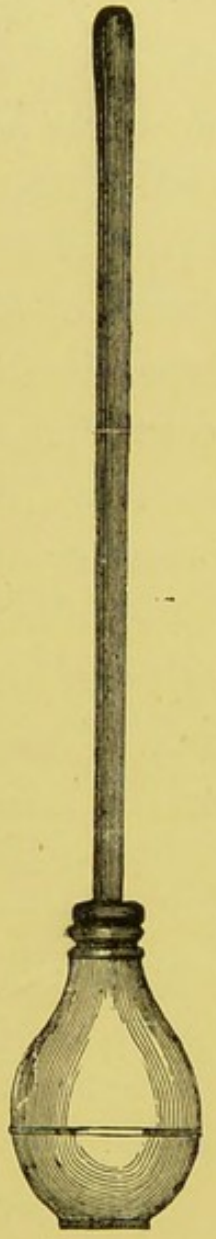


FIG. 36.

to treatment for a lengthened period. If patients walk about, stand, sit, and attempt to continue their business transactions, treatment is nearly always rendered inefficacious ; one indiscretion may render

nugatory a week's labour. In these cases, therefore, rest is even more important than in ulceration in the earliest stage.

Often the ulceration induces such an irritable condition of the rectum that nothing will be retained, neither any injection, suppository, nor ointment; directly anything is introduced, uncontrollable spasmodic expulsive efforts are set up, and may continue long after the offending matter is rejected; thus great pain is suffered, and the part itself damaged. Subnitrate of bismuth may be tried on the mucous membrane itself by means of an insufflator (Fig. 36); this continuously used may soothe the rectum and relieve pain. As a rule, we prefer ointments to suppositories or injections. The little instrument (Fig. 35) obviates all difficulties of introduction, and irritates less than other methods of medication; all kinds of sedatives, opiates, and astringents may in turn be tried. The following formula has been most efficacious:

℞

Bismuth. subnit.	ʒii.
Hyd. subchlor.	℈ ii.
Morph. acet.	gr. ii.
Glycerine	ʒii.
Vaseline	ʒi.

Misce.

This is a very sedative application, and sores seem to be benefited by it speedily. Subacetate of lead, belladonna, and opium will be found serviceable; all sorts of astringents may be employed—rhatany, friar's balsam, zinc, permanganate of potash,

copper, iron, iodoform, nitrate of silver, etc. The last, carefully used in not too strong solution, is one of the most admirable applications, often inducing in an ulcer a healthy appearance, and causing granulation. The tartrate of iron may be employed for the same purpose. Fuming nitric acid or strong carbolic or chromic acids applied under certain conditions are potent remedies; they often allay pain and start healing processes afresh, but they are double-edged weapons, and must be used with great discretion, and with a distinct object in view.

℞

Iodoform	gr. xx.
Cocaine	gr. xvii.
Lanoline	ʒss.

we have found greatly allay irritation and pain in these cases.

Tubercular.

When the ulceration is tubercular, all treatment is extremely unsatisfactory, but by attention to the above details patients may be greatly relieved. When, however, the ulceration becomes exceedingly bad, as a last resource to rid them of the pain and incessant diarrhœa, inguinal colotomy should be performed.

Dysenteric.

In dysenteric ulceration involving the rectum, great benefit is derived from a combination of the above described treatment with the internal administration of large doses of Pulv. ipecac. co. and copious injection of

Argent. nitratis	gr. xx. to xl.
Aquam	ad Oiii.

which is so strongly recommended and found efficacious by Dr. Stephen Mackenzie, of the London Hospital.

Syphilitic. Syphilitic ulceration requires in its early stages a thorough course of mercury; but when it is of a tertiary variety, large doses of iodide of potassium and tonics, with changes of air, afford the only hope of improvement. But in bad cases even these fail, and colotomy must be resorted to. The baths at Aix-la-Chapelle are to be recommended.

CHAPTER XXII.

STRICTURE OF THE RECTUM WITH OR WITHOUT ULCERATION.

Stricture with Ulceration.

Stricture with ulceration.

ALL the different kinds of ulceration mentioned in the preceding chapter generally, after a time, result in stricture; for, as the disease extends, infiltration and thickening of the submucous and muscular tissues take place, and there is consequent diminution of the calibre of the bowel, so that real stricture of various forms supervenes. Coincident with all this there results a gradual loss of the contractile power of the rectum, and almost complete immobility, so that the lower part of the gut is converted into a passive tube through which the fæces, if fluid, trickle; but if solid, stick fast until pushed through by fresh formations above them. Invariably also there is loss of power in the sphincters. When diarrhœa is present the patient has little or no control over his motions. Usually by this time abscesses have formed, or are in process of formation, and these breaking, soon become fistulæ. We have seen persons with as many as eight external

orifices, some situated three inches or more from the anus.

These fistulous passages run up the bowel, opening into the ulceration, most frequently below, but sometimes above, the seat of constriction. Numerous cases of ulceration with stricture result from operations upon the rectum when patients have been improperly operated upon.

Stricture without Ulceration.

Stricture without ulceration.

Stricture of the rectum without ulceration is a somewhat uncommon affection. We have seen how stricture takes place after, or in conjunction with, ulceration. The thickening of the tissues and the contractions which result from the attempts at repair must narrow the canal, but it is not so easy to see how or why a stricture should occur *per se*. The rectum is a tolerably large tube (not like the urethra, where a very little deposit is sufficient nearly to block up the passage), and a considerable thickening might take place without causing any great obstruction.

Inflammation as a cause.

We may, perhaps, suppose that inflammation of the submucous tissue produces a deposit, and, besides this, or resulting from this, there is spasm. We have seen strictures of the rectum so tight that the end of the little finger could not be passed into them, but when the patients are well under the influence of chloroform, it has been possible to pass one or two fingers through with ease.

Inflammation may be induced by the passage of

very dry and hardened fæces, though doubtless this condition may obtain for years—as it often does in old people—without producing stricture.

We have seen one case in which the frequent, and perhaps rather rough, use of an enema-pipe produced a stricture. This occurred in an elderly lady who had for years given herself an injection daily. She did not at first suffer from constipation, but she had been recommended an enema, and at last she could not get an action without it. Perhaps the passage of the bone-tube had been the exciting cause of inflammatory thickening of the bowel.

There is no doubt that many of these cases of innocent stricture without ulceration are due to some inflammation of a subacute or chronic nature, and need not necessarily be the result of a previous ulceration.

We have frequently asked patients whether they have at any time suffered from pain, sensation of burning, diarrhœa, dysentery, or discharge of matter from the bowel (the symptoms of ulceration), and the reply has most usually been in the negative.

Pressure of child's head during labour.

In some few cases the long-continued pressure of the child's head in labour may have been the exciting cause, bruising of the bowel having perhaps taken place.

Spasms.

A stricture of the rectum resulting entirely from muscular spasm we are much disinclined to believe in. Such a condition may be found, but it appears to be very improbable, and in many of the supposed spasmodic strictures there is really no constriction

at all. The operator has been misled by the bougie catching in the fold of the gut or against the promontory of the sacrum. If there is any doubt about the existence of a stricture, one should use a long and very elastic enema-tube and inject fluid as it passes, so as to distend the gut and remove any intussusception of the upper part of the rectum. This condition of intussusception has often been mistaken for stricture, as, unless the bougie goes *directly* into the *aperture* of the descended portion of

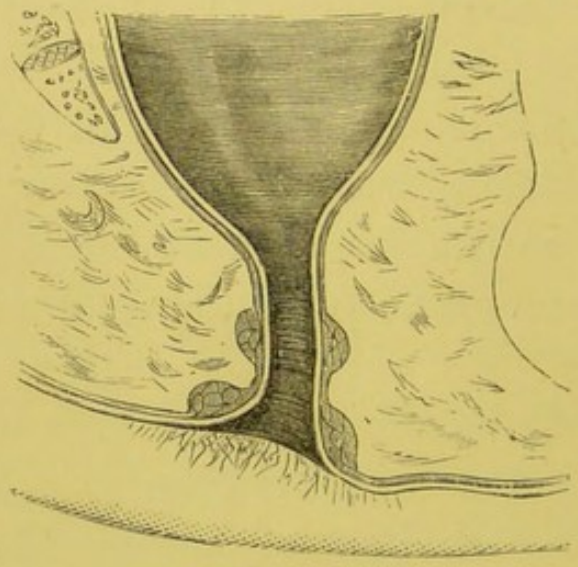


Fig. 37.

gut, it gets into the sulcus at the side, which is a *cul-de-sac*, and the instrument cannot be made to pass.

Congenital cause.

In young persons there may be a narrowness of the lower part of the rectum for some inches (Fig. 37), and in others a semicircular or annular band (Fig. 38), which feels to the touch as though the bowel were encircled by a cord. To these we would give the name of congenital stricture, as they appear to be due to an arrest in the development of

the lower part of the rectum. Fortunately they are of rare occurrence, and generally exist in those patients who probably have just escaped having a congenital imperforate rectum.

Any hard tumours, as an enchondroma or exostosis growing in the pelvis, may press upon the rectum, and so give rise to stricture, although there may not be any actual alteration in the walls of the gut. External cause.

The coarse symptoms of stricture—viz., straining Symptoms.

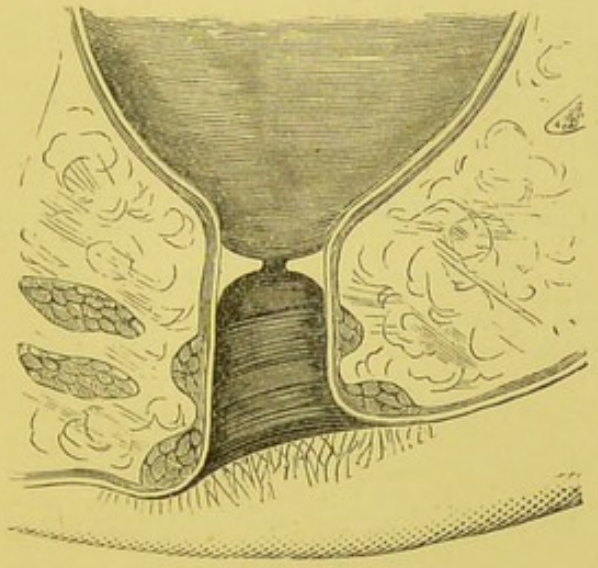


Fig. 38.

and difficulty in discharging the motions—have been already described. It is stated in some works that the stools are thin, long, and pipe-like, but this is only the case if the stricture is quite close to the anus. If the stricture is high up in the rectum, the shape of the fæces is figured by the anus. Spasm of the sphincter and enlarged prostate gland much more frequently give rise to flattened and thin motions. The most characteristic feature is the passage of numerous very small broken pieces; the

fæces having no actual form, and looseness often alternating with this lumpy condition. There is no coffee-ground-looking discharge so constantly seen in ulceration, nor is there the morning diarrhœa which we get in that complaint. There is very rarely any pain experienced in the bowel itself; the symptoms are generally referred more or less to distant parts, notably the penis, perinæum, bottom of the back, the thighs, beneath the buttocks, and occasionally the stomach.

Examination.

Fortunately strictures of the lower bowel are generally within reach and sight, but occasionally they are found high up in the rectum or the sigmoid flexure, or still more distant from the anus. In these cases it becomes a matter of great importance to ascertain the situation of the obstruction. For some years past, in exploring the rectum for stricture, we have used vulcanite balls of different sizes, mounted on pewter stems with flattened handles; they are easily bent into any form, they will even bend in the bowel, and by their use, as in exploring the urethra, one may make certain of detecting a stricture. For when they pass, or on gently withdrawing them, the ball is felt to come suddenly, and perhaps with some difficulty, through the constriction. The length of the stricture also can be approximately measured.

Treatment.

In considering the treatment of stricture with or without ulceration, it must be borne in mind that if ulceration exists with stricture, it must be treated as described in the preceding chapter, but at the

same time the stricture should be dealt with by one of the following methods:

Bougies.

When the least stricture exists with ulceration, bougies may be always employed, but it must be remembered that, to do any good, the greatest gentleness must be practised by the surgeon; indeed, pain ought not to be caused, although considerable discomfort cannot, in most cases, be avoided. A bougie of too large a size should never be employed; no greater mistake can be made than to suppose that the larger the bougie the better. It is safe to keep below the size that can be well borne rather than at all above it; in the one case good may ensue, in the other irritation and retrogression are sure to take place. One must never give a patient an ordinary bougie to use for himself, if the stricture be more than two inches from the anus. We have seen two deaths occur from patients thrusting the instrument through the wall of the rectum; peritonitis immediately set in, and they expired in great agony. Occasionally, when the constriction is only about an inch or an inch and a half from the anus, the patient may have a short instrument to pass and wear at night, if its introduction can be accomplished without any severe pain. Vulcanite tubes furnished with a collar are useful; to these tubes tapes are fastened to keep them in the bowel and to prevent them escaping *into* the rectum, an accident that may occur. In one case, indeed, a full-sized long bougie entirely disappeared, and could not be reached by the finger in the rectum;

its distal end could be felt in the sigmoid flexure. Fortunately, after a few trials, one was able to seize it with a pair of long bullet-forceps, and withdraw it from the bowel, the patient, as may well be imagined, being not a little frightened.

Division.

When strictures are slight, near the anus, and not very long, but annular, a division in a few places with the knife, followed by judicious treatment with the tubes, may be very beneficial and even curative. The division should be made at four points, care being taken just to cut through the induration, and reach the healthy tissues beneath, but not to go deeper; the bowel should be filled with well-oiled lint or wool for twenty-four hours, and then the tube introduced and worn, being removed only for the bowels to act, and to wash out the rectum with some weak antiseptic solution.

Gentle as contrasted with forcible dilatation.

In cases of stricture when there is great spasm with a small amount of organic disease, much good may be done by the use of bougies. Before passing the bougie, it is well to inject into the bowel some sedative, as opium or belladonna with oil, and to use a stiff lubricant on the bougie (such as blue ointment). The best bougies to use are Wales' American bougies, made of solid indiarubber and very flexible. If the instrument cannot be quickly passed, it is better not to persevere, as irritation will be set up and damage done; once set up spasm, and all endeavours may be frustrated; the stricture must, as it were, be surprised. We do not like any forcible dilatation in these cases; one may tear or

split the stricture with Todd's dilator, but ulceration is a more probable result than permanent benefit to the stricture. On the same principle, one should not cut even in the slightest degree any constriction where no ulceration exists, save in cases to be described. If the stricture is high up, the use of Todd's dilator is very dangerous. Profuse hæmorrhage may follow its use, and the bowel may be torn right through so as to injure the peritonæum, and allow flatus or fæces to be extravasated into the peritoneal cavity.

Gentle dilatation, very gradually increasing the size of the instrument, is the only safe treatment. The conical bougie is a good form, as gentle pressure induces this to enter the stricture more easily; but one should never cause pain.

It used to be the rule to pass the bougie twice in the week, or at most three times; but in obstinate cases its daily use has, in more recent experience, been followed by greater permanent good. Still, in this matter every case must be judged on its own merits, bearing in mind the axiom, 'Never irritate.'

Annular strictures are so resilient that, even if dilated to their fullest extent, they very soon return to their previous state of contraction. It is in these alone that division is advisable, but the incisions should be only superficial, and dilatation should be commenced on the day following the operation.

When a stricture is well dilated the patient generally experiences the greatest amount of relief;

there is no more straining at stool; comfortable, good-sized motions are passed, and many anomalous symptoms vanish. One drawback is the rapidity with which all strictures are apt to return; the relief afforded is even much less durable than that obtained in stricture of the urethra; the patient should therefore be warned never to be long without having the bougie passed, and directly any of his old symptoms recur, at once to obtain treatment. If this advice be acted upon, but little fear need be entertained of permanent dangerous relapse.

Rectotomy.

The only treatment likely to be of any use in bad ulceration, stricture, and fistula, is linear rectotomy, as first practised by the late Professor Verneuil.

We have performed this operation many times, but always with the knife, never with the écraseur and galvanic cautery as he recommended. The whole stricture must be divided from its upper edge down to the coccyx, and through its entire depth, the essence of the operation being that all the coats of the bowel, sound or otherwise, including the sphincters, should be divided from the upper level of the stricture downwards. Thus a deep drain is made, from which all discharges freely flow, and as it heals up the ulceration ceases, and the stricture is sometimes cured. The patient being in lithotomy position, the finger is passed through the stricture; then a long straight knife is introduced along the finger, and when the point is fully above the stricture, a cut is made firmly down right

through the stricture in its whole depth, even to the sacrum if necessary, and the knife is brought out at the tip of the coccyx. If the incision is kept in the median line the bleeding is but trifling, and the whole of the diseased structure will have been cut through.

So rapidly beneficial is this operation, that in forty-eight hours we have often seen night-sweats arrested, and a patient who seemed about to die rally and eat and drink, and get well from that moment; morbific discharges, instead of being absorbed, run out, and the patient is not poisoned. The wound should be well syringed, and the parts kept perfectly clean. Dry absorbent cotton-wadding is the best dressing, and the patient need only be washed at most twice in the day; too frequent use of any fluid, carbolized or not, soddens and weakens the granulations.

Many of these patients have done well, and we have had permanent cures; but others have failed, and the stricture has returned after even three or four years. In the after-treatment a tube placed in the wound and kept in at night tends to prevent contraction.

There are no maladies more baffling to the surgeon than ulcerations and strictures of the rectum, and they are often quite incurable, and nothing affords relief save colotomy. This operation, however, though doubtless it may prolong life, should not be resorted to without due consideration.

Colotomy.

The question as to whether inguinal or lumbar

colotomy is the better operation, and the methods of performing them, will be fully discussed in their respective chapters.

Recapitulation.

To sum up, all simple strictures should be treated by gradual dilatation with bougies; if they are very resilient, slight incisions may be made through the constriction. Stricture, complicated by ulceration, at first should be treated by bougies; but this failing, linear rectotomy affords the best hope of relief.

In extremely severe cases of stricture and ulceration combined with fistula, in which linear rectotomy has been of no avail, colotomy should be performed.

Treatment according to the causes of the stricture with ulceration.

In our experience certainly half the cases of stricture with ulceration have been syphilitic of a late secondary or tertiary kind. If of the tertiary variety, they may be regarded as almost incurable. We have pushed iodide and mercury to the greatest extent possible without any beneficial results, these cases, as a rule, necessitating colotomy in the end. Even after colotomy is performed, and all the fæces are diverted from the rectum, it often takes years before there is healing of the ulceration, accompanied with great contraction of the rectum. Thus we have seen the rectal tube merely represented as a hard cord not larger than the little finger. If these cases of stricture and ulceration are seen and thoroughly treated with drugs, scraping, etc., when they are in the secondary stage, the prognosis is more favourable.

The next in order of frequency are the dysenteric;

and these are, after a considerable time, cured by prolonged treatment under milk, as advocated by Dr. Thin, with, at the same time, local treatment, and dilatation of the stricture with bougies.

Next come the tubercular cases, and in these there is, as a rule, great ulceration with little stricture. These cases of course are but slightly amenable to treatment. If the ulceration is accompanied with general tuberculosis, the patient dies; but, on the other hand, if it is a local or fairly local tubercular disease, good may result by performing inguinal colotomy, and then thoroughly scraping the rectum, and destroying the ulceration with strong solution of nitrate of silver or strong carbolic solutions. Traumatic strictures and ulceration generally result from pressure on the rectum during child-birth, or after operations upon the rectum. These conditions are curable by the various modes of treatment advocated, the different modes being employed according to the nature of the stricture and ulceration. But, at the same time, these cases are very tedious in getting well.

Much has been written in the ordinary text-books as to the positions of stricture and ulceration with regard to the different causes of the disease. It is stated that according to the positions the nature of the disease is to be diagnosed. This we do not admit. There is no part specially reserved for syphilis. The same applies to dysenteric and tubercular conditions. All these diseases may affect all parts of the rectum, so that the position of the

ulceration and stricture is no criterion as to the origin and character of the disease affecting the tube.

The only rules one can formulate, and these are often broken, are :

In syphilitic there is ulceration and stricture, a good deal of stricture being present with the ulceration.

In dysenteric there is much ulceration with some tendency to stricture.

In tubercular there is much ulceration rarely with stricture.

In traumatic there may be stricture with little or no ulceration. On the other hand, there may be ulceration without stricture.

As to the feel of these ulcerations assisting in diagnosis, this is most uncertain, all the kinds feel much the same, and the symptoms are largely identical. The diagnosis of the nature of the stricture with ulceration can be best assisted by the history, aided at times by microscopic examination for tubercle, etc.

In the purely local treatment of stricture with ulceration much depends on the nature and extent of the strictures. Some are annular, being about half an inch in breadth. In some cases the stricture is fusiform, and involves several or many inches of the rectum.

The annular may here be treated by internal division ; or the fusiform by linear rectotomy or dilatation by bougies.

Again, for practical purposes, the position of the stricture must be noted. If it is low down—that is

to say, about the fixed portion of the rectum—and when the gut is uncovered by peritonæum, very free and energetic treatment may be employed, such as free division, or even rapid dilatation if desirable. But when the stricture is high up—that is to say, in the movable portion of the rectum—and when it is on its anterior and lateral surfaces covered by peritonæum, in this region great care must be exercised. If any division is done, it must be done freely only on the posterior orifice of the gut—that is to say, on the surface uncovered by peritonæum.

The following are a few cases illustrating the various kinds of stricture with ulceration :

Cases.

Female, married, 37. Stricture and ulceration rather severe ; stricture one and a half inches from anus ; suffered much ; had dimness of vision, which was caused by iritis ; had syphilitic rash ; rupial ; was very cachectic and feeble ; one child nine years old quite healthy. Her husband was under our care about twelve years before for indurated sore ; moderate mercurial treatment for six months ; all symptoms gone, and left off medicine. Seen again after nine months with secondary rash, rather scaly, and sore throat ; mercurial treatment again, hydr. cum cret. at bedtime, and blue ointment between the toes ; very soon well, and would not take any more medicine. Came four years after to consult us as to the propriety of marrying. On careful examination we could find no evidence of syphilis, so thought he was justified in doing what he liked. Soon after this he married, and the only child, born fifteen months after marriage, was healthy, and continued so. The wife, three years after marriage, had a rash and sore throat. She was treated by her medical attendant with iodide of potassium, and she quickly recovered ; the husband during this time had flying attacks of syphilis. This went

on until the wife, having severe bowel symptoms, was sent to us. The treatment consisted of mercury and iron; the stricture was a little dilated, and she was sent to the sea-side; great improvement took place in general health, the iritis got rapidly well, and the stricture was much modified by gentle dilatation; the ulceration also healed in great measure, so that she suffered but little, and the bowels acted only about twice in the day. The husband denied any fresh infection since his marriage; slight crops of secondary character were frequent, and he on one occasion had an indurated crack at the orifice of the urethra. The wife eventually was quite cured.

Male, æt. 23. In the army. Had a hard sore some three years back, and was treated. After a time he suffered from pain on defæcation, and he went to a surgeon, who said he had a syphilitic sore, and must be operated upon; but after the cutting the sore became worse. We found the sore unhealed and inflamed, and, suspecting more, passed one finger up the bowel with difficulty, when, above the sore which had been divided, there was quite an inch of healthy mucous membrane forming a zone around the bowel, then some more ulceration in a zone an inch in width. He had no other sign of syphilis but a sore throat. Mercurial ointment, arsenic, and iron, with cod-liver oil, as he was weak and feeble, soon made an improvement. In a fortnight a bougie could be passed, and all healed in about eight weeks.

Male, æt. 28, unmarried, a native of India studying medicine in this country. Had suffered from dysentery and diarrhœa frequently, but not severely, in his own country. Had been in England two years, and no severe attack—in fact, much better here than abroad. About one month ago felt pain on defæcation, but took a little laxative, and found himself better; but still straining was frequent, with mucus and occasional blood. We found three inches from anus a stricture through which only a small bougie would pass. Injections of opium and starch

in very small quantities relieved the pain, and the size of the bougie could then be increased. The stricture proved very amenable, and he was soon restored to perfect comfort, and his health improved. He was advised to continue the use of the short small bougie.

Male, aged 50. Many years in India, with frequent attacks of dysentery. No history of syphilis. On examination found very extensive dysenteric ulceration of the rectum. In consultation with Dr. Thin, the patient was put on a rigid milk treatment, which he kept to for nearly three months. This, together with rest in bed and sedatives injected into the bowel, at last entirely cured him. At first, when commencing the milk diet, he was very ill, getting almost into a typhoid state.

Female, unmarried, æt. 27. Seen in conjunction with Mr. Aikin, and afterwards with Sir James Paget. Had been operated upon for fistula, and ulceration followed, severe in character. Brighton air did her so much service that a happy result was anticipated; but, however, she fell back again. When we saw her with Mr. Aikin the sphincters were quite ulcerated away; with great difficulty the finger could be got through a stricture two inches up the bowel. The history led us to conclude that the disease was tubercular, so immediate colotomy was advised. Four months later the patient was much worse; abscesses had formed in the groin, and a communication was established between the vagina and rectum; her condition was so deplorable that an operation was undertaken only as a means of relief by turning aside the fæces. With the sanction of Sir James Paget and Mr. Aikin, we performed colotomy. After the operation the ulceration could be detected from the aperture in loin by passing the finger towards the rectum. Her history from this period was some temporary arrest of the ulceration, but this did not last long, and soon it could be seen on the bowel in the lumbar opening. Abscesses formed in all directions, and burst or were opened in several places,

so that the interior of the pelvis could be seen. She died just three months after the operation.

Male, æt. 26, lieutenant in the army. No history of syphilis or any venereal disease whatever. Ill about nine months. Saw this patient with Sir James Paget, who agreed in the opinion that the disease was tubercular. He had an ulceration close to the anus, and extending high up the bowel, as far as the finger could push. Local and general treatment failed to do good; a voyage of some months' duration had a like result. He had never had dysentery nor habitual diarrhœa. Colotomy was advised to relieve his pain. This he refused. Some months later he died—his bowels becoming attacked with tubercle.

Female, married, æt. 34. Stricture for long time; the obstruction was almost total, and she had constant vomiting. With difficulty got a tube through, and relieved the obstruction. No history of syphilis or tubercle in the patient or husband. We attended this patient for some time, and she much improved. Her husband was a chemist, and with a little teaching became quite skilful in passing the bougie. We lost sight of the patient, and do not know the ultimate result. Probably the cause of the stricture was very severe labours and long pressure of the child's head. It is not uncommon for women to connect their bowel trouble with a bad or instrumental labour. Although this is not a common cause of ulceration and stricture, it ought not to be left out of our consideration.

Female, widow, æt. 59. Sent us by Mr. Pinching, of Gravesend. Long troubled with her bowels; never passed formed motions, always in small, broken pieces, with blood and slime on them; had been getting thinner, but her health was fair, and if she was comfortable in her bowels would be quite well. Stricture tight—*i.e.*, could only get forefinger through, and this caused much pain; the edge of the stricture was ulcerated; many years before had been operated on for piles at a London hospital; from

that day never had perfect comfort in the use of her bowels. We slightly divided the stricture, and introduced bougies gradually increasing in size, and by the application of ointments the ulceration gradually got better, so that she could sleep all night with a bougie in the stricture. In three months she was quite well; no trace of stricture could be felt, but corrugations and roughness, showing the healing of the ulceration, remained. More than a year after the treatment, she continued quite well. No doubt this stricture and ulceration were the result of the operation on the piles.

Female, married, 37. No children, no miscarriages; stricture about three inches up the rectum; ulceration both below and above it; no history of syphilis at all; never had any sores nor discharge more than a little leucorrhœa; had no pain except such as arose from straining and frequent desire to visit the closet. The husband, perfectly willing to clear up the question, examined. Never had syphilis, but had gonorrhœa, but not since his marriage eight years before; never had any soft sore or enlarged gland in the groin. No scars on penis or in groin. The disease his wife suffered from was complained of about five years before; had advice and bougies passed. We thought it advisable to divide the stricture in several places, and kept in a tube at night. Various plans of treatment were employed, with the result of a cure in nine months.

Female, unmarried, aged 42. Had for many years had stricture with ulceration, involving the lower third of the rectum. No cause to be made out. Had been treated by bougies and division of the stricture, but the disease always recurred. On examination there was found extensive and hard stricture, fusiform, about four inches in length, with ulceration. Rectotomy was performed, the hard tissues being freely divided down to the coccyx. Patient when seen two years later was perfectly cured; no stricture, and ulceration perfectly healed.

CHAPTER XXIII.

CANCER OF THE RECTUM.

Cancer.

A CAREFUL consideration of the experiences of other surgeons, together with our own study in the hospital and private practice, has left us without any definite opinion as to the causes of cancer of the rectum. Opinions are so different, statistics are so contradictory either in statement of fact or in argument therefrom, that we have found it impossible to state any dogmatic views as to the etiology of cancer in this portion of the body. It may be, and sometimes is, hereditary; but even as to this statistics and surgeons disagree. Some surgeons strongly aver that it is hereditary, but many pages have been devoted to show the very small proportions of hereditary instances in private case-books or hospital records. There are very few families in which it has not occurred, but fewer still in which the parents or grand-parents of the patients have any of them suffered from the disease. It may run in the family or in the collateral branches, as in uncle or aunt, brother or sister, and more frequently still in cousins; but that does not argue transmission by heredity in

Question of heredity.

the direct line. Such being the case, all that can be safely said is that cancer is a malignant growth which may attack the anus, rectum, and other parts of the bowel, and then spread to adjacent organs. When it assails the rectum, it usually runs its course in about two years, though the destruction of life is often much less; some patients last four months, and others have lingered on for four and a half years.

It is to be regretted that modern life seems rather to foster than to hinder this disease, for cases of cancer of the rectum are more numerous than they were early in the century. Perhaps, however, this arises from cases being more carefully diagnosed and more fully enumerated than was formerly the case. The difficulty of always distinguishing between malignant and innocent growths may perhaps cause the proportion of cancer cases to appear somewhat larger at the present day, but we must remember the fallibility of the microscope and the danger of pronouncing one piece of growth innocent when its neighbours are malignant.

Question of age and sex.

All periods of life are liable to cancer of the rectum, although it is said sometimes to be peculiarly common to middle age. We have seen boys of seventeen and thirteen afflicted by the malady. Old people, too, are attacked, but they are usually subject to the slower forms and live long, for at their age the vital forces are sluggish. Women have been believed to be more subject to cancer than men are; this may be true of the body as a whole,

taking into account the liability of the breast and the uterus; but for the rectum and the large intestine statistics show that many more men than women are attacked by cancer. The records of St. Mark's Hospital for two years show five-sevenths of male to two-sevenths of female rectal cancer cases.

In the early stages some forms of cancer may be simply and purely local; but this stage is exceedingly brief, and the temporary local nature is scarcely true of the more malignant forms. In other words, as soon as a growth is so developed as to be noticed by the patient, the disease is in most cases constitutional.

Pathological varieties.

We will now mention the varieties of cancer of the rectum and bowels, and will go on to collate the various opinions of pathologists and microscopists on the processes of the formation and growth of cancer, so that students and operators may be able to compare their own experiences. After this we will describe the strongly marked kinds which alone are of practical importance to the surgeon.

According to the old nomenclature, the various forms of malignant disease were termed epithelioma, scirrhus, several kinds of sarcomata, encephaloid, colloid, and melanoma, but later investigations have resolved many of them under the head of *adeno-carcinoma*, Mr. Cripps having devoted much microscopical study in his researches into the varieties. Indeed, the three forms, scirrhus, encephaloid, and colloid are the varying conditions of one growth or a portion of that growth.

This adeno-carcinoma has by other writers (we refer to our colleagues Mr. Alfred Cooper and Mr. Swinford Edwards) been divided under three heads: the laminar, the tuberous, and the annular.

The *laminar form* is the most common, and the intestinal wall is infiltrated, or thickened, the thickening occurring between the muscular and mucous coats, and spreading laterally. The surface of the growth gives way after a time, and leaves behind a ragged ulcer. The disease usually begins in the centre, and eats its way outwards. Sometimes the deposit is only partially destroyed by the ulceration, and its remains form tumours which enter the cavity of the bowels. At other times, the coats of the bowel are destroyed, and neighbouring organs are perforated.

In the *tuberous form* the growth projects into the bowel. The mucous membrane is soon destroyed by the ulceration, and some of the growth projects through the opening thus made; this form of cancer has outgrowths, and attacks the neighbouring tissues and structures.

In the *annular* form the growth commences as a deposit between the mucous and muscular coats, and extends laterally, finally involving the entire circumference of the bowel. Hence, by the subsequent contraction the calibre of the bowel is reduced, and severe stricture is caused.

Practical classification of kinds.

Cancer of the rectum may also be classed under five heads, which include several distinctive features.

(*a*) One variety is a growth, often the size of a

five-shilling piece, situated at the lower part of the rectum. To the feel, it appears to have a pedicle, but in reality that sensation arises from its dragging upon the mucous membrane.

(*b*) The second variety resembles the first in its position, thus showing that it is not a growth out of the bowel, but an ulcer, or depression, surrounded by irregular, nodular edges. It is movable, and as large as the first. It is generally confined to the lower part of the rectum, and healthy gut can be felt above it.

(*c*) A third kind is to be found in the lower inches of the rectum. Indeed, it combines the peculiarities of the two previous kinds; all around the gut there are irregular nodules interspersed in the area of depressed ulcerations. It is not fixed to the deeper structures, and is therefore movable.

(*d*) The fourth kind is found higher up in the bowel, and is a hard growth combined with ulcerations. It both involves the gut and extends to the surrounding tissues. It is therefore rarely at all movable. Its starting-point is about three inches up the rectum, but its upper limit is not easy to discover.

(*e*) A fifth variety begins even higher up the bowel, say about four or five inches, and is, as a rule, a very hard growth, which involves the circumference of the bowel. It is extremely movable, and is intussuscepted into the lower part of the rectum. Its feel resembles that of the neck and os uteri in the vagina.

Symptoms.

The many various symptoms of malignant disease of the rectum are of supreme importance to the surgeon in making his diagnosis, and a wide experience has shown that some of them are practically certain signs of cancer. Such is the waxen aspect of the countenance, which appears in cancer of the rectum even earlier than it does in malignant disease in other parts. But it must be remarked that in some patients the appearances of vigorous health are maintained until the malady is already in full activity. Another sure sign is the peculiar odour, which the experienced cannot fail to recognise; this is essentially indicative of cancer. Very slight disorders mark the beginnings of the disease —viz., uneasiness in the bowel, or slight morning diarrhœa. The patient goes to stool frequently, and passes jelly-like excretions, which are not true motions, but are merely mucus and other matter passing from the growth. Another symptom is that it is difficult to pass flatus without a motion following. The pain arising from cancer in an advanced stage is, as a rule, most intense, and is enhanced by the daily functions of that part; but sometimes in the early stages the pain is not severe. In the more advanced stages the suffering is often unremitting, for many nerves are involved by the growth, and are pressed upon or stretched. Thus the neighbouring organs become seats of separate pain, though they may not be actually touched by the growth. One of our patients had a cancer which, commencing in the rectum, involved the

whole cavity of the pelvis, and caused most severe pain down the right sciatic nerve. Violent straining is one of the most distressing symptoms. The cancerous mass, especially when nearing the anus, provokes reflex action, and causes irresistible bearing-down. When the surgeon turns to tactile examination, the feel of cancer to the finger is pathognomonic, and cannot be mistaken by the practised surgeon for simple ulceration. For the diagnosis of rectal cancer the microscope cannot be entirely depended upon, any more than it can for malignant growths in other parts of the body, as the larynx; for, as has been often remarked, the portion of the growth removed and examined may be innocent, while the neighbouring portions may be emphatically malignant.

Treatment.

After a wide experience of cases of cancer of the rectum, we think that the time has arrived to take into consideration the question of the treatment, operative or palliative, of malignant disease affecting this part of the body. One reason for making this review is the fact that some authorities appear to hold that all cases of cancer of the rectum demand either excision or colotomy, quite irrespective of many points which require careful attention. Thus, cases sometimes come to one in which excision is requested when colotomy should really be done, or *vice versa;* or, again, when neither operation is fit to be used or needful. It must not be inferred that we are in any way opposed to excision of the rectum or inguinal colotomy, for they are excellent operations, and, when employed in suitable cases, afford

great relief to the sufferer, and are highly satisfactory from every point of view. Our intention is merely to show that, useful as they are, they should not be abused or brought into disrepute by being employed in all cases of cancer of the rectum.

During the last ten years we have seen about 850 cases of this malady, having performed excision 75 times and colotomy 138 times. We have thus been led to make a mental classification of the cases according to the various lines of action which should be pursued. In arriving at this classification, the following points must be kept prominently in view: (*a*) the age of the patient; (*b*) the position and extent of the growth; (*c*) the nature of the symptoms—viz., obstruction of the bowels, constant diarrhœa, hæmorrhage, or pain.

By this classification, cases of cancer of the rectum may be divided into those which are fitted for excision, for colotomy, or for palliative treatment.

Age. The question of age is a most important matter. If the patient's age does not exceed forty-five years, we make bold to say that very little is to be gained by excision, even if the growth is within a reasonable distance from the anus. It appears that after excision in such cases the malignant disease returns, often before the wounds resulting from the operation have healed. In two or three instances, however, we have excised both the growth and the recurrence, and in one case, after repeated excision of any recurrence, the malady ceased to return; but these must be taken as exceptions to what may be called

the rule. Again, colotomy seems to prolong the patient's life for an extremely short period. Indeed, unless the surgeon is absolutely driven to perform colotomy, palliative treatment is the right course to pursue.

In patients between forty-five and sixty the prognosis as regards excision is more favourable, and this operation should be attempted when the growth is well in the lower part of the rectum. In this class colotomy for disease high up the rectum should be performed only when the symptoms presently to be described are well marked, and when palliative treatment has failed to afford relief.

For patients above sixty excision is extremely favourable in suitable cases, and should always be attempted when there is a fair chance of a thorough removal of the growth. The remarks with regard to colotomy are the same as those applied to patients between forty-five and sixty.

It will be readily seen from the above classification that the older the patient becomes the less rapidly does the malignant disease grow, and the less likely is it to recur.

Position and extent of growth.

The next points for consideration are the position and extent of the growth. For practical purposes the question of position may be subdivided as follows: (*a*) When the disease is near the anus, and healthy mucous membrane can be felt above the growth. (*b*) When the growth is higher up the bowel, but can be easily felt and is freely movable, although its upper limits may not be readily

definable. (*c*) When the growth is quite high up the rectum, *i.e.*, at the junction with the sigmoid flexure, and can only just be felt by the finger. In the first class, the growth, if movable, should be freely excised. In the second class, Kraske's operation may be performed, if the patient consents to undergo it on learning of its serious nature, and the danger he may incur. In cases falling under the third subdivision, colotomy is certainly a justifiable proceeding if the symptoms warrant its necessity. Treatment.

To turn to the symptoms. With regard to obstruction, if the case is one fitted for excision, the constipation may be relieved by free excision of the growth. If, however, the tumour is so high up as to negative excision, and if it has been found impossible to remedy the obstructed condition by the use of mild laxatives, colotomy should not be delayed for one moment. To postpone colotomy, when the case is in such a state, only entails much suffering; further, the delay may prove a great source of danger, for the gut may give way above the seat of obstruction, or the patient may, so to speak, be poisoned by fæcal accumulations. Moreover, when the colotomy has eventually to be done, it is rendered much more difficult to perform, and thus an operation which really is extremely easy may, by tardiness, be converted into a grave and dangerous proceeding. Symptoms.

Constant spurious diarrhœa is another symptom frequently complained of by patients suffering from cancer of the rectum. When it is due to a growth

within the excisable region, it may be cured by excision. But if that operation is out of the question, and if one has failed to remedy this wretched and distressing condition by treatment with various forms of opium, laxatives, and so forth, then, and then only, is it justifiable to perform colotomy in order to give the patient relief.

The same remarks apply to two other symptoms, viz., to hæmorrhage from the bowel, which, when severe and repeated, obviously affects the patient; and to the presence of much pain.

As was stated at the outset, we do not consider that all cases of cancer of the rectum should be treated either by excision or by colotomy. We have met with many patients who have been advised to undergo either excision or colotomy, but who, by careful and judicious treatment, have been enabled to continue at their respective occupations without either of these operations being at present necessary. On the other hand, in clearly suitable cases, no operations are more useful than those of excision or colotomy, and they might be termed life-saving and life-prolonging.

There are some who advise colotomy in nearly all the cases of cancer of the rectum which come before them, imagining that by diverting the fæces they may succeed in arresting the rapidity of the growth. This we do not believe to be in the slightest degree the case. The patients referred to above, when their malady has been judiciously treated, have lived quite as long as they would have done if

colotomy had been performed in the early stages of the disease.

One last remark must be made. In cases of cancer high up the bowel, it may be necessary to starve a patient, or at least subject him to what is practically starvation, in order to keep him fairly comfortable. In consequence of this starving, the patient may become exceedingly emaciated, and may perhaps express the opinion that the cure is worse than the disease. In such a case, we should, without any hesitation, perform colotomy, so that the local symptom, viz., obstruction, may be improved. When this has been done, the patient can eat and drink as he chooses, and, as a rule, rapidly puts on flesh, and recovers his general health for a time, that is to say, until the malignant disease begins to attack other important organs.

Palliative Treatment.—It must be understood that palliative treatment is to be employed only in cases where removal by excision is quite out of the question, or in those cases not yet sufficiently bad to require colotomy. The protrusion of a cancerous mass (which is somewhat of a rarity) may be stopped and the pain relieved by the application of arsenite of copper, with mucilage, as a paste; there is no hæmorrhage or danger whatsoever. In most cases the palliative treatment can merely be devoted to alleviation of pain—viz., recumbent posture, food easily digested, nourishing diet, with a moderate amount of alcohol. All sorts of sedatives may be beneficially employed, either externally or internally,

and when one ceases to be of service another may be tried instead. Opium, in one or other of its forms, is the best; if applied as a suppository, the most effective formula is morphia with glycerine and gelatine (three parts of glycerine to one of gelatine), for this melts speedily, and feels less like a foreign body than suppositories of cacao butter. Suitable injections are Battley's sedative, nepenthe or black drop in starch. Much good is done by solid opium by the mouth, but the stomach may become irritated; there is a loss of appetite, and the bowels are confined. Hypodermic injection of morphine gives much comfort, but the mental state caused by the constant use of morphine becomes almost as unbearable as the cancerous pain itself, and we are strongly of the opinion that the greatest of care should be taken to administer no larger doses than are absolutely necessary; for the treatment, to be effective, may have to be continued for months. Mr. John Clay, of Birmingham, used to advocate the use of Chian turpentine, but it has been found to be of little service. In very few cases were the symptoms mitigated, and in the rest the effects were nausea and frequent derangement of the appetite and of the functions of the stomach.

Mild operative measures.

Such treatment failing, mild operative measures are the best to be resorted to. Division of the sphincter muscle is of service when the growth approaches the anus, for then defæcation is made easier, and there is no possibility of compression. As noted above, cancer of the upper part of the

rectum, through its pressure on the nerves, inhibits the action of the sphincter, and prevents patients from retaining the motions, especially if they are at all liquid. For diminution of the calibre of the bowel, Professor Verneuil used to advise free division of the gut in the dorsal median line. We have found this of service, but do not recommend his alternative proposal of excision of a segment of the posterior wall of the rectum. In encephaloid of the rectum much temporary advantage and great mitigation of the pain may be obtained by tearing out the growth with the fingers or a scoop, the fingers being preferable. Boldness is necessary, and the whole growth must be enucleated quickly and resolutely. If only superficial portions are torn away, the patient may have an exhausting hæmorrhage, and will derive no benefit. We have found this plan of avail in cases where colotomy was not advisable, but only because no great loss of blood need be caused. Sometimes when the growth is hard, it may be scraped away with a Volckmann spoon. This is of advantage when the growth is within reach, for the scooping away allows the passage of the motions, and with patients who have objected to colotomy we have by this means prevented total obstruction. The methods to alleviate the pain from cancer of the rectum and to stave off death—perhaps to cure the disease itself—are excision of the diseased portion, and one or other of the forms of colotomy.

CHAPTER XXIV.

PARTIAL AND COMPLETE EXCISION OF THE RECTUM.

It is not our intention to enter into the history of the operation of excision of the rectum. We will only mention that Faget, in the year 1739, excised the rectum for cancer; that after this the operation remained in abeyance until 1828, when it was revived by Lisfranc, who performed it in several cases with success. At a comparatively recent date it has been frequently undertaken by both French and German surgeons, and with such good results as to establish the operation on a reliable basis. The Americans and ourselves have brought up the rear; possibly we are more cautious, and have had our doubts as to the great benefits claimed for it by our foreign confrères; certainly we are justified in distrusting such statements as Dieffenbach's, who said that he had thirty cases of successful extirpation of the rectum, the patients living many years after the operation.

We have also felt incredulous as to the advantage derived from cutting out the rectum, a portion of the urethra, prostate gland, and base of the bladder,

as did Nussbaum, who gravely assures us that the patient recovered all his functions, and lived for three years. Excision of the rectum, broadly speaking, may be undertaken in any form of cancer which does not necessitate the removal of more than four and three-quarters or five inches of the rectum in the male, and about one inch less in the female. Subject to the results of increased experience, we should also say that if great adhesions are formed to the sacrum or to the base of the bladder and prostate gland, or to the neck of the uterus in women, the operation is probably not admissible, and certainly not desirable. Again, if any enlarged glands exist in the inguinal or lumbar regions, the operation cannot be recommended. Lastly, the patient ought not to be so exhausted as to render it doubtful whether the necessarily rather free loss of blood would, to a great degree, endanger life.

In suitable cases the excision should be very free, and, when possible, the whole of the circumference of the rectum should not be removed, for if a piece of the gut can be left, it prevents troublesome after-contraction, which occurs when the whole circumference of the bowel is removed.

In doubtful cases the following points should be the surgeon's guide: The amount of adhesion to the deep structures should be taken into consideration. If the growth is situated near to the prostate or bladder, excision should not be done; but with a dorsal situation of cancer the operation may be attempted.

Complete excision.

The method of entire excision formerly employed by us was that which has found most favour with French authorities. The deep dorsal incision is the 'key' to the operation. It gives plenty of room, which is essential if one has to remove any considerable length of the rectum, and so get fully above the growth. Further, it saves much loss of blood, as it enables one to secure the vessels if necessary with rapidity and certainty. Lastly, it forms a deep drain or channel through which all obnoxious matters can freely escape. It is the retention of morbific particles which is dangerous. In operating on the male, a silver catheter must be passed into the bladder; the assistant hooks it well up under the pubic arch; the urethra and adjoining parts are thus steadied, and delicate dissections can be carried on without danger in the neighbourhood of the urethra, the prostate, and the trigone of the bladder.

Best method of perinæal excision.

By the following method the rectum is most easily and rapidly excised. The patient being in the lithotomy position, a modification of the posterior dorsal incision of Professor Verneuil should be made. The usual way is, on the finger, to pass a bistoury into the rectum as far as the upper limit of the growth, and then to cut right down to the sacrum and tip of the coccyx, dividing the entire bowel dorsally. In our modification of this, the first finger of the left hand is put into the bowel, and a sharp-pointed bistoury is introduced through the skin a little below the anus, making it travel in the cellular tissue up to the top of the growth, but entirely out-

side the rectal tube. One should then cut down to the sacrum and coccyx, and put a sponge into the incision to arrest bleeding (Fig. 39). Next, with a scalpel one cuts deeply all around the rectum above the external sphincter, or, rather, in the space between the internal and external sphincters, so as to leave the external sphincter attached to the skin. Then the external sphincter is divided posteriorly. Now, with the finger in the rectum and the thumb

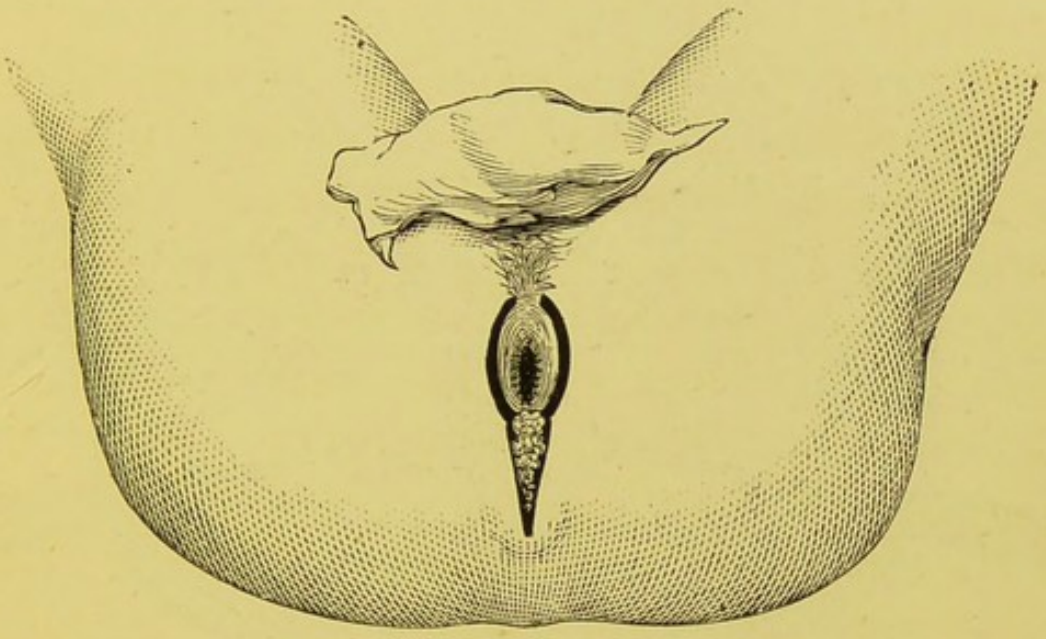


Fig. 39.

in the cut between the sphincters, one blade of a pair of long, blunt-pointed scissors is pushed into the posterior cut, and the other blade into the cellular tissue of the ischio-rectal fossa. After this, one cuts through all the cellular tissue between the blades, and repeats this proceeding on the other side, keeping the finger of the left hand in the rectum while the left side is being incised, and the first finger of the right hand while the right side is being cut. To manage this properly, the surgeon

should be ambidexter. After this, sponges are introduced into the incisions on each side of the bowel, and the outer parts are separated from the bowel by broad flat retractors (Fig. 40). Bleeding is then prevented, and one need not stop to clip the vessels.

We next turn to the perinæal part. With the finger still in the bowel, and the thumb outside it, one can tell by the amount of the wall of the gut

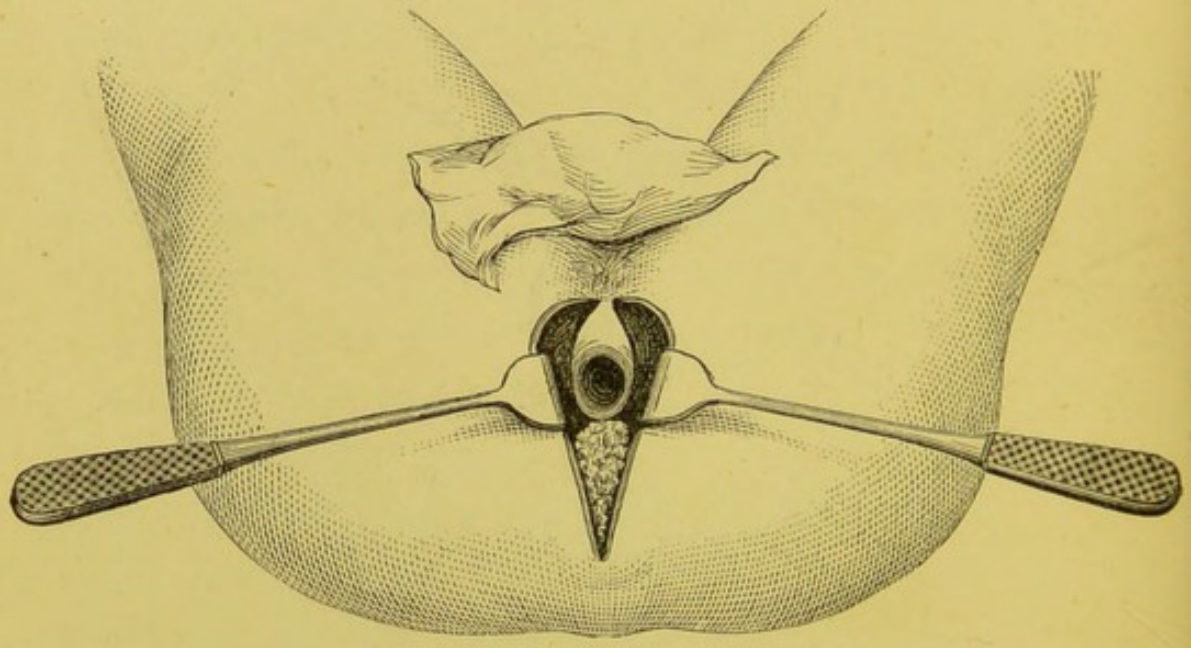


Fig. 40.

between finger and thumb how near to the rectum one is cutting. If the scissors are kept touching the thumb-nail, and the rectum is drawn backwards while the cut is made (Fig. 41), there is no danger of wounding the urethra or bladder, or of incising the bowel. When all the rectum is separated from the tissues around, to one inch or more above the growth, the sponges may be taken out. On to the rectum, now freed, above the growth, a large pair of

Spencer Wells' rectangular pressure-forceps are applied, one on one side, and one on the other side, of the gut. When the rectum is removed on the distal side of the clips, a stout ligature is then passed beyond the rectangular part of the clip, and is tightly tied as the clip is slowly slackened. The same is done with the other clip. This secures any large superior hæmorrhoidal vessels that there

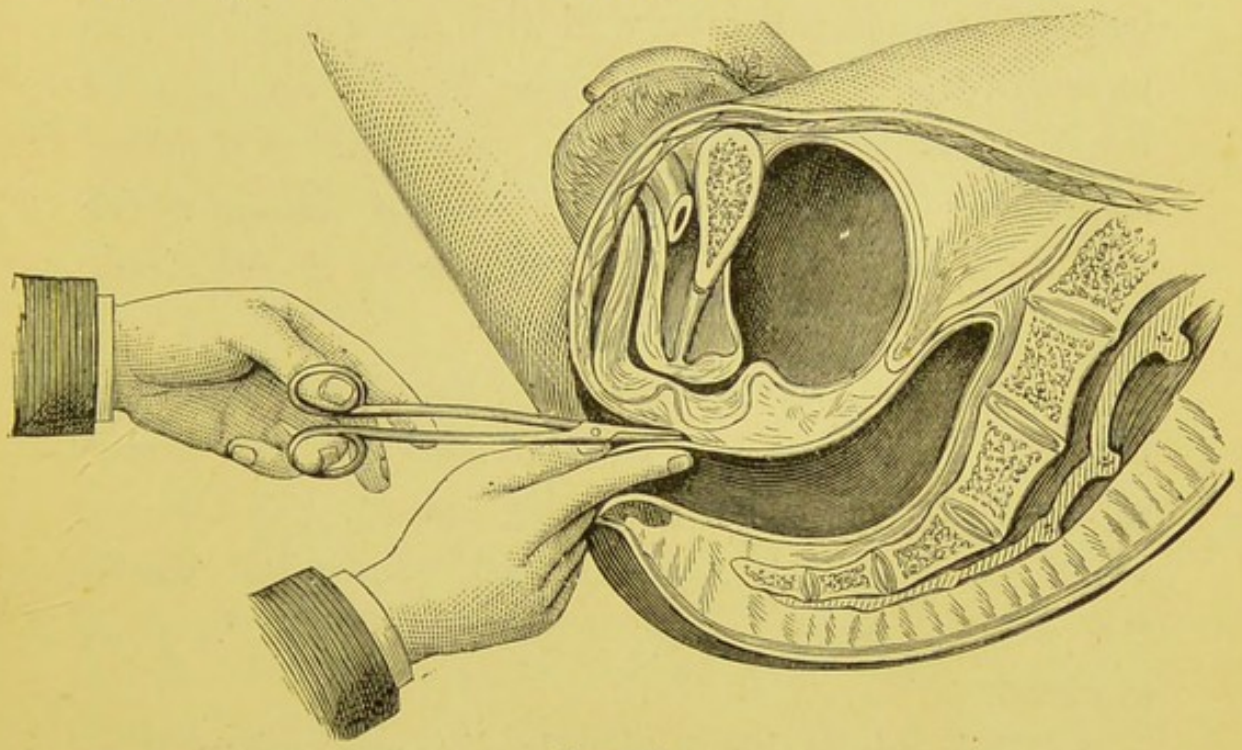


Fig. 41.

may be in the cut end of the gut. There is generally little bleeding, because the inferior hæmorrhoidal vessels, and any others running across the ischio-rectal spaces to the rectum, are small, and soon retract and contract. They may be easily made to do so by sponging the wound with equal parts of very hot water and spirit. The only large vessels that may be divided are the superior hæmorrhoidal, which are situated in the

rectal walls. It is well, before cutting the lower part of the bowel off, to secure the upper part with the clip, as it might otherwise slip out of reach and bleed freely. By these means the rectum may be removed in ten minutes with the greatest ease.

There are a few important points to be observed in this method of excision :

Important points.

1. Little hæmorrhage is to be feared if the above details are attended to, and the more quickly one operates the less bleeding there is. If an hour be taken in excising the rectum, much blood is necessarily lost by wasting time to pick up vessels which will stop bleeding of their own accord if left alone, or subjected to a little pressure.

2. By not dividing the bowel itself when making the dorsal incision, one can, by means of the finger in the gut, which is still a tube, and by the thumb, which is outside the rectal wall, easily tell where the cut is being made. Greater speed is thus ensured.

3. By leaving the external sphincter, when it is possible, in the outer skin, sphincter power is retained after the operation ; whereas, if the external sphincter is removed with the gut, no retentive control can be exercised.

In women the assistant's finger ought to be introduced into the vagina, to give timely warning when too near an approach is made to the mucous membrane.

In most of our cases it was absolutely impossible to bring down the stump of the rectum to the skin ; if,

indeed, these parts could be brought together, the tension would be so great that the sutures would be torn out in a few hours.

Kraske's method.

A modification of excision of the rectum, which has been freely discussed of late years, is Kraske's method, which has found some favour with surgeons, and has itself been modified in details. With the patient placed on his side, an incision is made in the median line through the soft parts of the back, extending from the second sacral vertebra to the anus. The muscular attachments to the sacrum are then divided as far as the edge of the bone on the left side. The coccyx is next excised, the sacro-sciatic ligaments are divided as near as possible to the sacrum itself, and the left edge of the wound is drawn aside. By chiselling away the lower part of the left side of the sacrum, easier access is obtained to the upper part of the rectum. This additional room is made by dividing the bone in a line starting on the left edge at the level of the third posterior sacral foramen, and passing in a curve concave to the left through the lower border. The chisel is next turned through the fourth foramen to the lower corner of the sacrum on the left. The rectum is then in sight, and can be excised up to its junction with the sigmoid flexure. Further, if desirable, the upper part of the rectum can be excised, the lower portion being left intact.

Modification of Kraske's method.

Mr. H. O. Walker, of Detroit, U.S.A., performs a modified method of Kraske's operation. He makes a long median incision, and the coccyx and a portion

of the sacrum are removed. This freely exposes the rectum and growth. When the growth does not involve the lower part of the rectum and anus, it is excised, and the distal and proximal ends of the gut are united with a Murphy's button.

Paul's method

Mr. F. T. Paul removes the rectum by a long dorsal incision extending up over the sacrum, and cuts away the coccyx and some inches of the sacrum. He then thoroughly frees the rectum from its attachments. When the rectum is freed all round, the higher part of the rectum is liberated by opening the peritonæal cavity, and dividing as much of the meso-rectum as is necessary. When plenty of the bowel has been drawn down, the rent in the peritonæum is closed with a few fine stitches, and a glass intestinal drainage-tube, plugged with wool, is inserted into the bowel and ligatured above the growth. If the intestine is loaded with fæces, the tube had better be introduced below the stricture and forced up. The tube having been fastened in, the diseased part is cut off, and the stump restored to the top corner of the wound, the higher the better, as less gut needs to be drawn down, and the orifice is in a more favourable position for the truss.

We have now several times performed this operation as suggested by Mr. Paul, but did it before his paper was published; the only difference being that, instead of our using one of his glass tubes, a strong clip was put on the bowel and left on for twenty-four to thirty-six hours, by which time the opening in the peritonæum was well closed with lymph, and so there

was no chance of fæces extravasating into the peritonæal cavity.

After-treatment.

The vessels being secured, and the parts thoroughly sponged with hot spirit and water, the finger is inserted into the end of the bowel, there being always sufficient room between the stout ligature put on to the stump of the bowel above the rectangular Spencer Wells' clips. A long strip of wool is then passed along the finger into the bowel. This prevents any blood escaping into the intestines, should there be any after-hæmorrhage. The large cavity from which the rectum was removed is then well stuffed with some antiseptic wool, and a T bandage is tightly applied, so as to exert pressure upon the wool which plugs the cavity. The patient, after the operation, suffers, as a rule, some considerable shock, and requires careful attention and administration of stimulants. If the shock be very severe, it may be advisable to transfuse three or four pints of warm saline solution. The next day the greater part of the wool is removed, the parts being then kept moist with some antiseptic solution. Day by day more of the wool is removed, the piece in the bowel being pulled out not later than the fourth day. On this fourth day a good dose of castor-oil is given, and the bowels are made to act freely, and are then kept acting every other day. The wound should be dressed gently, night and morning, with iodoform, or any other ointment which may appear to be suitable for the wound, according to its condition. When in some weeks'

time, the parts are mainly healed, the finger must be passed night and morning; or, if necessary, a bougie may be inserted, and allowed to remain in the rectum a few minutes at a time. As a rule, after the parts are healed it is necessary for the patient to pass the bougie occasionally—say every other day, or once a week, for several months.

Contraction as an after-result.

With regard to the question of partial, or even complete, excision of the rectum, whenever it is possible we leave a healthy strip of mucous membrane, for when it is necessary to excise the entire circumference of the gut, it is usually followed by most troublesome after-contraction. So bad is this, and so much worry does it cause at times, that in some cases it has been advisable to perform inguinal colotomy, and allow the rectum to close. This contraction can only be avoided by leaving such a strip of healthy mucous membrane, which acts as an elastic splice, and allows of easy dilatation.

Excision combined with colotomy.

On several occasions we have combined excision of the rectum with colotomy. In some cases the rectum has been excised first, and this has been followed some weeks later by colotomy; in others colotomy has been performed first, and the rectum has been excised afterwards. In the former of these combinations we have, as a rule, performed the colotomy because the rectum has shown during the process of healing a great tendency to troublesome contraction. In the second class we have excised the growth subsequent to the colotomy because it was found that excision was now possible, whereas prior to the colotomy, when

the growth was embedded in fæces, excision had not been thought either possible or justifiable. Nevertheless, we do not think that if the growth is likely to recur it will be hindered from so doing by a preliminary or by a subsequent colotomy.

In all cases of complete excision of the rectum there is incontinence of flatus and fæces, but after partial excision there is no more loss of power than frequently follows an operation for a severe fistula. There is certainly one advantage of Kraske's operation over the perinæal method—namely, there is not the after-contraction.

We will relate only three typical cases, illustrating the methods of partial excision, perinæal excision, and Kraske's operation.

Cases.

Partial Excision.—Mr. K——, aged 54, always had good health, but for the last four months had had at times severe bleeding from the rectum. He was brought to us by Dr. Lawrence Humphrey. On examination it was found that inside the bowel on the left side was an epitheliomatous growth, about the size of a five-shilling piece. It commenced about two inches from the anus, was freely movable on the surrounding tissues, and the mucous membrane above the growth was perfectly healthy. This was a most excellent case for partial excision. With the patient in the lithotomy position, an incision was begun in the middle line in front of the anus, and carried round the skin of the anus to the middle line behind. With scissors the cellular tissue was freely divided in the ischio-rectal fossa—in fact, the left half of the rectum, with the sphincters, was thoroughly freed to about an inch above the growth. This half was dragged down, and freed from the right half of the rectum by longitudinal incision of part of it behind the bowel. This freed part was then clamped well above the growth

and cut away. The patient made an excellent recovery, there being no outward contraction, and he had good control over flatus and fæces.

Perinæal Excision.—Mrs. W——, aged 60, was sent to us with cancer of the rectum of some months' duration. She had lost flesh, and was troubled with frequent calls to stool and occasional attacks of sharp hæmorrhage. On examination a hard annular growth was to be felt, commencing on a level with the internal sphincter. Under an anæsthetic it was possible to pass the finger through the growth, when its upper limits could be felt, the bowel just above being perfectly healthy. The mass being freely movable, excision was advised, and was performed by the perinæal method. On account of the proximity of the growth to the sphincters, it was necessary to remove both the external and the internal sphincters. The patient made a good recovery from the operation, but the after-contraction was very troublesome, necessitating at intervals a division of the cicatricial tissue, in order to allow of the opening being kept patent by the passage of bougies. At last this contraction became so obstinate that colotomy was advised, and to this the patient readily consented.

Kraske's Operation.—Mr. J——, aged 45, had for a long time suffered from rectal trouble, which proved to be cancer, and it was said that nothing surgical could be performed with advantage. Under ether an extensive growth could be felt, which commenced at the anus, and extended almost as high as the finger could reach. As the growth, which spread all round the bowel, appeared to be movable on the deeper structures, it was explained to the patient that by Kraske's operation there was a fair chance of thorough removal. This he consented to undergo. The patient was placed on his side, a longitudinal incision was made over the sacrum, the sacrum and coccyx exposed, and the muscles stripped off. The coccyx and a large piece of the sacrum were removed; a circular incision was then made round the anus, and the rectum then freed both laterally and

anteriorly from its attachments to well above the growth, which necessitated opening the peritonæal cavity. Some of the sigmoid flexure was then drawn down, the bowel clamped, and the whole of the rectum with the growth cut away. The opening in the peritonæum was sewn up, and the clamped end of the gut fixed into the upper angle of the sacral wound. The extensive wound was then thoroughly washed and dusted with iodoform, and packed with wool, pressure being applied to arrest oozing. In thirty-six hours the clamp was taken off the bowel, and some flatus was passed. Two days later the bowels acted after a purge. This extensive wound took about three months to heal. Up to the present time (eighteen months later) there is no evidence of recurrence. The bowels act freely through the gut, which was fixed to the upper part of the sacral wound, and there is no contraction of the orifice.

CHAPTER XXV.

COLOTOMY.

The various modes of colotomy.

We intend to set forth as plainly as possible the advantages and disadvantages of colotomy as a whole; to show the good points or the demerits of the various forms of colotomy, namely, left lumbar, right lumbar, left inguinal, right inguinal, and transverse; and to indicate when each one of these respective operations can be employed with the most beneficial results. It may be wise to enumerate all these five methods, but left inguinal and lumbar colotomy will form the main topic of discussion. The transverse method will be described in its place; but, as it is rarely used, it cannot yet be said to compete in importance with the inguinal and lumbar modes.

No doubt there may be a tendency for advocates of the inguinal method slightly to urge its advantages over the lumbar mode, but they would not assert that lumbar colotomy should never be resorted to. In this they do not follow the example of those veteran surgeons who confine themselves to praise of the older method, and who altogether ignore the

advantages of inguinal colotomy, an operation which, according to their own writings, they have rarely or never performed. Inguinal and lumbar colotomy alike would suffer from such biased opinions, and some surgeons might be dissuaded from trying both operations, and would thus be unable to judge which was the better to perform in the different circumstances arising in the course of their practice.

Inguinal and lumbar colotomy compared.

Now that inguinal colotomy has been fairly and freely tried, we are in a position justly to compare it with the lumbar method. An endeavour may be made to assign to the two operations their due rank in surgery, and to ensure their employment on the most fitting occasions. If this attempt be successful, the full value of each operation will be brought out, and we shall desist from that old plan of using always the one or always the other, under which in certain conditions the method neglected was safe and proper, and the method actually employed was dangerous and wrong.

Former prejudices against colotomy.

Our remarks as to the injuriousness of bias with regard to any particular form of colotomy apply as strongly to the old prejudice against the operation in general. Formerly, colotomy was regarded as an extreme measure, which was only to be employed in cases where the patient was nearly bursting from distension. It was considered to be dangerous and rash, though the danger resulted mainly from faulty modes of operating, and from the slighter attention to antiseptic precautions than is paid nowadays.

The making of an artificial anus was held to be a

nauseating device, and medical men used to tell their patients that they themselves would rather die in the utmost agony than have colotomy done to them. Such remarks are positively wicked and absurd, and probably proceed from men who have rarely seen the operation performed, and who know nothing of the suffering which it saves and the relief which it gives. Views of this kind must have been handed down by tradition from professional ancestors, who were as ignorant as the present holders of such opinions. Men of this stamp cherished the same antipathy to ovariotomy in the early days of that operation, and deterred their patients from undergoing it. But such futile prejudices have been swept away by the energy and ardour of later surgeons, and the old notions against colotomy are sharing the same fate.

A survival of these ideas is the postponement of colotomy to the last possible moment. But we have now come to see that it is not only our duty to snatch patients from a distressful death, but also to relieve pain and discomfort in the earlier stages of their maladies, so that their remaining days may be made as peaceable as possible, and that death, when it does arrive, may come to pass with comparative ease.

We must not be charged with saying that every patient with cancer, or with ulceration combined with stricture, is, as soon as he is seen, when the malady is in an early stage, to undergo colotomy there and then. That would be as false and harm-

ful treatment as to put off operation till obstruction had almost caused death. Such cases should be carefully treated by opiates, etc., and should be attentively watched. As soon as it is found that the patient is beginning to suffer from incessant diarrhœa, from profuse bleeding, or from great pain, which cannot be remedied by medicine, we may then fairly ask whether life cannot be made less wretched, and whether colotomy is not best suited for that purpose.

When the patient is in such a state of suffering, his medical attendant should explain to him how matters really stand. If he be a victim of cancer, he should be told that he has an incurable disease which will grow, and that he may expect an increase of his discomfort, whether it be persistent diarrhœa, bleeding, or pain. He may be informed that his trouble will probably be relieved by colotomy, but he must also be made to understand what colotomy means; viz., that the motions will always pass by the artificial opening. All questions asked should be faithfully answered, and the medical adviser should state what choice he would make, and what he would have done to him, if he were placed in similar circumstances. To urge colotomy strongly without fully explaining its meaning is obviously as wrong and unfair as the prejudiced advice not to undergo colotomy. A careful consideration of the condition of the patient is the first requisite, and then, when we have put away all preconceived notions, we shall be able to see whether colotomy is

advisable or not, and shall be able to determine what method is best adapted to the particular case.

The Conditions necessitating Colotomy.

Conditions necessitating colotomy.

We must now consider what are the conditions which call for one or other of the operations of colotomy.

It would not be right to omit all mention of the operations of resecting strictures of the sigmoid flexure and colon, which have been so greatly assisted during the last few years by the use of decalcified buttons or bobbins. In a work of this kind we cannot enter fully into the details of such operations. These chapters on the varieties of colotomy will refer to cases in which the strictures or the ulcerations are too extensive to allow of any other form of operation. Should, however, the strictures be limited in extent, and not extensively attached to other parts, then comes the question of resection of the stricture, or the treatment of it, if innocent, by enteroplasty. Again, if possible, in cases in which the strictures or ulcerations are too extensive to remove, the question of a well-selected anastomosis of healthy gut on the distal and proximal sides of the disease should be borne in mind.

Resection of strictures.

We have treated many cases of this kind by the above-mentioned methods, and with great success.

We have already described the various kinds of cancer in the rectum, but it is necessary to state

the position in which it may occur in the other parts of the large intestine.

In the sigmoid, descending, transverse, and ascending colons, cancer is generally an annular, scirrhus-like growth, which gives rise to narrowing of the gut. Occasionally in any one of these positions the disease may be an extension of a cancer in one of the neighbouring organs, which, by its growth, pressure, or contractions, may narrow the colon in any of its segments. Putting aside the rectum, the most common places for these annular strictures and pressure-growths are at the sigmoid, splenic, and hepatic flexures, the order given representing the degree of frequency.

The narrowing of the gut may also follow from tubercular ulceration, syphilitic ulceration, or dysenteric scars or ulcers, with stricture. In the sigmoid flexure there may be traumatic or inflammatory conditions due to pressure upon the sigmoid intestine by the child's head during labour, or to adhesions or contractions which result from neighbouring inflammations or abscesses. It is obvious that inflammations or contractions in the vicinity may similarly cause inflammatory conditions in any part of the colon. Last of all, there may be some congenital narrowness of the gut, necessitating colotomy either in early or in later life. But these states are rare.

The question at once arises, When is colotomy called for?

Obstruction.

The commencement of *obstruction* is the first point to be discussed. When the rectum is involved, and

an obstruction is felt and begins to be complete, it is needless to waste time by waiting. Administrations of oil, injections, and so forth, are of no practical use, for they give but temporary relief, and the patient will be sure to have to undergo the operation later on, probably under much more adverse circumstances, when he is worn out and exhausted by distension. In such rectal cases, therefore, it is far better to perform colotomy as soon as the first definite symptoms of obstruction become manifest.

In other parts of the large intestine it is not wise to perform colotomy immediately, for there is no absolute certainty as to the nature of the obstruction, which may be only fæcal, and its position is often very difficult to diagnose. In these cases, then, abstinence from solid food, belladonna, etc., should be first tried, and, if they fail to give relief, colotomy may then be resorted to. If the first attack of obstruction is relieved, and its nature and position are doubtful, colotomy should not be done till after repeated attacks of slight obstruction.

Seat of obstruction.

A few further words as to the *seat of the obstruction.* When the growth or stricture is situated within the rectum it can be felt, and a rapid decision can be made as to the time for performing colotomy ; and if the stricture be innocent, it can be determined what other line of treatment is the best to pursue, *e.g.*, the use of bougies, division, and so forth. But when the obstruction is in any other part of the large gut, unless a mass

can be felt, it is extremely difficult to tell what portion of the intestine is affected. It is then that, from fear of performing colotomy too early, it is advisable for the surgeon to wait until fairly definite symptoms are manifested of obstruction which cannot be relieved by drugs.

Pain is the next topic of importance. Pain.

Some forms of cancer of the rectum give intense pain, for the motions may pass over an angry, ulcerated surface, or into a crater-like mass, in which a portion of them may become lodged. When the motions pass over the growth, they incite a strong desire constantly to go to stool, and the incessant straining gives rise to pain. Here colotomy is wanted to allay such suffering.

Cases of ulceration with stricture of the rectum are frequently combined with very large and extensive fistulæ, which spread from the ulceration in the rectum out into the buttocks. These fistulæ are often very numerous, and, when fæces and flatus pass through them, the pain is extremely severe. For the relief of this, and for the prolongation of a life which may be made better worth living, colotomy is demanded.

When proceeding from annular cancerous strictures in other parts of the colon, pain presents great variability. In some cases there is little or none till obstruction has become almost complete. In other cases it may be frequent, of a colicky nature, and spasmodic. The patient may then be able to state with approximate accuracy where the pain is,

and thus lead the surgeon to discover the seat of the obstruction, and the most appropriate mode of colotomy.

Sometimes the upper parts of the colon are attacked by ulceration with its accompanying contraction, and many inches of the intestine are involved. The pain resembles that given by cancerous stricture, being often colicky, and occurring repeatedly, but is not usually severe till obstruction, too, has become a marked symptom. Thus, the two conditions become united, and conjointly require operation. We must observe that for pain alone in the higher parts of the colon colotomy is seldom needed.

Bleeding.

Bleeding is another state that may necessitate consideration. This is especially the case with a soft growth in the rectum, which is very vascular, and may be torn by the constant passage over it of fæces. The resulting hæmorrhage may then be very severe and dangerous, and if injections of astringents have failed, colotomy may be necessary to save life.

Diarrhœa.

The last state which may warrant colotomy is *diarrhœa*. This is notably the case when there is cancer of the lower part of the sigmoid flexure and upper part of the rectum, or when there is syphilitic or tubercular ulceration not only of the lower, but also of the upper parts of the large intestine. This diarrhœa may be most intense, and may occur as frequently as twenty times a day, greatly distressing the patient, making his life absolutely miserable, and wearing him to death. When ulcerations from tuberculosis, dysentery, or syphilis

cannot be treated successfully by mild remedies, colotomy, by cutting off the passage of the fæces, allows the ulcerations to heal, and, by the immediate stoppage of the incessant diarrhœa, the patients are restored to a better state of health. Of course, in order to bring this about, the colotomy must be well above the diseased portion of the gut.

Excellence of colotomy in non-malignant cases.

Colotomy is even more necessary in tubercular or syphilitic conditions, when mild treatment has failed and the patients are running downhill, than it is in cases of cancer. Cancer is a mortal disease, and the sufferer's life will not last long. These other conditions are not necessarily fatal, and if the distressing symptoms are relieved, and the passage of fæces is cut off, the rest from pain and irritation may allow the diseased parts to heal, and the patient be enabled to live to a good old age.

The Choice of Operation.

Choice of operation.

We are now led to consider which kind of colotomy is best to perform in any particular circumstances. This question of the choice of the operation is of extreme importance.

First, let us take the cases when the obstruction is in *the rectum*, and can be easily felt and diagnosed. These can be arranged under several heads.

Complete obstruction requiring lumbar colotomy.

1. Cases of very complete obstruction. The obstruction having been complete, perhaps for ten or more days, the intestines are very distended, and it is necessary to open the gut at once. Cases of this

class are better treated by lumbar colotomy, for it is only when the intestine is very distended that it is possible or probable that the gut can be opened without opening the peritonæum. The reasons for this assertion will be explained on discussing the lumbar operation.

Moderate obstruction.

2. In the second division the obstruction is well marked and of a few days' duration, and the distension, though not very great, may at the same time be fairly marked. In this class the choice between inguinal and lumbar colotomy may be left to the operator, for there is no great necessity to open the bowel at once. It is better for the gut to be fixed up (say for twelve hours) till the peritonæal cavity is well blocked off by lymph, and thus made safe from extravasation of fæces when the bowel is opened. If the distension is very slight, the inguinal operation should always be chosen; but if it is well marked, and the case borders on class 1, lumbar colotomy should be performed.

Little obstruction.

3. The third variety comprises those cases in which there is very slight or no obstruction, and when the object of surgical interference is to relieve pain, irritation, or bleeding, or to diminish the rapidity of the growth. There is no doubt that inguinal colotomy is then the better method to employ.

If the surgeon chooses, he can perform inguinal colotomy in all the above-stated conditions if he will use a Paul's tube, which may be inserted at once into the distended gut and tied. The motion is then carried away by the tube into a basin under

the bed. In this way any chance of the peritonæal cavity becoming fouled by fæces is prevented.

Causes as affecting choice.

The question of choice is further affected by the cause for the operation. If it is cancer, which gives rise to obstruction only, with no pain and little diarrhœa, the surgeon is free to make his own option between inguinal and lumbar. But if the cancer causes great pain, diarrhœa, and bleeding, then, if possible, inguinal colotomy should be done, for a good spur can, as a rule, be procured; whereas, in lumbar colotomy, the making of a spur is much more a matter of difficulty, and is sometimes quite impracticable. When in the rectum there are non-malignant strictures, combined with tubercular, syphilitic, or dysenteric ulcerations, and often with fistulæ, the importance and possibility of making a spur again demand inguinal colotomy.

Advantages of inguinal colotomy.

There are other reasons for preferring inguinal to lumbar colotomy. The opening is in front, and can be attended to by the patient himself with far greater facility than when it is in the lumbar region. Further, a pad or truss can be readily adjusted to the opening in the groin. The inguinal operation can be performed with much greater ease; the patients usually get well much more quickly, and there is less risk of opening any other viscus than the colon. In all these points the inguinal is an advance upon the lumbar operation.

The three remaining forms of colotomy—transverse, right lumbar, and right inguinal—are very difficult to choose between. Of course, if there is a

stricture the position of which can be diagnosed, or if, in cases of ulceration, the end, or, rather, the starting-point, of the ulceration can be told, then the rule is to perform the colotomy just above the seat of that stricture, or of that stricture with ulceration. But this can only be discovered when there is a tumour or distension, or when the patient, from the pain and so forth, can indicate the locality.

Value of median abdominal exploration in doubtful cases.

On the other hand, if the case is uncertain, it is always wise to start with a median abdominal exploration. The exploratory incision should be made above the umbilicus, and the hand be passed into the abdomen and down to the sigmoid flexure. It should next be traced upwards until the stricture is felt, or the narrowing caused by the ulceration be found to cease. The colotomy should then be performed just above the seat of the obstruction. For instance, if the disease is about the splenic flexure of the colon, one should choose a transverse colotomy ; if it is at, or extends up to, the hepatic flexure, use a right lumbar colotomy ; if it extends lower down, resort to the right inguinal operation.

If an exploratory examination by the median incision fails to discover definitely where the ulceration ends, or where the stricture is seated in the large intestine, it is wiser to do a right inguinal colotomy, so as to make sure of being well above the diseased part.

It is best to choose the operation which can be done nearest to the disease—that is to say, if the splenic flexure be at fault, we use transverse colo-

tomy. The reason is that the length of the transverse mesentery gives a good chance of making a splendid spur; but this opportunity is not always found in right lumbar, and never occurs in right inguinal, colotomy.

Choice as affected by condition of fæces.

There is another good reason for colotomizing as near the rectum as possible; the higher one proceeds in the bowel the less solid the fæces become. In left inguinal and in left lumbar colotomy it seems that the fæces are nearly solid, for the greater part of the large intestine is above them, and absorbs their liquid portion. In the transverse operation the motions are generally, though not invariably, liquid. In the right lumbar and right inguinal methods, as far as our experience goes, the fæces are always liquid, and are a continual source of annoyance to the patient later on—for motions are retained when solid, but are constantly discharged when liquid.

It is perhaps advisable to add that, when the median exploratory incision has been made, and transverse colotomy decided upon, the lower part of the incision is brought together, the upper inch (2·5 cm.) or so being utilized to bring the transverse colon through, and then fixed up into the wound. If the examination reveals the impossibility of a transverse colotomy, or of one lower down (*i.e.*, nearer the rectum), the incision is closed, and a right lumbar or right inguinal operation is proceeded with in the manner hereafter described.

CHAPTER XXVI.

ANATOMY OF THE COLOTOMIES.

Anatomy of colotomies.

BEFORE describing the various methods of performing colotomy, it may be well to devote a little time to the anatomy of the regions to be operated upon. Minute details are useless from a surgeon's point of view ; but, at the same time, rough surgical anatomy may be found to be of assistance when any difficulties arise in the operations.

Left and right inguinal colotomy.

Left Inguinal and Right Inguinal Colotomy.—We will first discuss the anatomy of left inguinal and right inguinal colotomy, for the main features are alike, the only differences lying in the character of the gut and the variations in the arrangement of the peritonæum. The skin need not detain us, but the cellular tissue varies greatly, sometimes being very thick and extensive, especially in stout patients, whereas in the thin there may be little or none whatever. The next structure of importance is the external oblique muscle, whose fibres run in the direction of the superficial incision, viz., downwards and inwards. Its thickness, of course, varies with the muscular development of the patient. As soon as this muscle is divided, the internal oblique is

exposed, and may be recognised by the direction of the fibres, viz., upwards and inwards. The next object of interest is the last layer of muscle, the transversalis abdominis, which may be distinguished by the transverse direction of its fibres, which run from outwards directly inwards. When this has been exposed and divided, a thin layer of fascia comes to view, which is known as the transversalis fascia, and varies both in thickness and colour. If the operator is not careful this may be mistaken for the peritonæum, and much time be wasted over it under that erroneous impression. Under this lies the subserous areolar tissue, which may present another pitfall, for it is sometimes taken to be the omentum. This is more especially the case when the transversalis fascia has been opened in the belief that it is the peritonæum. This error, however, should never occur, for the fat of the subserous areolar tissue is very different from the fat of the omentum. It is usually darker in colour and more consistent, and never bulges up through the opening in the transversalis fascia as the omentum does when the peritonæum is opened. For, when that is the case, the omentum, if near, bulges through, and even appears, as it were, to flow through the aperture in the peritonæum.

Pitfalls in the operation.

After the subperitonæal fat has been divided, the peritonæum is reached. It is of a slatish-blue hue, and is as variable in thickness as most of the other structures already described. The peritonæum, as is well known, lines the posterior surface of the belly

muscles, and as it approaches the side of the belly is reflected from these muscles over the surface of the sigmoid colon, then over the iliac fascia and iliac muscle, which occupy the concave anterior surface of the ilium. It is important to bear this in mind in connection with the two errors just referred to; for when the transversalis fascia has been mistaken for

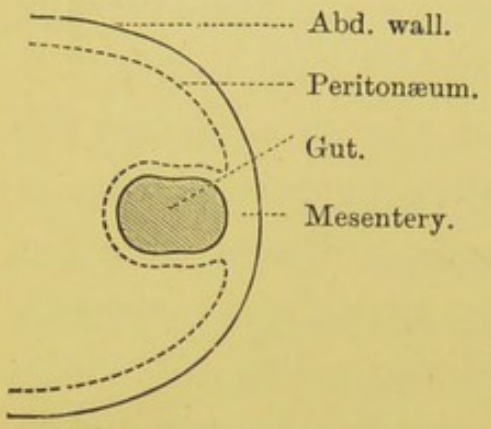


Fig. 42.

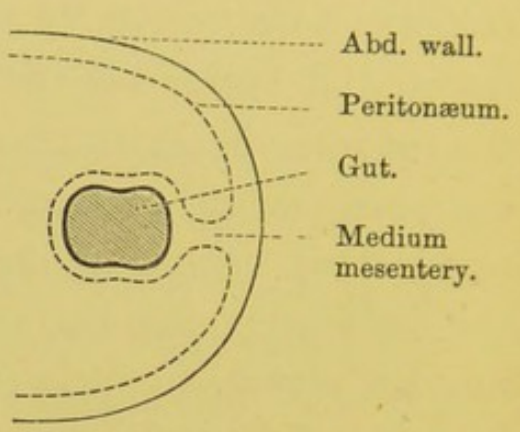


Fig. 43.

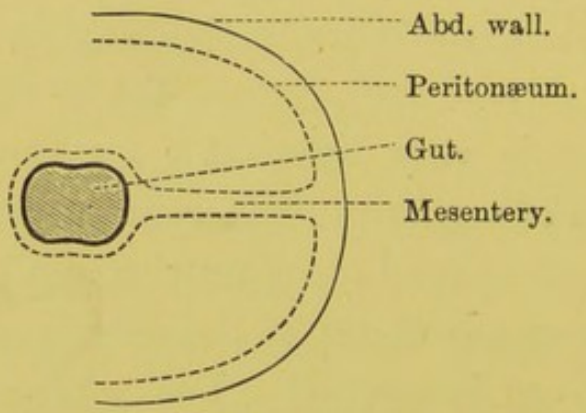


Fig. 44.

the peritonæum, and the subserous areolar tissue has been thought to be the omentum, and been burrowed about in, the peritonæum which covers the subserous areolar tissue may be pushed off the ilium, and the search for the gut made over the surface of the ilium, the peritonæal cavity having never been opened at all.

Another point in connection with the peritonæum is the way in which it surrounds the sigmoid flexure. Position of peritonæum.

As shown in Fig. 42, the peritonæum lines the abdominal muscles and then passes over the sigmoid, binding it closely down to the ilium (there being little or no play for the gut; in fact, there being little or no mesentery), and then being reflected over the surface of the ilium.

Fig. 43 represents the second state, when, in consequence of the reflection of the peritonæum, there is some movement of the intestine. Here is what might be termed a medium-sized mesentery. In Fig. 44 there is a long mesentery, and thus there is a free movement of the sigmoid flexure.

These three conditions only hold to any large extent in left inguinal colotomy, though at times, but rarely, they may apply to the cæcum. As a rule, however, Fig. 42 represents the state of the cæcum. Though apparently trivial, these matters are of great importance from the surgeon's point of view, both in regard to operating and to the after welfare and comfort of the patient.

Lumbar Colotomy. — The regional anatomy of lumbar colotomy presents many affinities to that of inguinal colotomy, though there are differences. In the lumbar region the cellular tissue is usually more abundant. The first muscles divided are the external oblique and the latissimus dorsi, which are in the same plane. As in inguinal colotomy, the fibres of the external oblique run downwards and inwards, and behind this is the latissimus dorsi, the course Lumbar colotomy.

of its fibres being directly downwards. This muscle (as is the case in all regions) is separated by a thin layer of cellular tissue from the internal oblique, whose fibres go upwards and inwards, the posterior ones running almost directly upwards. The next structure is the lumbar fascia, which, if the term be permitted, is the tendon of the transversalis muscle, a few of the posterior fibres of which may be exposed as it springs from the fascia. These fibres have a transverse direction. The fascia is very tough and thick, and is usually of a strong, fibrous nature. When the transversalis muscle and its tendon are divided, the anterior edge of the quadratus lumborum may be exposed, or may have to be severed if it is large. The fibres of this muscle run vertically upwards, or incline slightly upwards and backwards. Nearly on the same plane as the quadratus lumborum, and under or posterior to the transversalis abdominis, is the transversalis fascia, which is intimately blended with the fat which is below or behind it, and in which—or, rather, amongst which—the kidney and the colon are to be found. In the lumbar region the subserous areolar tissue is very thick and abundant, and at times is difficult to distinguish from the peritonæum which it covers.

The next structure to be exposed is the posterior or outer surface of the large intestine, and then, as used to be said, *without opening the peritonæum*, there appear the longitudinal bands and appendices epiploicæ.

Now, in order to explain when the longitudinal

bands can really be seen and when they cannot, it is necessary to give a detailed description of the large intestine. We are compelled to do this, for it has been stated that in lumbar colotomy, when the parietal peritonæum is *not* opened, the longitudinal bands and the appendices can be seen, and that thus the large intestine can be distinguished from any other part of the intestinal tract. Longitudinal bands.

We are aware that the large gut, from the cæcum

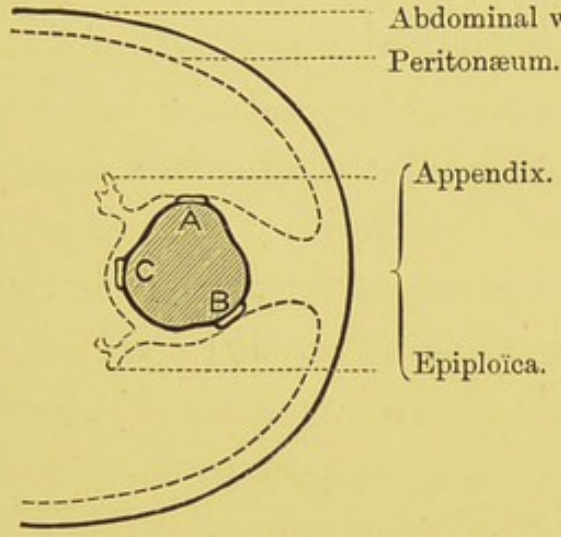


Fig. 45.

downwards, has two distinctive features. The first is the presence of the three longitudinal bands, one on the anterior surface of the gut (Fig. 45, A), another on the posterior (B), and the third on the inner aspect (C). The second characteristic is that attached to the large gut are the appendices epiploïcæ, which occur on no other part of the alimentary canal. We have noticed that the peritonæum, as it is reflected from the anterior abdominal muscles, is loose, and that then, where it commences to surround the large gut, it becomes quite firmly

adherent to the intestine at the longitudinal band A. It is now so fixed that it cannot be separated from the gut ; it covers up band C, and is continued on to band B. Finally, from the posterior edge of B, it may pass off the gut on to the posterior part of the abdominal wall. Thus Fig. 45 will show that the outer part of the gut is uncovered by the peritonæum. However, as already explained, this is by no means the usual state of things. If we look at the cases of a medium-sized mesentery (as in Fig. 47), we see that the peritonæum is continued even further backward beyond and behind the bands A and B (Fig. 45), and thus forms a mesentery, and that hence little or none of the intestine is uncovered by the peritonæum. In cases where there is a long mesentery (Fig. 48) this is even more marked, for then there is practically no part of the gut uncovered by the peritonæum.

There is another part which further disposes of the erroneous idea that the longitudinal bands can be seen without the parietal peritonæums being opened. If one takes a piece of large intestine, covered by its peritonæum, and carefully examines it, it will be observed that when the intestine is surrounded by the peritonæum the bands are most distinct, looking like white, silvery lines, about a quarter of an inch (6·3 mm.) broad. All three of them will usually be found to be well marked. But when examination is made of a piece of large intestine, uncovered by peritonæum, no band is visible. Further, if an attempt be made to strip the peri-

tonæum off the intestine at A and B, the longitudinal bands will be seen to come away with the peritonæum, and then become lost; or, if they do remain attached to the gut after the peritonæum has been removed, they are most indistinct and badly marked.

The above will show how mistaken are those who

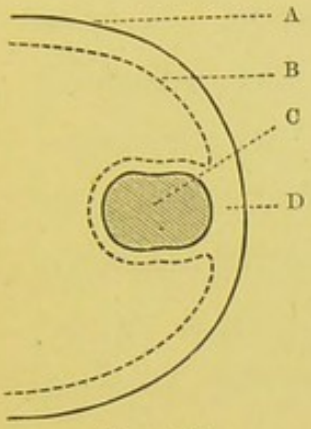


FIG. 46.

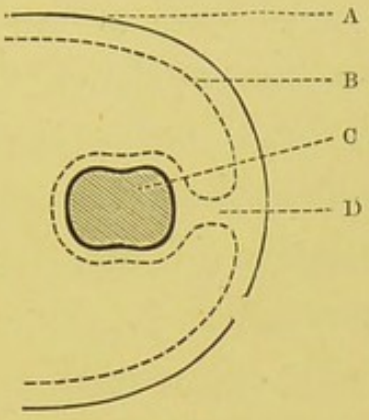


FIG. 47.

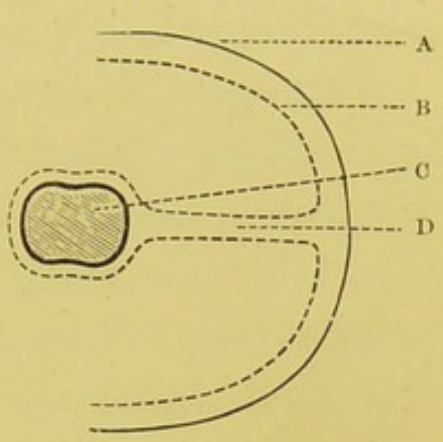


FIG. 48.

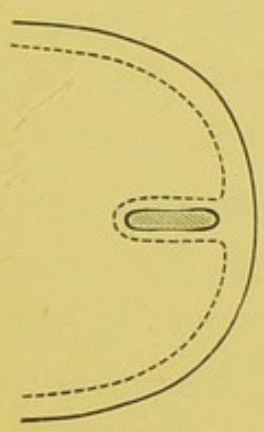


FIG. 49.

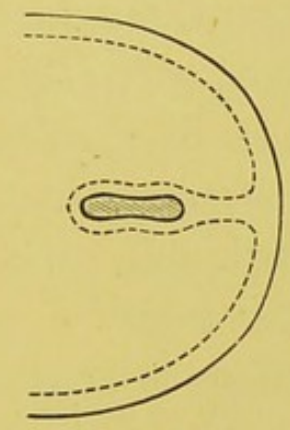


FIG. 50.

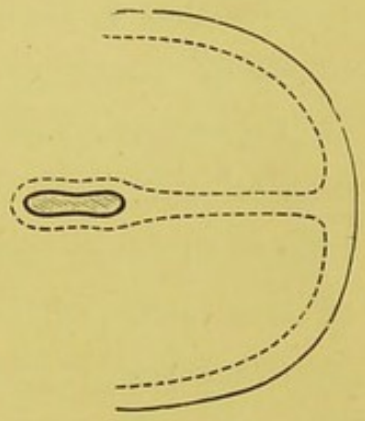


FIG. 51.

(A) Abdominal wall. (B) Peritonæum. (C) Intestine. (D) Mesentery.

hold that the longitudinal bands—as bright, shiny bands—can be seen without opening the parietal peritonæum. Probably, unknown to themselves, they have divided the peritonæum, and so opened the abdominal cavity, for unless that cavity is opened, it is impossible to see the bands on the large intestine.

We contest in the same manner the assertion that

Appendices.

the appendices epiploïcæ can be seen without opening the peritonæum. This, again, is an impossibility. These appendices are but small pedunculated masses of fat, enveloped by the peritonæum (Fig. 45), and attached to the inner aspect of the intestine. The diagram shows that to view them it is absolutely necessary to open the parietal peritonæum. To see them on the non-parietal surface of the intestine would be impossible, for, if not covered by the peritonæum, they would lose their distinctive characters and become small masses of fat, indistinguishable from the subserous areolar fat, which has to be worked through in the downward progress to find the gut.

Gut when distended or collapsed.

There is a further point, the anatomical arrangement of the peritonæum, when the gut is *distended* or *collapsed*. When, as in Fig. 46, there is a *distended* gut, with little or no mesentery, the peritonæal reflections are separated, and hence a good portion of the posterior or outer aspect is uncovered by the peritonæum. Less surface is uncovered when, as in Fig. 49, the gut is *undistended*. These alterations are of importance only when there is *no* mesentery, for when there is a medium mesentery, as in distended gut (Fig. 47) and undistended gut (Fig. 50), or a long one, as in distended gut (Fig. 48) and collapsed gut (Fig. 51), there is no separation to be seen which is of real surgical value.

Transverse Colotomy. — Transverse colotomy, as already observed, is usually combined with an exploratory abdominal section, the incision made being

a median abdominal one. The anatomy is as follows: After the skin has been divided, some cellular tissue is met with, which varies in amount, and a few vessels, which generally require attention. The next structure which is seen is the median raphe, and a little to the left of this may be observed the aponeurosis of the internal oblique; this covers the next object for consideration, viz, the rectus abdominis, whose fibres run in a perpendicular direction from above downwards. These fibres are divided, and we come upon the posterior layer of the fascia of the internal oblique; this, too, is divided, so as to expose the subserous areolar tissue, and lastly the peritonæum. The transverse colon is now reached, and can be identified from its longitudinal bands and the appendices epiploïcæ. It has a good mesentery, which is easily to be made out. Obviously, if the large omentum present, it may have to be pushed out of the way before the colon is arrived at.

In this sketch of the anatomy of the region we have described the anterior and posterior layers of the divided tendon of the internal oblique, with the rectus abdominis between them. Hence it will be noticed that the incision is taken through the rectus muscle, and not through the central point of the union in the middle line, for at that spot there are no layers of the tendon of the internal oblique, and no rectus muscle is divided. However, we have purposely gone through the rectus, for it is the best incision, as it leaves a far firmer scar

Point of incision.

than when the incision is made in the median line. The latter is the usual place, but it is wrongly chosen, for a weak scar is often left, which may lead to hernia in the future. If a division be made of the right rectus, the round ligament of the liver may be seen after the posterior sheath of the rectus has been cut; but it is not advisable that the incision should ever be made except slightly to the left of the middle line.

CHAPTER XXVII.

THE OPERATION OF INGUINAL COLOTOMY.

We now arrive at the operation of inguinal colotomy. Though the right inguinal mode will receive brief mention, the discussion will be mainly of left inguinal colotomy, which is by far the most frequently performed.

Choice of anæsthetic.

Whenever there is any possibility of choice as regards the anæsthetic, it is better to use chloroform, not that it is safer than ether, but because it presents several advantages from an operative point of view. When under ether, patients are invigorated, but in chloroform anæsthesia they are, as a rule, rather depressed, and therefore quieter. Thus their breathing is less rapid, and, when the operation is being done, the abdominal muscles do not move so much. Further, chloroform causes a greater relaxation of the muscles, and renders them easier to work in, whereas ether appears to stimulate them. If there is this stimulation, the fingers, when inserted in the abdomen, are gripped by the muscles and cannot be used so freely.

Again, with chloroform there is never, or seldom,

the straining which is noticed while patients are under ether. This straining or coughing naturally tends, when the abdomen is opened, to force its contents through the aperture, and, moreover, makes the muscles rigid. Sometimes, too, the stimulation of ether causes bleeding from small arteries and veins, in consequence of the congestion which is occasioned. This does not occur when chloroform is used, for it lowers the arterial tension. These details may render the operation easy and comfortable, whilst a disregard of these matters may make it difficult and irritating.

The instruments are as few and simple as possible, viz., a small scalpel, about half a dozen of Spencer Wells' clips, a pair of dissecting forceps, scissors, and straight needles.

The patient is placed on a hard couch and anæsthetized, the legs and chest well covered with blankets, a mackintosh being over these, and wet towels over the mackintosh. The part—viz., the left or right inguinal region—is well cleansed and cleared of any hair.

Operation. Then, about an inch and a half (3·8 cm.) inside the left anterior superior spine of the ilium, and parallel with Poupart's ligament, the skin and cellular tissue are divided by an incision not more than two inches (5 cm.) long, and frequently less. With a stroke of the knife the external oblique and the other muscles are severed, until the subserous areolar tissue is reached. This is picked up with two clip forceps and divided. As soon as the

peritonæum is opened (which may, as a rule, be told from some omentum forcing its way through the aperture) the finger is introduced into the opening, and with scissors the deep structures are divided up to the extent of the skin-wound. We never use a director, which is a confusing instrument, and tends frequently to split up the structures into layers. If the operator has a keen eye and a light hand, all the structures down to the peritonæum may be divided with rapidity and certainty, and all such perplexity is avoided. As soon as the peritonæum is divided, it is secured with clip forceps so as to prevent its being pushed away; moreover, when it is held up, it stops any oozing of blood from the cut muscles passing into the abdomen. A flat sponge, with a string attached (to prevent its being lost in the belly), is introduced to keep the intestines out of the way, and to catch any blood that might drain into the abdomen, while the parietal peritonæum is being carefully sewn to the skin all around by interrupted fine carbolized silk or catgut. This mode of joining the skin and the peritonæum induces rapid healing, and lessens the danger of discharge from the muscles finding its way into the peritonæal cavity.

Finding of the gut.

Then the sponge is removed, and a search is made for the sigmoid flexure. In most cases it bulges into the wound, and is easily recognised by the longitudinal bands and appendices epiploïcæ, but occasionally the small intestine or the great omentum presents itself. When the large intestine

does not appear, one should pass the first finger into the abdomen, sliding it over the iliacus muscle until the intestine is reached, which should be hooked up to the opening with the finger and thumb. If this manœuvre fails, a search should be made towards the sacrum, the rectum felt for, and the gut traced up; should this not succeed, the finger must be passed upwards towards the kidney, and the descending colon felt and traced downwards. This

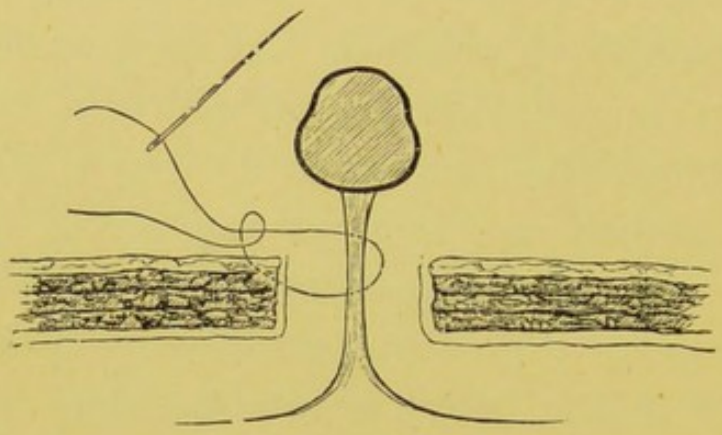


Fig. 52.

usually has to be done when the mesentery is long, say five inches (12·7 cm.) or more. The large intestine is much thicker and firmer to the feel than the small intestine, and can be distinguished from it by the ridges formed by the longitudinal bands.

When the gut has been found and brought to the surface, it must be passed through the fingers to seek for a piece with a sufficient mesentery — naturally this can be done only when the seat of the disease is in the rectum or the lower part of the sigmoid flexure. Generally the part of the sigmoid first pulled up has quite sufficient mesentery.

Fixing of mesentery.

A good knuckle of gut being pulled through the wound with the finger and thumb, the mesentery is made out behind the intestine. A needle, threaded with carbolized silk, is next passed through the skin on the outer edge of the abdominal opening, then through the mesentery behind the bowel, back again through the mesentery, and is then tied to the end which had previously gone through the skin (Fig. 52). When the suture is tightened, it keeps the peritonæum of the mesentery against the parietal peritonæum. This is the safest and quickest of the many ways suggested for fixing the mesentery, and is as efficient as any of them. The hare-lip pin, the use of which has been proposed, is clumsy and unnecessary; further, if it has to be removed, the gut may drop back.

Suturing of gut.

Next, the prominent piece of gut is secured to the edges of the wound. In several places around, the gut is fixed to the skin by passing the needle very carefully, so as not to prick the mucous coat, the sutures being passed only through the muscular and serous coats. If possible the needle should be put through a longitudinal band, for that part of the intestine is tough and thicker. One suture should be passed at the upper and one at the lower angle of the wound, and another on the opposite side of the mesentery stitch, and more may be used if there is too great a gap between the bowel and the skin edge in other parts. The more distended the belly is, the more of these sutures are required in order to prevent the small intestine or the omentum from

being forced out between the large intestine and the skin wound.

By this method we have often performed the operation in fifteen minutes. When the operation is finished, the appearance of the gut is as shown in the figure below (Fig. 53).

The gut is then covered over with some green protective, antiseptic dressings are applied, pads are placed over the opening to prevent any vomiting causing the gut to break away from the

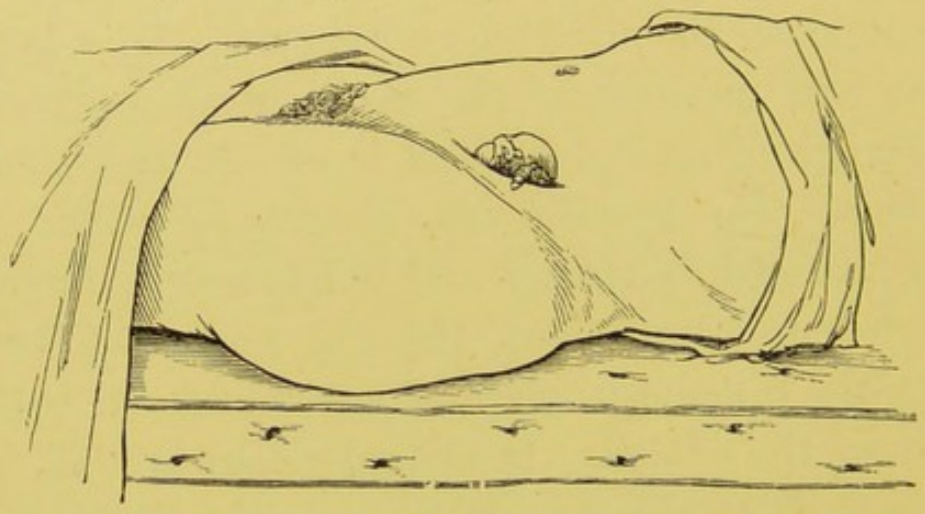


Fig. 53.

suture, and the whole is held by an ovariotomy bandage.

Opening of gut.

The next day, or even after six hours, if there is great distension or much pain, the gut, which by that time is thoroughly glued up to the abdominal opening, may be opened, and wind or fæces be allowed to pass out. If the condition of the patient is satisfactory, the gut may be left alone three or four days. To open the gut scissors should be used, cutting the intestine from above downwards to the extent of about an inch and a half (3·8 cm.).

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There is generally a large quantity of gut, or rather walls of gut, on both sides of the incision. It is now our practice to cut this away till the edge of the gut is nearly on a level with the skin; the portion above the dotted line in Fig. 54 is removed. Unless this is done there is too great a prominence, for though the walls shrink to a certain extent,

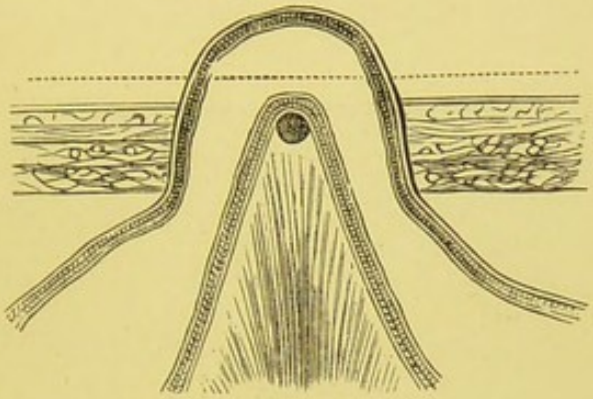


Fig. 54.

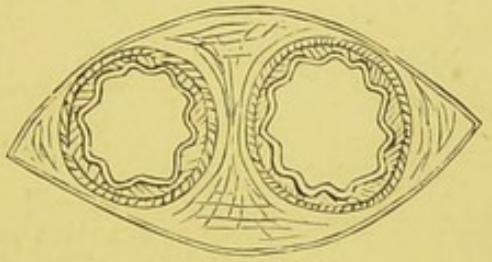


Fig. 55.

they do not contract sufficiently. There is little bleeding, and no pain is caused when the gut is opened or cut away. If there is a good spur, a double-barrelled opening is now seen (Figs. 55 and 56).

Question of spur.

The essential point of our operation is to make a good spur, so as to prevent fæces passing below the artificial opening. Here is the method in brief: To procure a spur means to fix up the gut by the mesenteric stitch in such a manner that no fæces can possibly pass from the upper part of the in-

testines beyond the inguinal opening; such passage of fæces will only further irritate the malignant growth or stricture with ulceration.

Unless such a spur has been obtained, we consider the operation to have been a failure. This is particularly the case at the present time, when inguinal colotomy is performed much earlier than formerly, and when one of the main objects of the operation is

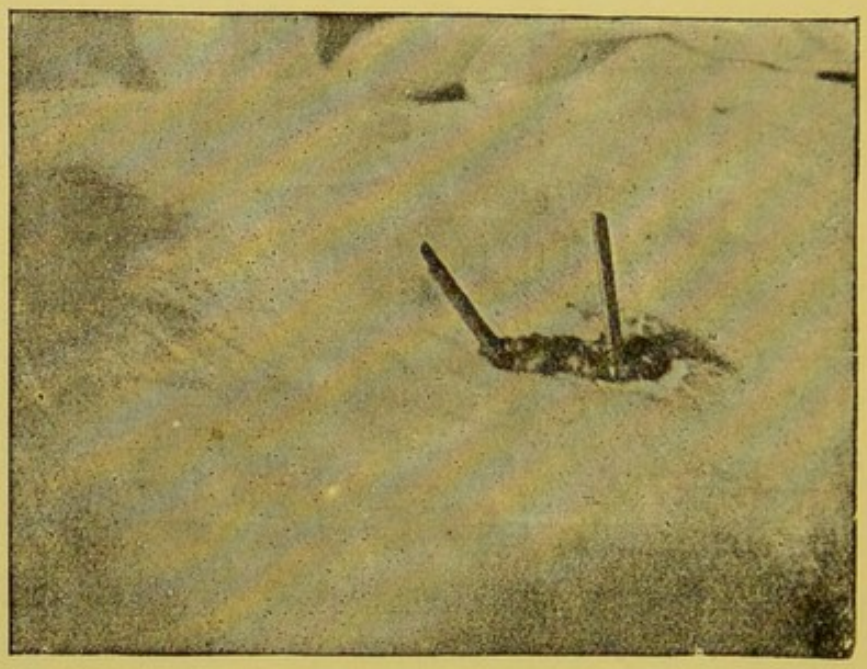


Fig. 56.

to relieve or allay this very irritation. If, through the neglect to make a spur, this irritation is maintained, or even aggravated, and the concomitant diarrhœa and pain are not stopped, we shall merely have added to the patient's discomfort; for he will have a fæcal fistula in the groin, instead of a complete and perfect artificial anus intended to relieve the irritation of the rectum below the opening.

The Supplementary Operation.

After having performed eighteen cases of inguinal colotomy, we found that there was one condition in which operating in the iliac region might be disadvantageous, not to say distressful, in its results. In more than six out of the cases we noticed that, after the patients had got up and had been able to go about, they suffered from a large procidentia of the gut through the inguinal opening. This naturally occasioned great discomfort, and necessitated the use of a strong truss to retain the intestine in its place, and, whenever the bowels acted, this procidentia occurred. For a long time we pondered over the possible causes of the procidentia, and could not easily arrive at a satisfactory solution.

Procidentia as a result.

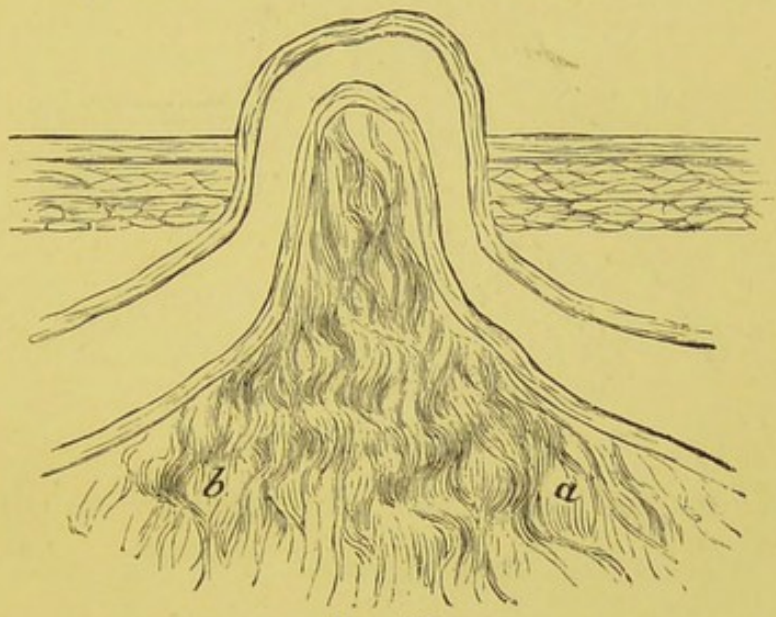


FIG. 57.

Our first theory was that an excessive largeness of the incision in the abdominal wall had brought about this unlooked-for and altogether undesirable effect. In some cases, therefore, we limited the

Etiology of the procidentia.

incision in the abdominal wall to a length less than two inches (5 cm.), and found some variability in the results. In one or two cases the procidentia was partially obviated, in others it was as bad as ever. We had, then, to come to the conclusion that the theory had been erroneous, and that an increase or a decrease in the size of the incision could neither cause nor impede this protrusion of the gut. After thinking over the matter, it

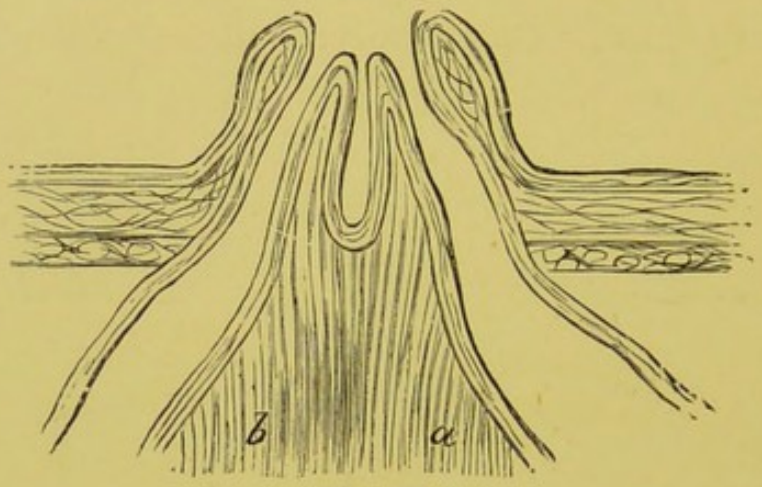


FIG. 58.

occurred to us that the procidentia might have some relation to the length of the sigmoid mesentery, which is sometimes of considerable dimensions, measuring at least four inches (10 cm.) from the intestine to its attachment to the ilium. It may be seen from Fig. 57 that if the intestine be pulled out only to a limited extent so as to make a spur, but the mesentery at *a* and *b* be long, whenever the bowels act the lengthy mesentery will easily allow the gut to protrude. The resulting state will be that shown in Fig. 58, that is to say, the intestine will be procidented until the mesentery at *a* and *b* has become taut.

It was now perceived what ought to be done in such cases. After performing the first part of the operation in the usual way by making an incision two inches (5 cm.) in length, one inch (2·54 cm.) internal to the anterior superior spine of the ilium, the parietal peritonæum being stitched

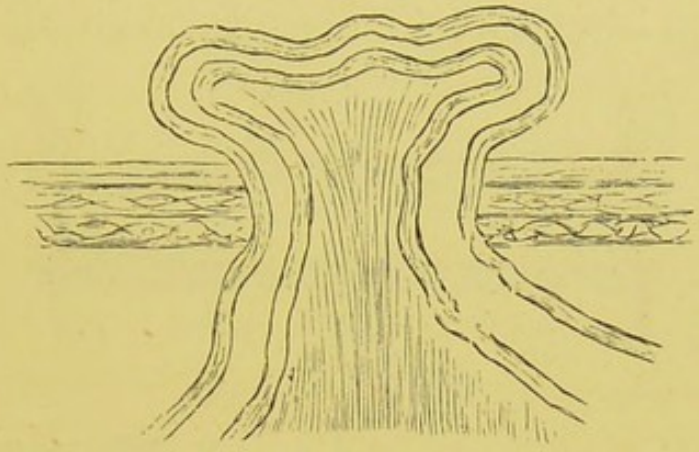


Fig. 59.

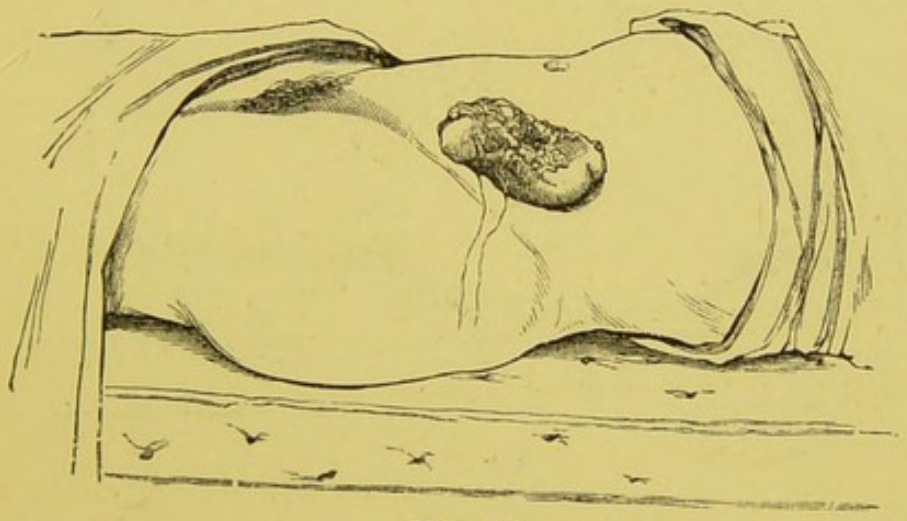


Fig. 60.

to the skin, the gut is pulled out by its lower end till no more can be made to protrude, and the same done to the upper end. The mesentery is now quite taut, and a large bunch of intestine, several inches in length, has been drawn through the opening, and is allowed to rest upon the abdomen. This is represented in Figs. 59 and 60. Then sutures

Pulling out of gut.

are passed through the mesentery, and several through the muscular and serous coats of the bowel, so as to prevent its slipping back. The mesentery being perfectly taut, no procidentia is now possible. In two or three days after this operation the gut is opened so as to allow of the exit of the wind, and in a week or so all the gut

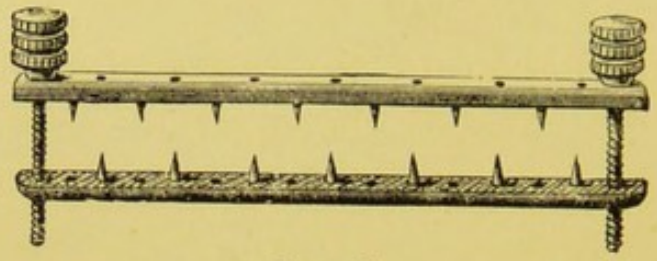


Fig. 61.

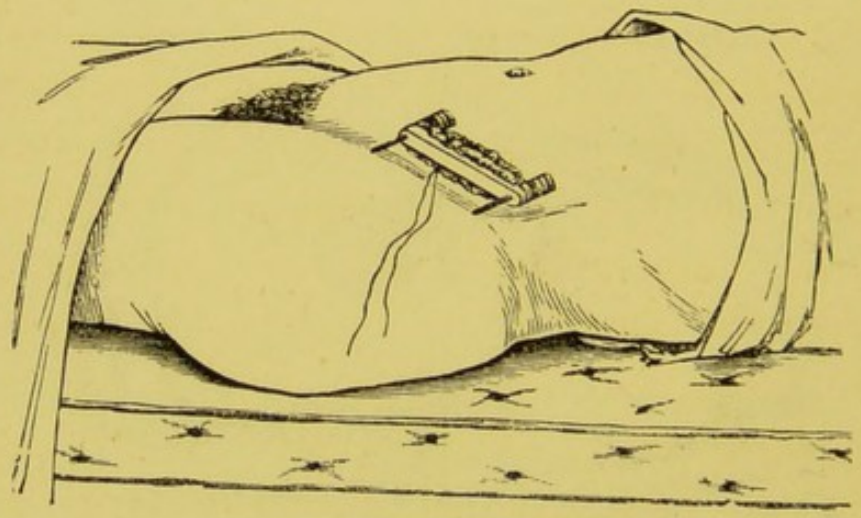


Fig. 62.

Gut removed and stump clamped.

outside the belly is removed. A clamp (Fig. 61) is applied about a quarter of an inch from the wound, and screwed up tightly. The clamp should be provided with spikes, as shown above, and in any case should have a firm and good grip. Unless this is seen to, when the intestine is cut off, the clamp will slip off the stump, and serious hæmorrhage will ensue. The portion of gut is then cut off

above the clamp (Fig. 62), the latter being kept fixed for twenty-four hours—indeed, so long as any slackening of it causes bleeding. When it is taken off, no bleeding then occurs. The amounts of intestine removed in our cases measure from four (10 cm.) to twelve inches (3 dm.), and weigh from three to seven ounces.

During the progress of one case we had the opportunity, thanks to the kindness of Mr. G. R. Turner, of St. George's Hospital, of seeing a post-mortem examination on a subject on whom he had performed inguinal colotomy. The patient had been operated on soon after the publication of the first paper on inguinal colotomy, and had lived for many months. There was no procidentia through the inguinal opening, and one was able to discover the reason for this. The sigmoid had no mesentery, or, at any rate, an extremely short one; and the intestine was found to be resting close upon the iliacus muscle, and was not movable in the belly. The operation had been a complete success, a perfect spur having been obtained, and there being no protrusion. Thus, the theory as to the etiology of procidentia following upon the inguinal colotomy was satisfactorily confirmed.

This supplementary procedure of cutting away so large a quantity of the gut has somewhat increased the seriousness of the operation. Nevertheless, the exceeding discomfort occasioned by this possible procidentia necessitates a fair grappling with the circumstances.

Supplementary operation desirable for innocent stricture.

The fact remains that if the original operation has succeeded, and the patient's life is likely to be prolonged for some considerable time, the descent of the intestine from the inguinal opening must be prevented. It should be remembered that the presence of a slack and lengthy mesentery is the *sine quâ non* of this supplementary procedure. If this long mesentery does exist, and no steps be taken to stay this procidentia, patients who have been operated on for innocent stricture with ulceration of the rectum, probably combined with recto-vaginal or recto-vesical fistulæ, will be in the following condition: they have submitted to a palliative operation which may have been entirely successful in its main object, the relief of the obstruction of the rectum; yet the resulting good has been accompanied by a resultant evil. Through the new opening in the groin the intestine protrudes, and it is a source of constant trouble and discomfort. Some patients have told us that had they been aware of this possible sequela they would never have consented to undergo inguinal colotomy. Their life is simply spoilt, and they are practically prevented from going about and mixing with the world at large in consequence of the constant protrusion of the mass. In cases of innocent stricture, where the patient is likely to have a considerable lease of life, we would strongly recommend the adoption of this supplementary procedure of entirely removing all of the intestine that can be drawn out of the inguinal opening.

Supplementary operation undesirable for malignant disease.

On the other hand, in bad cases of malignant disease, when the patient is greatly exhausted, and has probably only a few months, or perhaps weeks, to live, it is not wise to carry out any further operation. It is enough to pull the intestine well through the wound, and so make a good spur. If procidentia does ensue, it will not be of much moment, for the patient will be practically confined to the bed or sofa, and cannot lead that more or less active life in which his procidentia is so extremely discomforting.

A few points in this operation require special mention :

Points in supplementary operation.

1. Pain is experienced when cutting the mesentery, but none whatever when cutting through or into the intestine proper; it is therefore wise to administer ether when removing the protruding portion of the intestine.

2. The clamp for holding the intestine must be spiked, and have a firm and certain grip. Unless these requisites are provided, the clamp will slip and cause severe hæmorrhage. Moreover, the clamp should not be applied too close to the wound, but should be placed about a quarter of an inch (6·3 mm.) distant. It should be kept on till no hæmorrhage follows on any loosening or unscrewing. In one case we used no clamp, and consequently there was considerable bleeding. In another case the clamp was not spiked, and therefore slipped; the hæmorrhage was exceedingly sharp, and caused much trouble. In another instance the clamp was removed a little too

soon, and it was necessary to clip some bleeding vessels. Unless all the above particulars with regard to the clamp be conscientiously attended to, the great probability of severe hæmorrhage will enormously increase the danger of this supplementary operation, and may, therefore, tend to militate against its adoption.

Here are two cases illustrating this operation :

Cases.

Mary D——, æt. 36. Five years before patient first noticed a whitish discharge from the rectum, not especially on defæcation, but at other times, the discharge staining her linen. When present at stool, it preceded the motion ; and at times she had passed nothing but discharge. Following the discharge she had an aching pain running down the back of the right leg into the calf. Was laid up in bed two months at home, and then had an operation performed on the leg, and was in bed for ten months after. The bowels acted generally every other day, the motions at times being flattened, at others in small round lumps. She had also noticed that they had gradually been getting smaller. Sometimes there was severe pain on defæcation, causing her to vomit. Had been in the habit of passing bougies for herself once or twice a week. Four and a half years ago was in the Cardiff Infirmary, and was operated on by Dr. Sheen. Was in-patient for three weeks. On examining the right buttock, a scar was found six inches in length, at the upper extremity of which, close to the fold of the nates, was a sinus discharging thin pus.

The patient had great difficulty and straining at stool, and there was a large quantity of foul-smelling purulent discharge from both the rectum and vagina, there being a recto-vaginal fistula.

October 13, 1890 : The patient having first been placed under ether, and subsequently under chloroform, on account of cough produced by the ether, inguinal colotomy was per-

formed on the left side in the usual way, and a loop of bowel was hooked up and brought out of the wound till the mesentery was taut. The amount of gut measured thirteen inches.

October 16: The gut was opened. October 23: Spiked clamp was applied at 11 a.m., and the redundant gut cut off. Evening temperature 99·6. Inj. morph. hypod. gr. $\frac{1}{3}$, 5 p.m. October 24: Clamp removed, no bleeding, 11 a.m. November 15: Patient got up. No prolapse from either opening. Bowels acted through the upper of the two openings; lower much diminished in size. November 21: Discharged. November, 1891: Gained flesh; very well. No prolapse. We have seen the patient lately (1895), and she is in good health. No prolapse from the inguinal orifice.

Esther S——, æt. 32, was admitted into the Great Northern Hospital on October 6, 1891.

In November, 1888, she had been an in-patient in the hospital, when she was treated for stricture of the rectum by division and the regular use of bougies.

In October, 1890, an abscess formed in the sacral region and burst; since then there had been numerous abscesses in connection with the rectum. From April, 1891, she had been confined to her bed. Bougies gave too much pain to be used, and the bowels were moved only by means of medicine. Liquid fæces were discharged by sinuses around the anus. The patient could not sit, or lie upon her back. and had been gradually growing thinner. Further, she had cough, night-sweats, and hæmoptysis. She had had a bad miscarriage; but she had borne a healthy child since then. She had no other children or mishaps; and no specific history was obtainable. She was a delicate, anæmic woman, with a flushed face, and could not move about without assistance. Her chief trouble was pain in the sacral region and the back, and she had also incontinence of fæces. On admission, temperature was 100·2. The abdomen was flaccid, and not distended. There was no tenderness, and no lump to be felt; nor was there any

visceral enlargement. The rectum was extremely narrowed by a very tight stricture, together with ulceration of the mucous membrane. The constriction began at the anal margin, and did not admit the passage of the finger; hence its extent could not be ascertained. In the ischio-rectal fossa were numerous fistulous openings, through which fæces escaped.

On October 7 ether was given, and left inguinal colotomy was performed with the usual incision. The sigmoid was drawn up into the wound, and about seven inches of bowel were left outside the abdomen. The mesentery was first secured by a silk suture, and then four or five more sutures were used to attach the bowel to the skin.

October 10: The bowel was snipped open by scissors and a vertical incision, one and a half inches long, was made. There was no hæmorrhage. Flatus escaped freely when the gut was opened.

On the 12th the bowels were well opened after a purgative. Action was from the upper opening.

On the afternoon of the 14th ether was given, and the supplementary operation was performed, the redundant gut being cut off, and the clamp being used. The clamp was easily applied, and the gut was snipped off on a level with the skin.

At 11 a.m. on the 15th, nineteen hours after application, the clamp was gently released at one end; there was some bleeding from the cut edges. The clamp was screwed up again. During the night there had been considerable pain in the wound of a sickening character, requiring injections of morphine.

At 6 p.m. on the 15th, twenty-six hours after application, the clamp was gently released, and there was now no hæmorrhage. The raw surface was covered with a blood-clot. There was no tendency of the bowel to drop back.

On the 21st the wound looked well. There was the double-barrelled appearance, with a good spur between the openings. The bowels acted on the average twice a day

from the upper end; the lower opening was smaller and was gradually shrinking.

November 30: Patient had greatly gained in health; quite fat. Perfect double opening. No prolapse.

The patient has been lately seen quite well. No prolapse.

CHAPTER XXVIII.

POINTS IN THE OPERATION.

Spur.

THE *Spur*.—The question of the spur has already been briefly mentioned, but the matter is so exceedingly important that we must return to it, and distinguish clearly between a fæcal fistula and an artificial anus.

Fæcal fistula instead of artificial anus.

A fæcal fistula is an opening into a piece of gut

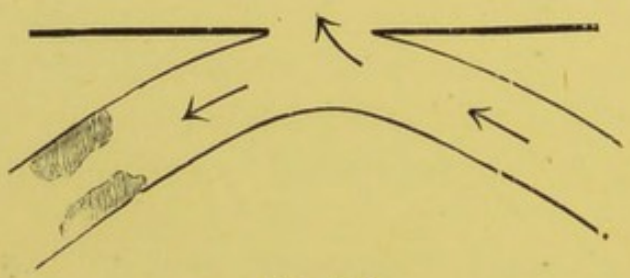


FIG. 63.

communicating with the surface of the body, from which fæces issue; but, at the same time, some of the fæces pass beyond the fistula into the distal portion of the gut (Fig. 63).

An artificial anus is an opening in which all the fæces pass through the opening on the surface of the body, and none whatever pass into the distal portion of the gut.

Now, if inguinal colotomy is performed, and no

definite spur is made, we have a condition of fæcal fistula, for fæces pass both by the inguinal opening and also into the distal portion of the gut. When, however, a spur is made (Fig. 64), fæces pass through the opening in the groin, and none can enter into the distal end of the intestine. Thus, any fæcal irritation of the growth is entirely prevented.

We have tried to put the matter in a clear light, because some surgeons deny the necessity of making

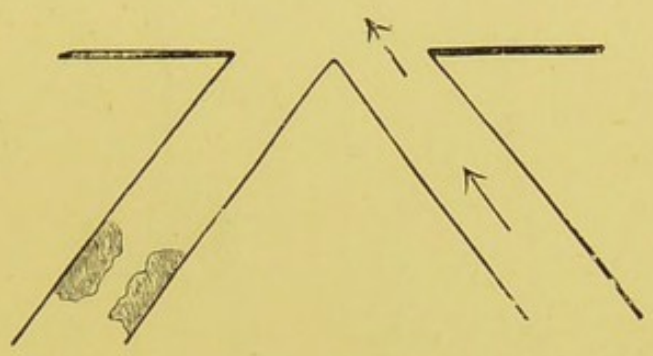


Fig. 64.

a definite spur, and therefore, in our opinion, their operations fail in an exceedingly important point.

Prolapse from inguinal opening.

Prolapse or Procidentia from the Inguinal Opening.—This may occur either from the upper end of the gut, *i.e.*, of the part continuous with the descending colon, or from the lower end, *i.e.*, of the part leading to and continuous with the rectum. Sometimes, indeed, there may be prolapse from both ends at the same time.

It has been previously observed that it is of far more importance to prevent this condition when patients are likely to have a fairly long lease of life, and it is on that account that we devised the supplementary operation already described.

Now, it is known that prolapse occurs only when there is a long mesentery which enables the gut to intussuscept through the part of the gut which has been fixed, *i.e.*, sewn up in the belly wall.

We arrived at this conclusion from noticing that when there was a short mesentery there was no prolapse.

Again, whenever the supplementary operation had

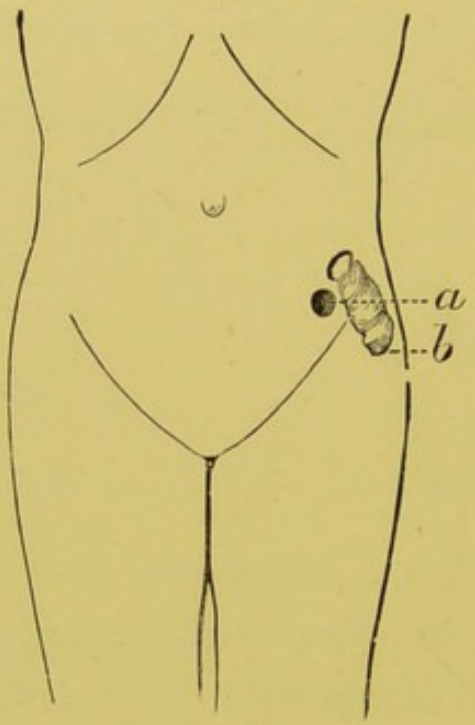


Fig. 65.

been performed, *i.e.*, whenever the slack portion of the gut had been drawn out and removed, there was once more no prolapse.

Mr. Cripps' mode of preventing prolapse.

To obviate this prolapsed condition, Mr. Cripps has advised that the gut should be pulled down until it is taut upon the upper end, and that all the slack portion should be returned into the belly, and that then the gut should be stitched up to the skin-wound. No doubt this is a good method, for there can then be no prolapse from the upper part of the

gut. Nevertheless, this plan does not prevent prolapse from the lower part of the intestine when the mesentery is long. However, the suggestion is of much value, and should always be carried out in malignant cases when the supplementary operation is not advisable.

Lastly, we have seen prolapse occur from both ends at the same time, not only in our own cases, but in those of others.

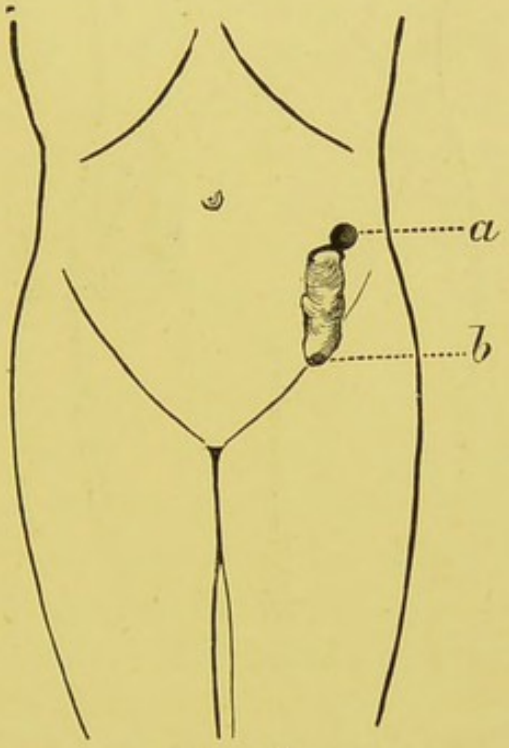


Fig. 66.

Prolapse took place in just sixteen out of our first sixty cases.

In five out of the sixteen, from upper end alone. (Fig. 65).

In six out of the sixteen, from lower end alone. (Fig. 66).

In five out of the sixteen, from the upper and lower ends together (Fig. 67).

In all of these cases the mesentery was either long or medium in length, though the prolapse did not occur in every instance of a medium-sized mesentery.

Further, prolapse did not take place in any case where the supplementary operation had been performed, in spite of the great length of the mesentery in a large number of these instances.

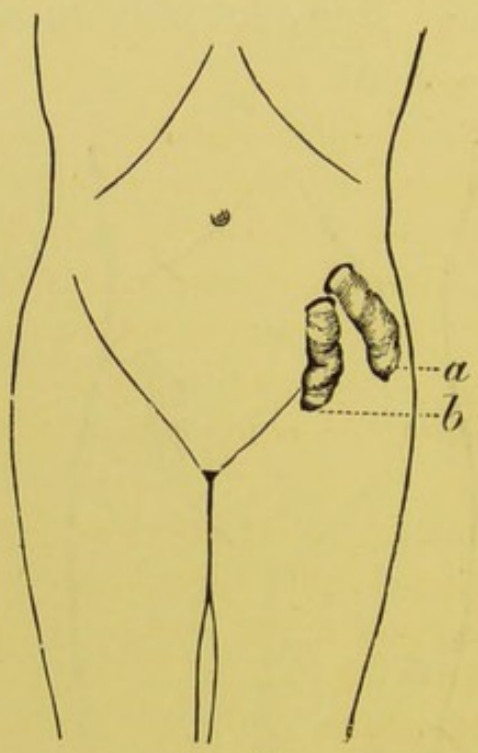


FIG. 67.

Case illustrating Prolapse from the UPPER *End only.*

Emma R——, æt. 62, was admitted into the Great Northern Hospital in the early part of August, 1890. She had been attending for some time at St. Mark's Hospital, for cancer of the rectum. She had occasional attacks of pain; the bowels were fairly regular, and evacuation gave rise to no pain.

On August 13 inguinal colotomy was performed. On the 19th the gut was opened. On September 1 the remainder of the gut was removed. The patient continued to do very well indeed, and on the 3rd was allowed to get up on the

couch. On the 15th she had greatly improved, and was allowed to get up again. On October 8 she was discharged.

In November she was seen again, and there was a prolapse of about four inches from the upper end and none from the lower.

Case illustrating Prolapse from the LOWER *End only.*

Mrs. T——, æt. 51, a year before had had a bad attack of diarrhœa, accompanied by loss of blood. This had lasted, off and on, for two or three months, and had caused a good deal of pain in the lower abdomen and the rectum, and had occasioned straining while at stool.

For several months the bowels acted six or seven times a day, but there were no satisfactory motions. During the same period a considerable amount of flesh had been lost.

On examination per rectum, about two inches from the anus could be felt a hard ulcerated mass, which almost occluded the lumen of the bowel and would not admit the finger.

On June 26 inguinal colotomy was performed in the customary way, a good spur being made. On the 28th a small opening was made in the bowel. On July 3 the wall of the protruding gut was removed; there was very slight hæmorrhage. Later, pain in the abdomen was complained of. After this the above symptoms were relieved by a good action of the bowels through the upper opening. On the 21st there was some procidentia of the lower end, the bowels acting freely from the upper opening.

In August, 1889, we saw her again. She was occasionally troubled by prolapse from the lower opening, which came out at times to the extent of six inches. There was no prolapse from the upper opening.

Case illustrating Prolapse from the UPPER *and* LOWER *Ends together.*

B. J——, æt. 66, always had good health until ten years before our seeing her, when she had inflammation

of the bowels, and was ill for about three months. Two years before seeing us her rectal trouble commenced with what she called an attack of piles and stoppage of the bowel. She attended as an out-patient at a hospital for some time, and then was advised to have colotomy performed, but declined to have it done. When we saw her, her bowels had not acted for a week, and for some time previously the motion had passed only by the vagina. On examination a mass of cancer was found filling up the rectum, and protruding outside the anus; the vaginal wall was involved, and a large opening existed in the recto-vaginal septum; the buttocks were hard and infiltrated with cancer, the abdomen distended and filled with hardened fæces. Inguinal colotomy was performed on May 31.

June 2: The intestine was opened, and the prominent walls of the gut removed; three vessels required clipping. The double-barrelled appearance was complete.

June 12: No fæces passed beyond the spur, which was perfect. She suffered considerable pain from the extensive cancer in the rectum and buttocks.

June 20: The bowels acted sufficiently by the artificial anus. She had little or no pain in the rectum. When she began to get about there was well-marked prolapse, about three inches in length, from both the upper and lower orifices.

Action of bowels from double-barrelled opening.

Action of the Bowels.—The action of the bowels may take place either from the upper or from the lower end of the double-barrelled opening resulting from our operation.

Our former practice was to pass the mesenteric sutures through the skin nearer the lower angle of the wound than we do now; for the purpose of the lower opening seemed to be to clear out the rectum, or allow any retained fæcal matter of discharge to come up, whereas the upper orifice had

to be kept patent and large for the new anus. We now pass the mesenteric suture through the middle of the wound, for in some cases the gut, when fixed up to the surface, was twisted so that the bowels acted through the lower opening, the upper one being continuous with the rectum. There is much danger in this twisting, if the gut is divided and the lower end is fixed up in the belief that it is the upper end. If this twisting be not discovered, those operators who divide the gut by Madeling's method may sew up the upper end and drop it back, the lower end being stitched to the abdominal wall in the belief that it is the upper end. Needless to say, such a mistake would result in the patient's death. Such a case has actually come within our notice.

Twisting of the gut.

R. G——, æt. 26, consulted us in March, 1889. For some time he had had rectal trouble, constantly going to stool and passing blood and mucus. He had lost more than a stone in weight in a month, was greatly emaciated, and had a very malignant aspect.

Case of twisting of gut.

On examination there could be felt high up in the rectum a hard, ragged mass, which was tender to the touch, and bled readily on manipulation. The odour of the fæces was evidently that of malignant disease.

Inguinal colotomy was performed. The mesentery was medium. The intestine was drawn out and fixed to the wound.

The next day, as there was some distension, the bowel was snipped, and wind was allowed to escape.

On the fourth day the bowel was freely opened under ether, and the overhanging gut was cut away on a level with the skin. There was little bleeding, and no clamp was necessary.

In a few weeks the patient was gaining flesh and entirely relieved of pain. The bowels acted from the lower opening, thus showing that the gut had been twisted when it was fixed up.

Right inguinal colotomy.

Right inguinal colotomy may be performed in the same way and by the same incision as on the left side; but at times it is wiser to make the incision lower down and nearer to Poupart's ligament. The cæcum, or the lowest part of the ascending colon, is the region to be opened. All difficulties may be met by attention to the details previously explained. The question of a spur can never arise.

Utility of Paul's tube.

It is in this operation where the cæcum is very distended that Paul's tube is of great value. The peritonæal cavity being opened, the cæcum is drawn into the wound and incised, a small tube being instantly inserted and the cæcum tied around it. On to the free end of the glass tube a draining-tube is attached which carries the fæces into some vessel far away from the wound. A few extra stitches are then inserted to fix the cæcum to the edge of the wound. In a few days, when the cæcum is well glued up to the surface, the Paul's tube can be removed.

Case.

Mrs. H——, æt. 67, gave the following history, viz., that for some years she had suffered from constipation of a very obstinate nature, at times requiring strong purgatives to obtain relief. About six weeks before our seeing her she had commenced to have an attack of obstruction, which was not relieved by enemata or small doses of castor-oil.

Dr. Aiken, whose patient she was, carefully examined the rectum and abdomen, but was unable to find any tumour or any indication as to where the obstruction was.

This state of obstruction continued for about a month, the abdomen becoming more distended, and then pain of a colicky nature began to set in, and two days before we saw her she began to vomit.

By her history, it was evidently not a case of malignant disease very low down in the colon, as there had never been the characteristic diarrhœa, nor had blood or slime ever passed. By an examination, we were totally unable to discover any tumour, or any difference in percussion to lead us to the position of the obstruction. From the history, however, viz., about six weeks without any acute symptoms, we were convinced the obstruction must be in the large intestine, and probably rather low down, viz., about the sigmoid flexure. Accordingly, it was determined to do a left lumbar colotomy in the hope of being above the disease.

The patient being chloroformed, an incision three inches long was made into the left loin. As the patient was very fat, quite two inches were cut through, until the muscles were reached. Not finding the gut at once, we concluded it had a mesentery. Accordingly, the parietal peritonæum was opened just sufficient to admit the finger; then we found the descending colon, knowing it from the longitudinal bands and appendices epiploïcæ, both of which could be distinctly seen. What was also important and interesting, it had a mesentery of medium length, so that we could not have opened it on its non-peritonæal surface had the attempt been made. On drawing it through the opening in the parietal peritonæum, to our surprise it was found collapsed and empty, showing that we were on the distal side of the stricture. Accordingly, the parietal peritonæum was sewn with a deep suture, and the lumbar wound closed.

The patient was then placed on her back, and an incision about two inches long was made over the right inguinal region, on a level with the right anterior superior spine of the ilium, and about an inch and a half below it. On dividing the fat, muscles, and parietal peritonæum, we came

down on the cæcum, and found it very distended. A sponge with a string was then introduced, whilst the parietal peritonæum was sewn to the skin wound. This was very difficult to do, on account of the fatness of the abdominal wall. The sponge was then removed, and the distended cæcum well drawn into the wound, and carefully stitched to the opening in the abdominal wall.

As soon as the gut was opened, a quantity of liquid fæces and wind escaped. The patient bore the operation wonderfully well. The bowels from the inguinal opening had acted very fairly.

In about a week the lumbar incision was completely healed and the sutures removed.

In five weeks' time all was healed, and the patient was up and out daily for a drive, the obstruction being entirely relieved.

At intervals a very small amount of fæces passed by the rectum, but the greater amount passed daily by the right inguinal opening.

CHAPTER XXIX.

THE OPERATION OF LUMBAR COLOTOMY.

Lumbar colotomy.

By attention to certain rules, lumbar colotomy will not be found to be very difficult; but the not uncommon occurrence of accidents forces one to think that all surgeons are not sufficiently alive to the use of considerable precision in the operation. This indispensable element of precision is often lacking in the directions given in surgical books on the subject.

Many surgeons commence the operation under the impression that it may be impossible to discover the colon, and even the best operators have often experienced difficulties or failures in finding the gut. Indeed, the small intestine has been frequently opened by mistake. Knowing this, and having read Mr. C. B. Lockwood's valuable pamphlet on the development of the colon, and the abnormal positions it may assume, and from the experience derived from a case of ours, it was resolved to attempt to discover the causes of these failures, and, what is more important, the methods by which they might be obviated.

Causes of failure in finding the colon.

In a previous chapter we have fully described the anatomy of the regions encountered in lumbar colotomy, but a little repetition may be excused. It will be agreed that, unless the operator sees one of the longitudinal bands, which are invariably and only found in the large intestine, the intestine should not be opened from the loin. We are aware that these bands are situated, one on the anterior surface, another along the inner part, and the third at the posterior aspect of the gut. It is this posterior band that is looked for, and generally supposed to be seen when the bowel is sought for in lumbar colotomy. Some authorities hold that these bands can be readily detected without opening the peritonæum, but this is only rarely the case. An examination and dissection of over a hundred ascending and descending colons showed that the bands are always more easily and distinctly seen when they are covered by the peritonæum, which makes them hard, prominent, and shiny; whereas when the peritonæum is stripped off them these characteristics are lost. However, in eight out of the hundred cases examined, one or two of these bands could be seen, but not very distinctly, on the posterior part of the intestine, although they were not covered by the peritonæum. When the peritonæum covers only about one-half or two-thirds of the circumference of the gut, it is generally reflected off the gut at the posterior margins of the longitudinal bands on to the walls of the belly. Thus, the bands are not visible unless the peritonæum is stripped off; if an

attempt be made to expose them, the peritonæum, owing to its being so firmly adherent to the bands, is frequently torn, and the abdominal cavity opened without the operator being aware of it.

Modes of performing lumbar colotomy.

There are various ways in which lumbar colotomy has been performed; the differences are in the direction of the lumbar incision, and in the way of fixing up the gut when it has been found.

Several years ago a careful investigation of more than fifty dissections led us to the conclusion that the best incision from which the colon could be found was one with its centre quite half an inch (1·27cm.) posterior and midway between the anterior superior and posterior superior spines of the ilium, and midway between the last rib and crest of the ilium.

Incisions.

1. Callisen used a vertical incision. This is made over the point above mentioned, and takes a vertical direction. The disadvantages are the limited length of the incision that is possible, and the difficulty of working down upon the gut.

2. The transverse incision of Amussat.

3. The oblique incision of Bryant.

These last two incisions are the best, for, if room is wanted in difficult cases, they can be enlarged.

When the gut has been found by any one of these incisions, it can be fixed in its place by various modes.

Suturing.

When the gut is distended and has to be opened at once, some surgeons pass sutures through it in the following manner: A suture is passed first through one lip of the wound, then across and

through the distended bowel, and finally through the opposite lip of the wound. Another suture is then introduced about an inch from the first one, and is treated in a similar manner. Next, the gut is opened, and the loop of the sutures thus formed is tied up, thereby securing the gut to the skin edges. A few additional stitches may be put in if they are required.

Best mode of operating.

When lumbar colotomy is to be performed, the patient is turned on his side, with a firm pillow under the loin nearest the table. What usually makes a hard and firm pillow is a large sheet, rolled up and tied together with bandages. An incision is then made half an inch (1·27 cm.) behind the point previously described to be midway between the anterior superior spine and the posterior superior spine of the ilium. Whether it be transverse or oblique, the incision should be two inches (5 cm.) in length—not more, for this limitation obliges the operator to cut down exactly to the position in which the colon generally lies; whereas if the incision is five (12·7 cm.) or six inches (15·2 cm.) long, there is a risk of missing the gut. Its centre should be over the chosen spot, midway between the last rib and the crest of the ilium. Division being made of the skin and the cellular tissue—the latter of which is sometimes very abundant—the muscles are exposed, and may be rapidly divided until the fascia lumborum is reached. This is opened, and the quadratus lumborum is exposed at its anterior edge—in some cases the quadratus may require

division. The edges of the wound are then retracted, and the fat which lies around the kidney and the fascia lumborum is torn with the dissecting forceps. After this, the gut, if it is distended and has no mesentery, will bulge into the wound. In straightforward cases the fact that it is the colon will be shown by its being uncovered by the peritonæum; for if the peritonæum is opened, peritonæum will be seen surrounding the gut, together with the longitudinal bands. There will then be no uncertainty as to its being the colon. This is brought to the surface, and very carefully stitched with interrupted sutures all round to the skin wound. These sutures should pierce only the muscular coat, and should not in any way perforate the gut.

If the case is not very urgent, the gut can be fixed in this manner, and left unopened for a day or more till it is all glued up with lymph. It can then be opened.

We are sure, from the anatomical researches narrated at the beginning of this chapter, that the cases are rare in which there is this absolute certainty of the actual presence of the colon without opening the peritonæum. We therefore at once proceed to explain what should be done if there are difficulties in finding the colon, or in making sure that the part exposed is that piece of intestine.

The difficulties of the operation commence as soon as the transversalis fascia is opened. They arise from various conditions which are caused by the

Various positions of the intestine. Condition 1.

position of the intestine in relation to its peritonæal covering and length of mesentery.

1. What is supposed to be the general position (as shown in Fig. 68) is where the peritonæum covers only half or two-thirds of the circumference of the gut, leaving the posterior part uncovered, with the intestine bound down to the loin. According to Mr. Treves, this was the position in 74 out of

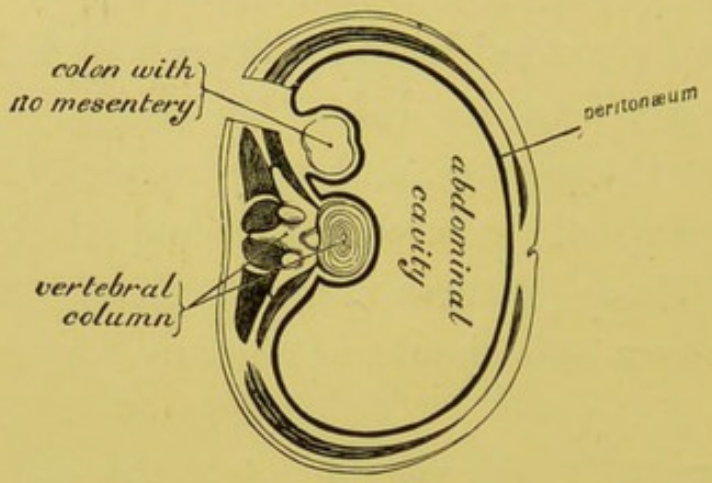


Fig. 68.

100 cases on the *right* side, and 64 out of 100 on the *left* side.

Our own observations, in which we were assisted by Dr. Penrose and the late Mr. Stewart Pollock, at St. George's Hospital, showed 11 out of 60 cases on the *right* side, and 10 out of 60 on the *left* side; thus, by taking the percentage, $18\frac{1}{3}$ out of 100 cases on the *right* side, and $16\frac{2}{3}$ out of 100 on the *left* side.

From this it would appear that this so-called general position is less common than is popularly supposed.

When the intestine is in this state, and if a longitudinal band can be seen, which must be

uncovered by the peritonæum, there should be little or no difficulty in the operation. When, however, no bands can be seen, owing to the peritonæum covering them, the best distinction between large and small intestine is wanting. Therefore, knowing that the small intestine is frequently exposed by opening the peritonæum unwittingly, no risk should be run of opening the small intestine under the false impression that the peritonæum has never been

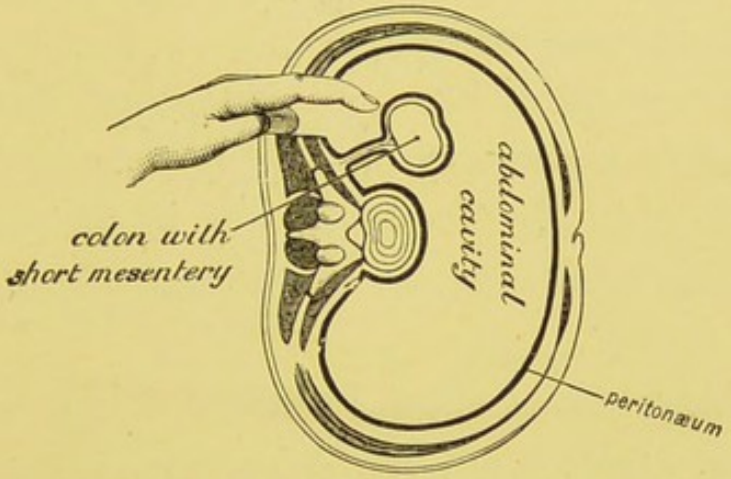


FIG. 69.

opened at all, and that one is dealing with the large intestine. Hence, in this condition, if after exposing a piece of intestine we fail to see a longitudinal band, we *intentionally* make a small incision in the parietal peritonæum, and convince ourselves by searching for and finding a band that we are actually engaged on the large intestine. The posterior part of the intestine is then drawn to the surface of the wound (the gut being pulled out as far as possible), and carefully stitched with interrupted sutures all round to the edge of the skin, the mucous lining not being perforated.

The intestine may be left unopened for some hours, or, if necessary, be opened at once, provided that it is carefully attached at every point to the surrounding edges of the skin-wound, or a Paul's tube inserted.

Condition 2.

2. In condition 2, as represented in Fig. 69, the colon is entirely surrounded by firmly adherent peritonæum, and has a comparatively short mesentery, so that it is absolutely impossible to reach it, or to see the longitudinal bands, without first opening the peritoneal cavity.

In this condition the ascending and descending colons have a mesentery of varying length.

According to Mr. Treves, it was in 26 out of 100 cases on the *right* side, and in 36 out of 100 on the *left* side.

Our observations show 49 out of 60 cases on the *right* side, and 50 out of 60 on the *left* side; the percentage therefore being $81\frac{2}{3}$ out of 100 cases on the *right* side, and $83\frac{1}{3}$ out of 100 on the *left* side.

In cases falling under this second head, the operator should at first seek for the gut above the subperitonæal tissue, under the assumption that it is in its supposedly normal position; but should this search fail, all the loose pieces of fat must be sponged out of the wound. The peritonæum, at the anterior angle of the wound, should be deliberately opened, and the edges clipped, just sufficiently to admit the index finger. This finger should be passed towards the vertebræ, and then swept over the front of the kidney and the quadratus lumborum. The gut,

although it is in the position shown in Fig. 69, can be easily felt and hooked up, and the longitudinal bands be seen. Next, the peritonæum should be opened to the extent of the wound, and a sponge introduced with string attached, to keep the intestine out of the way while the edges of the cut peritonæum are drawn up and sutured to the skin in the manner adopted in inguinal colotomy. This entirely shuts off the cut abdominal muscles from

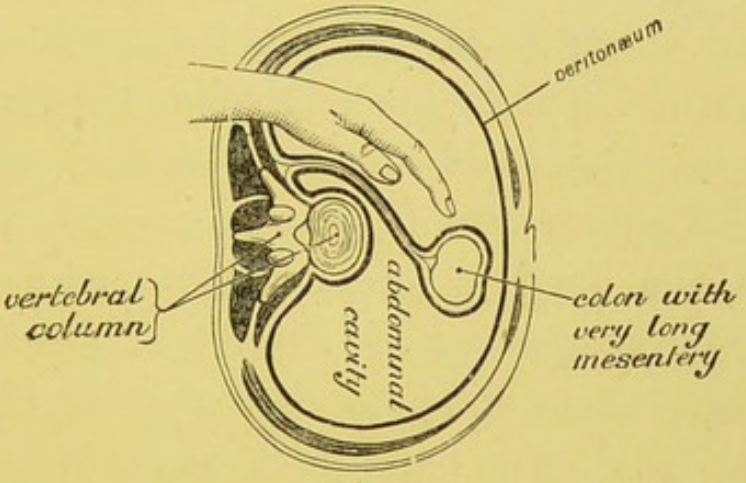


FIG. 70.

the peritonæal cavity. Sometimes this stitching is not easy to do, either because of the depth of the wound, or from the firm adherence of the peritonæum to the abdominal wall. The rest of the operation is completed as in condition 1. If the mesentery be long enough, a stitch may be passed through it, fixing it to the surface of the wound; thus a good spur may be obtained.

3. In condition 3, as shown in Fig. 70, the state of things in condition 2 is much intensified and the mesentery is very long; thus the intestine, although it may rest in the loin, can so alter its position in the

Condition 3.

belly that, when the operation is done on either side, it may lie on the side of the belly opposite to that in which the incision is made. This is the condition in which it has been said and supposed to be impossible to find the colon from the lumbar region.

Mode of finding the colon in condition 3.

If, after proceeding in the manner described under conditions 1 and 2, one has failed to find the colon, the external wound must be enlarged forwards and backwards sufficiently to admit the hand. The peritonæum is then opened to a corresponding extent, and the hand introduced into the abdomen. If it is the left colon that is to be operated on, the hand must be passed upwards towards the spleen and feel for the splenic flexure. Hereupon the hand is drawn down the intestine until the piece opposite is found and brought to the surface. On failing to find the intestine at its splenic band, the hand is passed towards the rectum or across the abdomen (keeping the back of it in contact with the posterior aspect of the anterior abdominal wall) towards the hepatic flexure, and is slipped along the large intestine, and a piece drawn to the surface. Of course care must be taken to ascertain that this piece has the characteristic longitudinal bands. The presence of the appendices epiploïcæ may also show that the large intestine has been discovered, but they may be absent from the particular piece drawn out. By the use of this method there is no difficulty in finding the colon.

When the large intestine has been found, it is commanded with forceps that will not perforate the

gut, and a sponge is introduced to keep out the small intestines, which may prolapse, while the wound is treated as follows:

Suturing in condition 3.

At the anterior and posterior parts, (if the incision is six inches (15.2 cm.) long), two inches (5 cm.) in front, and two inches behind (5 cm.) should be dealt with as in an ordinary case of abdominal section, by passing the sutures through the skin and peritonæum, so as to bring the cut peritonæal edges into contact. But at the middle two inches (5 cm.) of the wound, where the intestine is to be brought to the surface, the peritonæum should be sutured to the skin as described under condition 2, and the operation be completed in the same way. In this third condition a good spur can and should always be made, and when the gut is opened, its prominent edges ought to be cut away in the manner described in the chapter on inguinal colotomy.

Other difficulties.

There are other difficulties which may be encountered in the operation, but they are of trifling importance when compared with those that arise from the movements and relations of the intestine to its coverings.

An empty bowel is of course extremely difficult to find if the peritonæum is not opened, but it is easily discovered by the method explained. Unless that mode of dealing with the gut is utilized, great trouble and unnecessary disturbance of the cellular tissue may result.

Perhaps, after the tissue has been pulled about and bruised, the surgeon who is afraid to open the

peritonæum may do so by accident, and thus find the gut. By our plan he will certainly find it. Unless the peritonæum is opened, either knowingly or unintentionally, the operation may have to be abandoned.

A very fat loin may be a source of trouble, and those surgeons who still wish to avoid opening the peritonæum when it ought to be opened, may find it expedient to enlarge the incision considerably. This necessity of enlarging the external wound will be spared those who follow our plan, for as soon as the peritonæum is opened the gut is easily found, and can be treated in the way thought best.

In these cases, not only the subcutaneous, but the subperitonæal tissue, may be greatly increased in amount; thus, if the peritonæum be not opened, there may have to be a difficult, tedious, prolonged, and unnecessary search in this tissue for the posterior part of the gut, provided, that is to say, that the gut is in its place and uncovered by peritonæum.

We have already discussed the question of the meso-colon and abnormalities of the colon. It is possible that in rare instances the colon may be congenitally absent from the side operated upon; then, if the peritonæum has been opened and a good search been made with the hand in the belly, and it is found impossible to drag down any other part of the colon and fix it to the loin, one should close the lumbar wound and perform a colotomy on the other side of the body.

Prolapse as a result of lumbar colotomy is a very important matter. A small prolapse of the mucous membrane alone is of but trivial consequence, but what we here refer to is a procidentia of the gut through the loin opening. We have frequently seen this condition. It may take place not only from the

Prolapse.

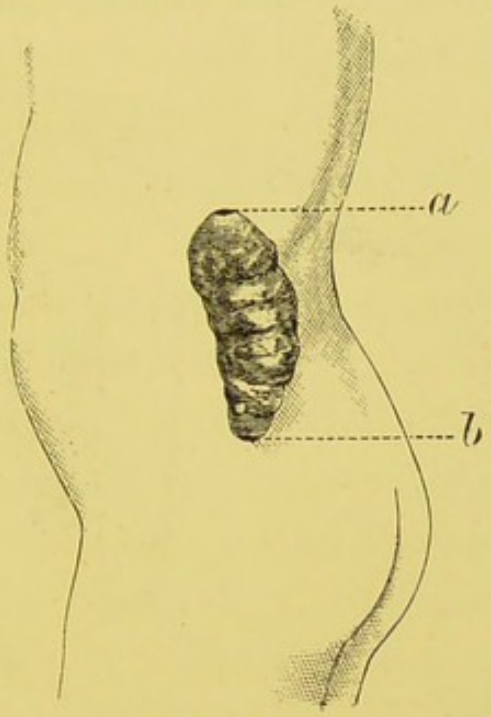


FIG. 71.

upper, but also from the lower portion of the gut, and even from both portions together. The upholders of the lumbar as against the inguinal operation assert that this procidentia rarely occurs; but we have seen several cases of it (Figs. 71 and 72 are instances), and it is quite as common as after inguinal colotomy. Its occurrence, therefore, is as much a drawback to the lumbar mode as it was to the inguinal method, till a supplementary operation was devised.

The Spur. — Another disadvantage of lumbar

Absence of a spur.

colotomy is the absence of a spur; for, as a rule, it is difficult to pull the gut sufficiently well out of the wound to make a good spur, and, further, unless the mesentery is of a medium length or long, it is not easy to make use of the mesenteric stitch. Moreover, some surgeons do not sufficiently appreciate the importance of the mesenteric stitch, and do not trouble

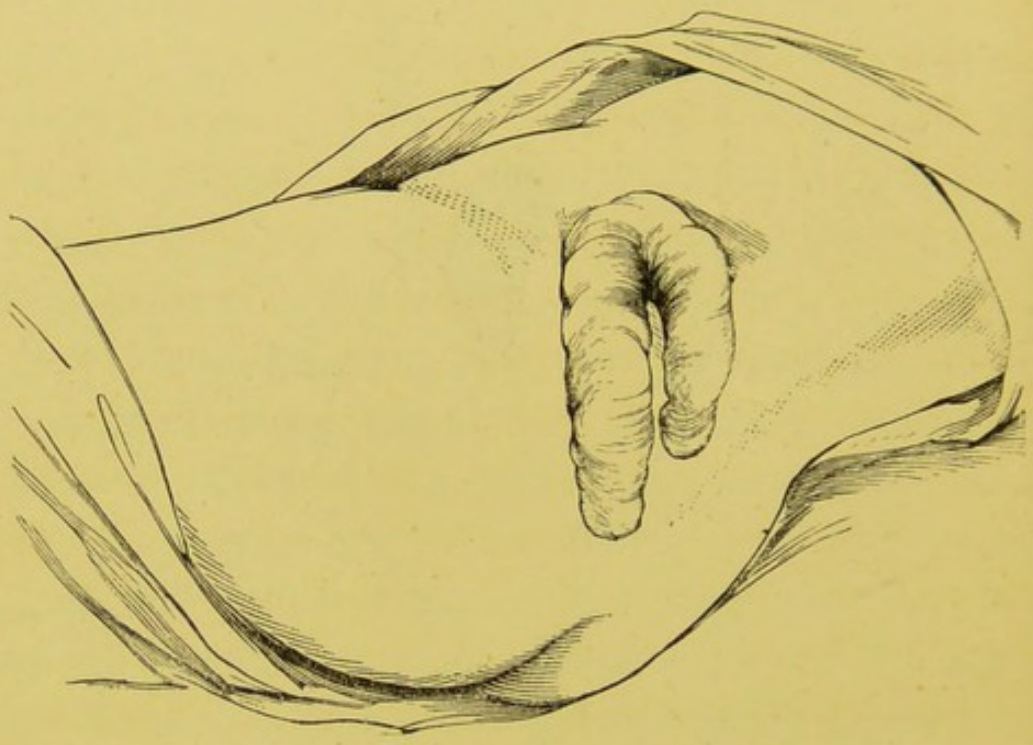


Fig. 72.

to make one even when they can. As pointed out in a previous chapter, unless a spur is made, a fæcal fistula is formed instead of an artificial anus. Consequently, in place of all the fæces passing by the loin, a certain amount passes beyond the opening to the rectum, and distresses the patient greatly. The patient will possibly blame the surgeon for this result, for he may have been assured that after the operation no more motion would pass by the rectum.

He will be miserably disappointed, then, if motion goes down beyond the lumbar opening, and, by irritating the growth, causes pain and bleeding, and perhaps even a continuance of the troublesome diarrhœa. If the operation has been done to relieve the above distresses, rather than any obstruction, such after-results from the neglect to make a spur will render it a complete failure, and the patient may not unreasonably hold the same opinion.

The anatomical arrangement of the colon, as compared with that of the sigmoid flexure, and the manner in which the operation is usually performed, make it certain that the passage of fæces below the opening is a far more frequent cause of distress after lumbar than it is after inguinal colotomy.

The above are more or less remote discomforts. We now turn to certain discomforts, or even calamities, that may occur within a short time of the operation.

Cellulitis as a result.

Cellulitis is not at all an uncommon consequence of lumbar colotomy, and is naturally the most frequent when the gut has to be opened at once. There are several obvious reasons for this: first of all, the depth of the tissue, and the looseness of the structures which have to be divided; secondly, from its fixed nature, and from the depth of the wound, it is often impossible to fix the parietal peritonæum to the skin, and thus shut off the various planes of cellular tissue, as can be done in the inguinal operation. Consequently, as soon as the fæces pass these planes, they become inflamed and suppuration

sets in, frequently extending backwards to the spine, and even at times burrowing amongst the abdominal muscles in front.

We have seen patients recover from the immediate effects of the operation, but die in a week or so solely from this extensive, sloughing cellulitis. There is less chance of this happening if the gut is not pricked or opened for, say, twelve hours or two or three days, for by that time the cellular planes are glued off by lymph, and such a calamity is then of rare occurrence.

Peritonitis as a result.

Peritonitis is another after-result. As far as we are aware, this never takes place unless the peritonæum has been opened, and fæces have been allowed to run into it. It is most usual when the surgeon has unwittingly opened the peritonæum, stitching the gut to the skin in a rather careless manner, and then opening it, some of the fæces thus escaping into the abdominal cavity.

If the peritonæum is intentionally opened, the operator can take great care to close off the peritonæum when the gut comes through it, and, further, can be especially attentive in sewing the gut thoroughly all round to the edges of the skin-wound, so as to leave no space through which fæces can find their way into the belly. If this is done in the manner already described, there is very little risk of peritonitis, even if the gut has to be opened at once.

Exhaustion, erysipelas, eczema, and so forth, may

supervene on lumbar colotomy, as they do on any other operation.

Cases.

The Rev. S——, æt. 70. We first saw him in March, 1890, and found he had well-marked malignant disease of the rectum of a hard variety; not much pain, but he was greatly troubled with constant diarrhœa, and never got rid of any well-marked fæces, only passing fæcal-stained fluid with blood and much mucus. The opening in the cancer was very small, so that the finger could not be passed into it.

With this condition and symptoms, inguinal colotomy was strongly advised. We heard no more of him until July, 1891, when his doctor, Dr. Gooding, told us that he had been frightened by our suggesting inguinal colotomy, and had at once consulted Count Mattei, who had treated him with globules, so-called anti-cancero, and lotions.

About a week before we again saw him the obstruction had become complete, and for the last three days he had been in intense pain, abdomen enormously distended, and he had been frequently vomiting.

When we saw him on July 13 he was almost pulseless, the abdomen distended and tender, hands and feet cold, face abdominal, and an aspect of intense agony; tongue dry and dirty, and constant vomiting. Left lumbar colotomy was performed. He was very thin, so that through a two-inch incision the muscles were rapidly divided, and the subperitonæal tissue reached. Not easily finding the gut, the parietal peritonæum was opened just sufficiently to pass the finger in, and the large intestine was found enormously distended, with a short mesentery. The gut was pulled through the small opening in the peritonæum, which it completely blocked. In many places we stitched the gut to the skin-wound all around, taking care in so doing not to perforate the gut. When this was done, and every space blocked off, the intestine was opened.

In a fortnight all the sutures had been removed, and the patient was quite well.

About two months after the operation the lumbar opening had slightly contracted. This was enlarged by nicking the angles of the wound. As in most of these lumbar cases, there was no well-marked spur, so that some of the fæces passed by the side, but some also passed into the rectum, and occasionally caused pain and distress. He was annoyed by motion passing to the rectum; of course, all fear of obstruction was at an end on account of the opening in the loin.

Mrs. S—— was admitted into the Great Northern Hospital in the following condition, viz., she was almost dead with obstruction of about six weeks' duration. Abdomen enormously distended, tender, and tympanitic. Aspect that of death; almost pulseless. Vomiting constantly; tongue dry and black. The growth was high up in the rectum, so that the commencement of a malignant stricture could be only just felt.

It was one of the too late cases, and it was quite a question whether an operation should be attempted; but, as in all these cases, we thought it right to give the patient a chance, even if it were ever so small. Left lumbar colotomy was done in the usual way, the gut soon found, and, fortunately, in this case uncovered by peritonæum. During the stitching of it to the skin wound it burst, and a great quantity of fæces escaped. The patient was freely dosed with brandy and put to bed, and appeared to revive a little; certainly the vomiting ceased, and the bowels acted most freely by the lumbar opening. However, on the next day she died. At the post-mortem it was found that the lumbar wound was secure, that is to say, the peritonæum was unopened; but about four inches above the lumbar wound the gut had given way on its peritonæal surface, and fæces had leaked into the peritonæal cavity. No doubt this had taken place from the over-distended and rotten condition of the gut, and very likely was caused by the slight dragging one had to employ to secure the gut to the lumbar wound.

Had this patient been operated upon before the distension

had become so acute, and, consequently, before the gut had become so rotten and friable, there is no reason why she should not have recovered.

Right Lumbar Colotomy.

In the performance of right lumbar colotomy, exactly the same details must be pursued as in the left side. Precisely the same difficulties may be encountered, and the same after-results may happen. A repetition of them is therefore unnecessary. Right lumbar colotomy.

We may remark that on the right side there is usually a fair-sized mesentery to the colon, so that it is even more necessary to be careful in operating, and to guard against any after-prolapse. It is not so imperative to make a good spur, for there is a considerable distance between the opening and the rectum. Moreover, the growths (or pressure upon the colon), whether transverse or left lumbar, are not in the same ulcerated, painful condition as they are in cases of rectal cancer. As a rule, they are of a hard, slightly ulcerated, and very contracting variety, which leads rather to obstruction than to pain, bleeding, discharge, and so forth.

J. H——. A few years ago we went to Hastings to operate upon a patient, aged about 50, who gave the following history, viz., that for some years he had had repeated attacks of constipation, often lasting for about a week, and only relieved by strong purgatives. About five weeks before we saw him he had one of these attacks, and had been treated with all kinds of purgatives, belladonna, etc., without effect, only a little wind passing at times, but no motion. The last week he had become very distended, Case.

and had suffered from general abdominal pains. He could not fix on any one point in particular. The last two days he had vomited several times, and was evidently very ill. He stated he had never passed any blood, nor had any slime ever come away with the motion. A rectal examination revealed nothing. The abdomen was generally distended and tympanitic, and examination revealed no hardness or growth. This being the case, we decided to do right lumbar colotomy. As this was before the days of right inguinal colotomy, it was determined to open the large intestine as high up as possible, so as to be sure of being above the cause of the obstruction, which from the history appeared to be in the large intestine.

The patient being etherized and placed on the left side, an incision in the right loin was made in the same way as is done in the left lumbar operation. The muscle being divided, the cellular tissue was very carefully explored, but no gut was found; this being the case, the incision was prolonged forward in the hope that the gut might be more anterior than is usual. In hunting about at the anterior part of the incision, the peritonæum was unknowingly opened, and a piece of gut presenting was at first thought to be the large intestine, but on examination proved to be the small gut. A very careful search was then made in the abdominal cavity about the right loin, but every piece of gut drawn into the wound proved to be small gut. This was very disheartening, and the question was, what to do; at last it was decided to pass the hand into the abdominal cavity, in order to find the large gut. On passing it straight across the abdominal cavity the large intestine was found; on pulling it from the opposite side of the abdomen, it was found that it was the large gut, which had evidently fallen over to the left side of the abdomen, this being possible from the fact that it had a very long mesentery. The gut and the wound were then very carefully stitched up and the intestine opened, and, fortunately, for the first few hours flatus alone

escaped. The patient did very well; all the sutures were removed in about a week's time, and he lived more than eight months, the bowels acting daily from the right lumbar opening. On his death a post-mortem was made, and a small annular malignant mass, completely blocking the gut, was found about the hepatic flexure.

CHAPTER XXX.

TRANSVERSE COLOTOMY.

In an earlier chapter we discussed the anatomy of the parts involved in this method of colotomy. It is not very frequently performed, and we have met with only five cases—three in our own practice, one in Mr. W. H. Bennett's, and another under the care of Mr. G. R. Turner, both of St. George's Hospital.

Operation. The operation is done in the following manner: An incision is made through the skin, and the left rectus umbilicus is exposed. Then its fibres are separated with the fingers, and an incision is made into the posterior part of its sheath, formed by the divided tendon of the internal oblique muscle. That being done, the subserous areolar tissue is exposed, and the peritonæum picked up and divided. The parietal peritonæum is then stitched to the skin all round the wound, as in inguinal colotomy, and for the same reasons. In some cases the great omentum presents. This must be pushed upwards towards the stomach, and the large intestine is then found, and recognised by its longitudinal bands. The intestine is next pulled forwards, and fixed well

outside the abdomen. If a spur is required, the mesenteric stitch is used, as in inguinal colotomy. The gut is then secured to the skin in several places by passing sutures through the peritonæal and muscular coats; great care must be taken that the gut is not perforated anywhere, for, if it is, gas or fæces may escape at the prick-holes, and peritonitis result.

Details of operation.

The incision, which is always made above the umbilicus, is made large enough for the introduction of the hand into the abdomen, so as to discover where the obstruction is. When this has been ascertained, and a transverse colotomy has been decided upon, the wound must be closed, with the exception of the upper two inches (5 cm.), the lower part being brought together as in an ordinary abdominal section. The upper two inches (5 cm.) are treated as in inguinal colotomy, the parietal peritonæum being stitched to the skin, and through these upper two inches (5 cm.) the transverse colon is brought and fixed into that space. Unless the case is a very urgent one, it is wiser not to open the gut until about two days after it has been fixed up, for by that time all communication of the wound with the peritonæal cavity is completely glued off by lymph. The gut is opened by scissors in a vertical direction. Some days, or a week, later, if the proceeding is deemed necessary, any excessive portions of the walls of the gut may be removed on a level with the skin.

We have not yet become acquainted with any

difficulties in the operation. There might be some little trouble in finding the colon.

Spur. In this operation, as was said with regard to the right lumbar and the right inguinal modes, there is not much necessity to make a very perfect spur, except in cases in which the large intestine communicates with some viscus, such as the bladder. Then, indeed, a spur is most necessary to prevent any fæces passing beyond the transverse colotomy opening into the lower part of the gut, and thus through the fistula, say, into the bladder. Were this to happen, the purpose of the operation would be entirely defeated.

Prolapse. Prolapse might happen, but we have not yet seen it, and it would scarcely be so likely to occur as in other places, for the transverse colon is in a way fixed at its hepatic and splenic flexures, and would thus tend greatly to prevent any prolapse of the gut through the transverse opening.

Case. Keziah J——, æt. 40, was admitted under our care into the Great Northern Hospital, July 8, 1891. For the last year she had had great trouble in getting the bowels to act, often being constipated for ten days together, and at times suffering great colicky pains; had never passed any blood or slime. The present attack commenced about four days before admission, when she was taken ill with pains in the right side of the abdomen and sickness. The pain was very severe, was griping in character, and became general, starting from one side of the abdomen, and traversing it to the other side. Sickness was frequent. Bowels could not be moved, nor was there any wind passed, and the abdomen began to swell gradually. Abdomen was distended, but appeared to bulge more on the right than on

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the left side. Palpation was not attended with much pain, but was difficult, owing to the tenseness. There was no lump to be made out. Nothing was to be felt by the rectum, which was not ballooned.

The next day a median abdominal exploration was made above the umbilicus, as there was no certainty as to where the obstruction was, except that it was somewhere in the larger intestine, or at the ileo-cæcal valve. An incision about three inches long was made, and afterwards enlarged downwards for about five inches. The hand was introduced into the abdomen, and passed towards the rectum, and traced up along the sigmoid gut, which was collapsed, and so the descending colon was reached, when there could be felt a hard annular ring, all the gut below it being collapsed, the intestine above it being distended. This mass firmly fixed the gut to the loin, so that there was no chance of bringing the nodule to the surface to see it; but feeling was enough. There was the stricture, and evidently malignant in nature. Transverse colotomy was done, as the growth was just over the seat, and rather higher than the gut could be opened from the left loin. Accordingly, the transverse gut was brought up into the wound, and held there while the lower part of the exploratory opening was closed, as in an ordinary abdominal section. In the upper two inches of the wound the parietal peritonæum was sewn to the skin, the transverse gut being fixed there by sutures passing through its muscular and serous coats only in several places. The patient stood the operation very well. The next day the gut was opened with scissors, a very small hole being made, and a quantity of wind at once escaped, and some fluid fæces.

September 1: Patient very weak, greatly emaciated, tongue clean. Took very little nourishment. Liquid fæces constantly escaped. No lumps to be made out in the abdomen; no evidence of any peritonitis.

September 9: Patient weaker, and sickness set in, so that she was unable to retain any nourishment. No

tenderness or distension of abdomen. Bowels from opening acting freely. Temperature normal; that evening she died.

At the post-mortem was found a scirrhus-like mass in the descending colon, completely blocking the gut, and, to our surprise, in the left iliac fossa was a sponge, covered by lymph.

There was no evidence of any peritonitis about the abdomen.

The great interest in this case is the fact that with a transverse colotomy she lived from July 9 to September 9 —two months—and at the same time lived for that period with a sponge in her abdomen; further, that sponge in no way caused her death, and the only symptom she complained of was a little pain in the left iliac fossa for the first two days after the operation. It is needless to say after every abdominal operation we always have the sponges counted, and generally even count them ourselves. On this occasion we did not, but distinctly remember asking if they were right, and on this occasion must have mistaken the reply given by the nurse.

CHAPTER XXXI.

AFTER-TREATMENT OF CASES OF COLOTOMY.

With all the forms of colotomy—namely, left inguinal, left lumbar, transverse, right lumbar, and right inguinal—the treatment is alike, and, allowance being made for the different circumstances, what is said of one applies to all.

Position in bed.

As soon as the operation is completed the patient is put back to bed, lying on the back, with the head low and a pillow placed under the knees. This position is the best in all the modes of colotomy, even when the gut has had to be opened at once. Our patients are allowed no opium at all, unless it becomes absolutely necessary; the conditions for this necessity are very great pain, any restlessness, or severe purging. As a matter of fact, opium is rarely required.

Opiates.

Diet.

For the first twenty-four hours little food is given, a small quantity of Brand's essence or of soda-and-milk being the best. The patient may sometimes obtain great relief by being allowed to wash out the mouth with a little weak tea.

Ice is never given, for it only fills the stomach with cold water, and tends also to increase the

thirst. If, as rarely happens, the patient becomes faint, brandy-and-water may be given.

When patients are visited the last thing in the evening, there are many points to be noticed, attention to which may greatly relieve them and ensure them a good night's rest.

Details to be observed on first visit.

Pain in the back is frequently complained of; this may be assuaged by patients being allowed to turn on to the side. If the colotomy has been left inguinal or left lumbar, they may be turned on to the right side; if right inguinal or right lumbar, on to the left side. There are several reasons for not allowing them to be placed on the side on which the colotomy has been performed. The intestines or omentum may fall against the opening, and may, if the stitching has not been very close, find their way out between the wound and the stitched-up gut. We have known this to happen. Again, a wound which has only recently been glued by lymph may be broken open by this pressure of the intestines upon it.

If there is any stuffiness in the chest, as is common with old people, patients should be propped up in bed at once, so as to relieve their lungs. In this way we have several times probably prevented attacks of bronchitis from coming on.

If there is much distension from wind, and consequent distress, or even tympanitis, the bandages are loosened; if this does not give relief, the dressing may be removed, and a small puncture with a lancet made in the gut so as to allow of the exit of flatus.

After these operations urine can usually be passed, and a catheter is rarely needed. Still, the point is an important one, and should always be inquired into.

If the pain be severe and of griping character, or if the patient be restless, we order opium, usually in the form of liq. opii sedativus, twenty minims every four hours. This is preferable to morphia, for it acts directly on the intestines, and is more effectual in diminishing peristalsis.

The above are the points to be attended to on the night of the operation.

The next day, if the patient is comfortable, he he is left alone, the dressings not being disturbed. A little more soda-and-milk is now given, and he can be permitted to take beef-tea; but a spare and liquid diet is still maintained.

The second day after the operation the dressings are removed and the gut is opened. The gut will then be found to be covered with lymph, which, if green protective has not been used, will have grown into the gauze dressings, and will render them hard to remove.

Opening of gut.

As soon as the dressings are off, the gut is secured with a pair of toothed forceps, and is snipped into with scissors. When a hole is made, the scissors are introduced into the gut, which is freely opened for, say, one and a half inches; any small vessels that bleed are clipped and left on, or may be secured by ligatures. As a rule, they are small and soon cease bleeding. There is generally a good deal of oozing, not from

any definite vessels, but from many small points of the cut bowel. We have noticed that the more the clots are wiped away, the more the surfaces ooze; we therefore let the blood clot, and never attempt to wipe or wash it away. A little dry absorbent wool is then applied to the wound, and the whole is covered by some dry gauze. When this has been done, patients can be fed more freely, a commencement being made with a fish diet.

It is easy enough to open the gut as above described when it has been drawn out to make a good spur, or when the supplementary operation has been performed. But when there has been no attempt at a spur, or there has been no possibility of obtaining one, it may be somewhat difficult to find the bowel, which is smothered in lymph, and does not protrude beyond the level of the skin. We have never experienced any trouble in this respect. This kind of case is best opened by inserting a sharp knife downwards in the centre of the wound into the gut; and as soon as wind escapes, one knows that the bowel is opened. The enlarging of the puncture is best made with scissors. Those who have found any difficulty in opening the gut should put in one guide-stitch at the operation, leaving the ends free; this will afterwards enable them to tell where the gut is to be incised.

Regulation of action of bowels.

The day after the gut has been opened, one should begin to make the bowels act, usually giving half an ounce of castor-oil or a good dose of compound liquorice-powder. If, as is sometimes the case, this

fails to open the bowels, the colotomy orifice is examined with the finger, to discover whether there is any impaction or hard piece of fæces that blocks the way. If there is, it is broken up with the finger, and through the opening a good injection of about four ounces of olive-oil is administered, and repeated, if necessary, in about six hours' time. When the bowels begin to act, the wound is dressed with wool soaked in carbolic lotion, or in any other antiseptic that is preferred—Sanitas, perchloride, etc.

When the bowels have once begun to act, they should be kept carefully opened daily by means of the laxative that suits the patient best. If one day is missed, the colotomy orifice should be examined with the finger, to see if there is any impaction ; if any is found, it must be treated as described. This examination should always be made, for in these cases there are frequently hard fæcal masses which have accumulated for weeks, or perhaps months. They are moved on by the purgative, but they do not dissolve readily. Hence they may require to be broken up before they can be passed by the colotomy opening.

Removal of edges of gut.

About the end of the first week, when the bowels have been well emptied, the overhanging pieces of gut may be removed ; *i.e.*, when a knuckle of gut has been pulled out to make a good spur, any excess of gut may be cut away. These overhanging edges are removed with scissors about one-eighth of an inch from the skin-edge. Whatever vessels bleed are picked up ; sometimes as many as six require

securing, sometimes none at all. The clips may be left on for a few hours, or the vessels may be tied, just as the operator pleases. No anæsthetic is required.

Treatment after supplementary operation.

When the supplementary operation has been performed—that is to say, when from six to twelve inches of gut have been pulled out of the abdomen and fixed outside the belly-wall—here, again, as after the simple inguinal operation, on the second day the bowel is just opened and the patient is purged. In a week or so, the time varying according to the condition of the patient, the gut has to be removed. An anæsthetic is then necessary, for interference with the mesentery causes pain. When the patient is thoroughly under the influence of the anæsthetic, we take the spiked clamp and undo it; that is to say, unscrew one bar from the other, and then place one bar on one side of the gut close to the skin, and the other on the other side. Now the screws are inserted, and the two bars are screwed firmly together. Then, with scissors, the gut is cut away above the clamp, keeping about one-eighth of an inch from it. As the intestine is divided, the clamp is screwed up tighter and tighter, so as to prevent the stump slipping through it. This tightening is continued until the mass of gut has been removed. Dry wool is then applied on the clamp and stump.

If the patient has pain when he recovers from the ether, morphia or opium is given. In twenty-four hours' time the clamp is very gradually slackened,

and if any bleeding points are observed, they are clipped and ligatured, and the clamp is screwed up again and left for another six hours. After that time there is never any bleeding. One should then very carefully slacken and remove the clamp, being cautious not to disturb the stump, which should be dusted with iodoform. It is wise not to give a purgative till the next day, when the bowels commence acting as usual. If these most important details are attended to, no ill results will occur.

Soon after the walls of the gut have been removed, or the supplementary operation been completed, the patient may be allowed to get up and lie upon a sofa, having the colotomy opening dressed with some simple ointment, and supported by a pad of wool.

Double-barrelled appearance of inguinal opening.

If the inguinal opening is looked at after the operation has been completed, there will be seen to be two openings resembling the orifices of a double-barrelled gun, with a complete spur dividing them. Occasionally there is a little tendency to contraction, but this is rare in our cases, because the gut has been well fixed up and united to the skin-edge; in fact, it does not retract, as in Mr. Cripps's mode of operating. Any tendency to contraction can be easily kept in check by the daily passage of the finger into the upper opening; it should never be passed into the lower opening, for that may be allowed to contract as much as possible, since it is no longer needed as a vent for fæces.

Rectal irritation after the operation may be due

Removal of sources of rectal irritation.

to some of the old fæces being lodged in the lower bowel. These may be got rid of and relief obtained by gently syringing with Condy and water into the lower orifice towards the rectum, and then from the rectum through the lower orifice. Thus any retained fæcal matter will be washed away, and all sources of irritation be removed. In a very short time the lower portion of the gut, from having no fæces passing through it, will contract, and become merely a narrow passive tube.

In about a fortnight the patient may take a drive, and at the end of three weeks may go about as usual, wearing either a special truss we have had made for these cases, or an ordinary abdominal bandage. The patient's own comfort must decide which is to be used.

Management of action of bowels from colotomy opening.

The question now arises, How are the bowels to be managed afterwards, when they want to act? The patient can generally tell when, and with a little practice the morning can be made the regular time. A kidney-shaped bowl is placed under the opening, and into this the fæces pass. When the bowels have emptied themselves, the part is gently sponged, and, as a rule, the matter is over for the rest of the day.

Diarrhœa may give trouble, but this may be prevented by a little care in diet, and by an avoidance of anything of a purging nature. Other remedies are the use of quinine and iron, and the taking of two or three lozenges of ipecacuanha and morphia, or even a little opium. After left lumbar or left

inguinal colotomy, the motions are generally quite solid. This state is far more difficult to procure after transverse, right lumbar, or right inguinal colotomy ; for by these operations most of the large intestine is cut off from action, and thus the fæces come almost direct from the small intestine to the colotomy opening, and are usually liquid or only semi-solid. For this reason, as previously remarked, these three higher operations are generally more distressing than those on the left side, which give little inconvenience.

CHAPTER XXXII.

LUPOID AND RODENT ULCERATION OF THE ANUS AND RECTUM.

As some critics took exception to the application of the word 'rodent' to the disease to be described, on consideration, and after further experience, we will divide it into two diseases, viz., rodent and lupoid ulceration. These are two species of ulcer of the anus and rectum not often met with, which are totally distinct from simple ulcers.

Lupoid ulcer.

A *lupoid* ulcer in its early stage is very difficult to distinguish from a syphilitic sore or rodent ulcer; and when it is situated just within the sphincter it may also readily be mistaken for the ordinary painful rectal ulcer. Lupoid ulcer in the rectum differs from the malady of the same name found on the face, in being, as a rule, most terribly painful; it also differs in another essential and important point—it is very much less curable.

It is a happy thing that the disease is an uncommon one; in our own practice we have had only eighteen decided cases.

Diagnosis.

Lupoid ulcer may be distinguished from epithelioma by the following peculiarities: It does not

invade neighbouring organs by infiltration, nor does it contaminate through the lymphatics; as far as is known, it never forms secondary deposits, and it produces no hardness. It is not, we are informed by microscopists, a disease of the follicles of the rectum.

It differs from secondary or tertiary syphilitic ulceration in not inducing stricture of the rectum or any submucous thickening, and this difference arises from its being essentially a destructive ulceration.

The appearance of the ulcer is peculiar, and there need be but little hesitation in deciding what it is when once it is fairly established, but in the earliest stage the most experienced may be at fault.

Symptoms.

The following seem to be the characteristics of the sore: The shape is usually irregular; we have only once seen it quite circular and symmetrical. Its edges may be cleanly cut, but sometimes undermine the mucous membrane; it destroys completely as far as it extends; neither its edge nor its base is at all hard, and the mucous membrane around it is perfectly and abruptly healthy. Its tendency is to spread superficially, and to attack mucous membrane rather than skin, though in some cases it invades the borderland between mucous membrane and skin, and it may spread even to a considerable distance on the latter. It often for a time remains stationary, and repair may take place very rapidly; but just as one thinks cicatrization will be completed, all the granulations will melt away like snow before the sun, and the ulcer will appear in

its former shape and character in the course of a few hours.

The patients attacked by this disease are nearly always of a markedly tubercular diathesis. Phthisis is the cause of death in most cases.

Treatment. The treatment generally adopted for this disease has been the application of escharotics, such as nitric acid, chloride of zinc, arsenite of copper, the actual cautery, etc. If the sore be well burnt out, the patient usually has for a time much freedom from pain. One of our patients was comparatively comfortable for three months after the use of fuming nitric acid. Internal remedies such as tonics, cod-liver-oil, sedatives, etc., are advantageous, but they only lend a feeble help. Specifics are worse than useless. In our later cases we have scraped the sores thoroughly with a Volckman's spoon, with temporary benefit, but the disease generally recurred in a few months. Here is a very typical case:

Cases. Dr. B——, æt. 32, a rather delicate-looking man, consulted us for a painful sore at the anus just at its margin, involving both skin and mucous membrane. He had been advised to have the lower end of the rectum excised, as the disease was supposed to be malignant in nature. Upon careful interrogation it was found that he had some years before had a slight attack of hæmoptysis; at once we knew from his symptoms, and the character of the ulcer, that it was lupoid in nature, and the opinion was confirmed by Mr. Jonathan Hutchinson. The ulceration, which was extensive, was scraped. All went on well, but just as his wounds had healed, he had another attack of hæmoptysis. Therefore he was advised to go abroad. We have since

heard from him to the effect that his rectal trouble has again recurred, with all its distressing symptoms.

Here are some other typical cases :

Mrs. H——, æt. 30, a delicate-looking, nervous, excitable woman, of strumous diathesis. She had three children, the youngest being two years of age. She had never had any miscarriages or any serious illness prior to her present one, but was delicate, and suffered much from sore-throat. Six months before she was supposed to have fissure of the rectum, and an operation was performed upon her by a very skilful surgeon, but she did not get well. She was better for a time, but the pain returned, and she felt much as she did before being operated upon.

On examining her, there was an inflamed-looking ulcer at the entrance to the anus; it was partially external, about one-third being outside and the rest inside. It was three-quarters of an inch long by about half an inch wide; it was quite superficial, and was not at all hard. The sphincter ani was spasmodically contracted; she suffered a good deal of aching pain, worse after action, and the bowels were very confined. There was no polypus. We decided to divide the sphincter freely. Our friends Dr. Crosby and Mr. Shillitoe, who assisted at the operation, were strongly of opinion that the sore was syphilitic. The uterus was found to be quite healthy. This lady's husband had not been a steady man, and therefore it was by no means certain that she had not been infected; so it was agreed that she should take the bichloride of mercury with tonics and cod-liver-oil.

The operation at once relieved the pain, and she went on very satisfactorily. The wound looked healthy and granulated freely; but after about five weeks the sore became stationary, and refused to answer to stimulating lotions; moreover, she began to suffer from her old pain, which she always described as being like 'a red-hot iron applied to the part.' When at the end of three months the ulcer was no better, but rather increasing in size, we freely removed it,

cutting wide of it, and removing the base fully down to the cellular tissue, taking, of course, nearly all of one half of the external sphincter muscle away. Both Dr. Crosby and Mr. Shillitoe agreed that it was impossible by the incision made not to have removed all the diseased parts. After this operation for three months the patient went on well, and the sore healed up to nearly its original size, when it again halted, and the pain returned as badly as ever. Mr. Gowlland now saw her in consultation, and was much inclined to give a favourable prognosis, but, on taking the case in hand himself, he soon found that no remedy he had knowledge of was of any avail. This lady afterwards consulted many eminent surgeons, but without deriving any benefit, and she died in about three years from the commencement of her illness.

John S——, a gunner in the Royal Artillery, æt. 31. The history was that he had been in India for six years. While in India he had diarrhœa, fever, and small-pox, but never dysentery, and always enjoyed good health ; he was a steady man, single, and of very good character in the army. He could not quite assign any date to his rectal affection, but had piles in India, and some operation was performed for their cure; after this he was but little troubled until a few months before he returned to this country. He had been six months in the military hospital without any improvement in his condition. He had never had syphilis.

An examination of the chest detected dulness at the upper part of the right lung; he was rather subject to cough, and there was phthisis in his family, but he had never suffered from hæmoptysis or inflammation of the lungs. On separating the buttocks a perfectly symmetrical, nearly circular sore was seen extending all round the anus; it was as large as a five-shilling piece, very superficial, with a well-defined edge; the sore discharged but little pus, was remarkably clean and red, and was covered by rather largish granulations. The anus was more patulous than is natural,

and the ulceration was found to extend up the bowel for fully an inch; above this the mucous membrane was quite healthy. There was not the slightest induration about the sore. The sphincter muscle was very relaxed and powerless, and the patient stated that when the motions were loose he had but little control over them. There was no evidence of syphilis. He did not suffer severe pain, but there was a constant burning in the part, which was aggravated by any movement and by the action of the bowels. His appetite was fair. He had been gradually losing flesh and strength.

Many eminent surgeons to whom he was shown directly pronounced the sore to be syphilitic, but a further investigation induced them to withdraw that opinion.

The treatment at first was iodide of potassium with bark and cod-liver-oil, the application of stimulant and sedative lotions to the sore. After a time, no benefit resulting, the iodide was omitted and Donovan's solution was administered; this also seemed to be of no avail.

A portion of the ulcer was destroyed with the fuming nitric acid, but no improvement took place.

This man remained in the hospital for about four months, and, despite all that was done for him, he got gradually worse. The pain was mitigated by sedatives, but it became more severe and almost constant; he lost flesh and strength, and the ulcer increased in size, until when he left it was just three inches in diameter, and deeper than at first; it also had much extended up the rectum. He went to the Herbert Hospital at Woolwich, and we heard some months afterwards from the gentleman under whose care he was that he died. No post-mortem examination was made.

We have now no doubt that the above narrated cases, viz., of lupoid ulceration of the anus, were tubercular in nature, as in two of our later cases the tubercle bacillus has been found.

If any good is to be obtained in these distressing

cases, it is by very freely scraping and cutting away the ulcer.

Rodent ulcer.

Rodent ulcer no doubt attacks the rectum and anus, but yet may be extremely difficult sometimes to distinguish from lupoid ulceration. We have seen about ten cases of this condition.

Diagnosis.

It differs from the lupoid in that the patients attacked are older, rarely under fifty years of age. There are no signs of struma or phthisis. The patients look ruddy and well.

The local characteristics of the disease may greatly resemble those of lupoid ulcers, but at the same time the bases of the ulcer are generally harder, and the edges, although not heaped up like cancerous ulcers, may be hard and well defined. At first they may be superficial, but later may extend deeper into the tissues. The surface is very red and mostly dry; there is scarcely ever any amount of discharge.

Treatment.

The only treatment is exceedingly free excision, or even extirpation of the lower part of the rectum. A gentleman came to us with a well-marked rodent ulcer, and we removed two-thirds of the circumference of the rectum dorsally. He had consulted many eminent men, and all kinds of treatment had been tried internally and externally without benefit. The sore had existed twelve months at least when we first saw him. In the above instance we removed all the coats of the rectum, and even fat, and cut at least an inch all round away from the sore. When he was last heard of, four years after the operation, there had been no return of the sore, and the patient's

general health was very good. In other cases where we performed free excision, there has been no return of the growth.

These cases can only be diagnosed from epithelioma by the clinical characteristics and by a careful microscopic examination.

CHAPTER XXXIII.

VILLOUS TUMOUR OF THE RECTUM.

Rarity of the disease.

THIS is a rare but interesting disease. Mr. Quain, in his work, gives the details of the only two cases that had fallen under his observation. We have seen twenty-four examples of this growth: seventeen in our practice; three in St. Mark's Hospital, under the care of our late colleague, Mr. Gowlland; one in the practice of our colleague Mr. Alfred Cooper; and three under Mr. Goodsall's care; added to these we only find reported, two by Mr. Symes, one each by Messrs. Cripps, Gosselin, Van Buren, and Bryant—thirty in all.

Description.

The tumour consists of a lobulated spongy mass, with long villus-like groups studding its surface; it resembles exactly—though the villi are much larger—the growth of the same name found in the bladder. Usually it is attached to the bowel by a stem, broad rather than round, and this appears to be more like an elongation or dragging down of the mucous membrane and submucous tissue than a development. The flattened peduncle may be two or three inches in length, or it may be short; in

some cases it is quite short—indeed, the tumour itself comes outside, but grows directly from the surface of the bowel.

Although some of these tumours are reported to have had a pedicle, the majority have only a broad, thick base, and by their weight pulling the bowel down give rise to the appearance of a pedicle.

In cases where the growth arises from the perinæal surface, as a practical point worth remembering, it is by no means impossible that a pouch of peritonæum may be dragged down into the pedicle, and in such a case, if the ligatures were applied close to the bowel, peritonæum might be tied up with it.

In most cases these tumours grow some way up the bowel from the posterior wall. When they spring from the anterior wall, before ligaturing the base, care should be taken lest a piece of small intestine has slipped between the folded gut.

Symptoms.

The leading symptoms may be stated to be the descent of a tumour, usually on the bowels acting or even when the patient walks, and the very abundant discharge of a glairy mucus resembling the white of an unboiled egg. This latter, in all our cases, was the most prominent symptom; even when the tumour was not protruded from the anus this discharge frequently ran away from the patient without his having control over the escape; it is evidently a very great exaggeration of the normal secretion of the mucous membrane of the rectum by the villi which grow from it and form the tumour.

Blood in some of our cases was lost in quantity, some patients being quite blanched from that cause, but it may be observed that even the loss of the mucus is a severe drain upon the constitution, and shows itself in the aspect of the patient. Exceedingly large arteries may usually be felt entering the broad peduncle of the growth. It does not appear that pain usually attends this disease, discomfort alone arising from the protrusion and constant discharge.

The most important characteristics of these growths are: the large quantity of mucus discharged, their soft, velvety, villous feel, and a want of the solidity and firmness which is felt in large polypi.

All the patients except three, whose cases have been reported, were above fifty years of age, many of them being quite old people.

After what has been said, it is obvious that these villous tumours differ from polypi in the fact that the latter occur chiefly in the young, never attain such a large size, and are nearly always well pedunculated. Moreover, if the polypus is of the soft variety, it has a smooth and even surface; if of the hard kind, its surface is nodular.

Question of malignancy.

When the second edition of this work was published, it was the opinion that these tumours when removed did not return. We are obliged now to modify that opinion. We now hold that they may become malignant, for we have seen cases in which epithelioma replaced the villous growth.

It is also very probable that these growths sometimes shed themselves, and the patient may remain well after this for a considerable time.

Cases.

Dr. D——. Sixty years of age, a small and spare man, with an aspect of countenance suggesting malignant disease. He stated that for quite two years and a half he had suffered from piles, something occasionally protruding from the anus on going to stool. About two years since he began to lose blood, and a considerable quantity of glairy mucus was discharged from the bowel. The tumour, for it was single, grew rapidly, and always came down at the closet, and occasionally on exertion. It bled profusely, often half a pint at one action of the bowel, and he had fainted in the closet from loss of blood. On the tumour being returned inside the sphincters the bleeding ceased. Latterly, he had much difficulty in returning it owing to its large size, as it gradually became as large as a man's fist. It had, he said, a soft spongy feel, and the blood could be squeezed out of it by the hand. Three weeks back he found the tumour began to disintegrate on his handling it, and now it had so decreased that he could readily return it into the bowel. His health had been very materially failing; he was weak, often giddy, with noises in his head and dimness of vision.

On going to the closet he brought outside the anus a very vascular tumour, looking like a sponge, about the size of a large hen's egg, and bleeding profusely, as it was tightly girt about by the sphincter. On examining the bowel, we found the tumour was connected with the mucous membrane by a short, thick, tough peduncle, which was quite smooth. When the growth was with some difficulty returned into the bowel, one could scarcely realize the fact that so large a tumour existed; only the pedicle could be felt as something hard; it was attached about an inch and a half up the rectum on the left side, and rather towards the dorsum. The peduncle was about the size of the forefinger in thickness. The tumour being got well down, a thick double ligature was passed, by means of a rect-

angular needle, through the pedicle, close to its attachment to the rectum, and tied tightly in halves. The peduncle was so short that we did not dare to cut off the tumour, fearing if we did so the ligatures might slip. The growth was lobulated and distinctly villous.

The patient made an excellent recovery, and speedily gained health and strength. In about twelve months after this operation Dr. D—— said the growth had returned. On examination a small tumour was found. This time there was absolutely no peduncle, and it was broad at the base, and felt hard at its attachment to the rectum. This case led us to doubt the innocent character of villous tumour. The patient being placed under ether, we were able to dilate the sphincters, and, partly by knife and partly by ligature, to extirpate the whole very thoroughly. After this the patient recovered. Five years later epithelioma had developed around the rectum, extending from the site of the old growth. He died within a year from that date.

J. B——, æt. 52, had suffered from what he considered to be piles for some years, but lately he had a very large mass come outside. He lost quantities of blood, and there was also a discharge from the bowel 'like gum and water.' He had a tendency to diarrhœa; great difficulty was experienced in returning the growth, which bled all the while it was protruded. On examining the tumour when down it was found to be quite as large as a man's fist, spongy, lobulated, with the villi greatly hypertrophied; the growth was so vascular that one could scarcely touch it without arterial blood spirting out. On passing the finger into the rectum, the tumour was found to grow all round the bowel, and there was absolutely no stem; all attempts, therefore, to deal with it by ligature in the ordinary way could not be successful. As an operation was necessary to save the man's life, we determined to remove the tumour, and thought we could succeed by ligature and clips. With much trouble and great loss of blood we managed to

strangulate the whole mass. When the stump of the growth had been perforated with a needle threaded with a double ligature and tied each way, the bleeding was tremendous at the point where the segments were drawn apart; there was no way to strangulate and arrest hæmorrhage, save by the clips and the figure-of-eight ligature. The actual cautery and perchloride of iron had no power over the bleeding of this huge cauliflower-looking growth. Of course it had to be left protruding from the anus.

This patient was exceedingly exhausted, not being in a condition to support such a sudden loss of a large quantity of blood. For a little while we were in some anxiety about the termination of the case, but he rallied wonderfully, and at the end of a few days he was thought to be safe if no secondary hæmorrhage took place; this fortunately did not occur. The decomposing mass was kept quite sweet by charcoal powder, and he got on well; the parts separated without any bleeding whatever, and left a large granulating sore. Just when he appeared to be going on well he was attacked with diarrhœa very difficult of control—in fact, nothing was of service but a powder consisting of bismuth, soda, charcoal, and opium, which eventually cured him. He was not sufficiently recovered to leave the hospital until two months after the operation. This patient was seen frequently after his discharge, and no return of the tumour had taken place, but high up in the rectum there were some small nodules; whether they would develop into anything serious we could not for some time judge, but we watched him with interest and some anxiety. After the operation his general health became quite restored, and his appearance wonderfully improved.

Epithelioma afterwards developed, and the patient died three years after he had been first seen.

Mr. B——, aged 73, had always had good health.

About three years before, on going to stool, he noticed that he had a discharge of glairy mucus from the rectum, a tumour occasionally came down, and his motions were

sometimes streaked with blood; this he attributed to a small pile. A few months after the commencement of his illness he became pale, and complained of giddiness, feebleness, and a sensation of numbness down the legs; this continued for some time, and he consulted a surgeon, who told him he had very bad piles, and thought, at his age, it was not advisable to operate on them. At this time he was constantly going to stool, and losing great quantities of mucus, which ran from him involuntarily. His bowels never acted without a purgative, and he had a bearing-down pain and a sense of fulness in the rectum.

Six months later he lost blood in some quantities, and had done so at intervals ever since, the mucous discharge being very profuse.

When seen three months afterwards he was pale, weary, and very feeble, complaining of deafness, giddiness, and restlessness at night.

On introducing the finger into the rectum, mucus was freely discharged, and about three to four inches up the bowel a large, soft, movable tumour could be felt occupying the whole bowel, being attached to the posterior and right lateral walls, and evidently dragging the wall of the bowel down by its weight. There was no well-marked pedicle to be felt, the tumour growing directly from the wall of the rectum, and extending over an area of some inches.

The sphincters were forcibly dilated, and then, with the first finger of the left hand and a vulsellum, after some difficulty, we succeeded in bringing the tumour, which was about the size of a fœtal skull, outside the anus. Then it was seen that the tumour had no real pedicle, that part being represented by the wall of the bowel, which was pulled down. The base was four inches in width, and one in thickness. Taking care that there was no gut in the folded bowel, we ligatured the base by passing a needle with a double thread through and through the base, and tying it in segments; the growth was then cut away, and the stump, which was quite soft and healthy, was returned. As

soon as the growth was removed, it shrank at once to one-third its original size. The patient went on favourably, the ligatures soon separating. But unfortunately he got an attack of acute bronchitis, of which he died.

Dr. Delapine very kindly examined a portion of the growth for us, and made an excellent diagram, which thoroughly explained the microscopical aspect of the growth, and showed that the tumour was of an innocent nature. The tumour, which is a very fine specimen, is in the museum of St. George's Hospital.

Shedding themselves.

The following case supports our belief that villous tumours at times shed themselves.

Miss H——, a maiden lady, of fifty or more years of age, was a tall, spare woman, with a rather worn expression of face. Her history was that about twenty years before she had suffered from losses of blood from the rectum, and also from a discharge which she described as being like thin starch. This fluid flowed away at times in abundance. Her health was much broken; she had pains in her back, and inability to take exercise; nothing came down on the bowels acting. Her bowels were very constipated, and she took some strong aperient pills, the result being that when the bowels acted 'a large mass of flesh came away, and the bleeding was so severe that she fainted.' After this she had no more bleeding or watery discharge, and quickly recovered her health. After being well for many years, to her horror the bleeding and discharge recommenced. She consulted medical men, who said her case was one of piles, and various treatment was adopted without any effect. She said that portions of a fleshy, soft character came away sometimes at stool. She had straining, pains, and general debility. She was ordered to take charcoal, bismuth, and soda powders three times in the day, and to use an injection of rhatany. We requested her to send us a specimen of what she passed when straining. Our examination detected nothing but a relaxed voluminous

mucous membrane, which came rather down into the rectum, but neither by finger nor speculum could we detect any disease. In a few days after the consultation the patient sent some of the discharge, and there were found remarkably good specimens of villous growth, some pieces being as large as a hazel-nut. We saw this lady once more, and used all means to see and feel the growth, but could not get at it. Being quite sure of our diagnosis, we hoped that in time the stem of the growth would increase in length, and come down within reach, so that we could remove the disease. A few months after this we heard that the charcoal had caused a stoppage in the bowels, for which large doses of aperients, castor-oil among them, had been used to obtain relief, and that when action was at length obtained, a mass came away not so large as, but much resembling the one she had passed years ago, and that she felt much relieved. She enclosed a portion of the specimen, and that sure enough was a villous growth. Whether there will be any further return remains to be seen.

The case is a very interesting one, and leads us to think that villous growths may break away from the bowel more often than is supposed.

CHAPTER XXXIV.

MISCELLANEOUS.

Removal of Coccyx.

Removal of coccyx.

We have seen many female patients suffering from what has been considered neuralgic pain in the rectum, but really the pain was most distinctly referable to the sacro-coccygeal joint, this joint being attacked with strumous disease or chronic rheumatic arthritis, or the bone itself being affected by ostitis. These are most intractable cases, and on several occasions we have removed the coccyx, so curing the disease, which was wearing out the mind and body of the patients.

Cases.

Mrs. M—— was a married woman, æt. 54, with seven children. She had for years been complaining of pain in the rectum and at the end of the spine, which rendered her quite incapable of performing her household duties. She could not sit down except on a ring-shaped air-cushion, and when from home she always wore under her dress a couple of pads to catch the buttocks, so that the end of the spine should not touch anything.

If the bowels were confined, she had great pain before and at the time of their acting, rather than afterwards. If she stooped and suddenly raised herself, the pain 'was like a

knife going through the very bottom of her back.' She could walk but a short distance, and going upstairs was a very painful exertion to her.

On examining the rectum no fissure or ulcer was discoverable, but when the finger was pressed on the coccyx so as to move it—and it moved exceedingly freely and easily—she complained most bitterly.

As nothing seemed to benefit her, and she had been under many eminent physicians and surgeons without getting better, we removed the coccygeal bone at the joint. Making a straight vertical incision along the bone, and taking care not to wound the rectum, we dissected it out, and disarticulated it without any difficulty. There did not appear to be any appreciable pathological change in the bone. The wound healed rapidly, and the patient was cured. She was able nine months after the operation to sit down in comfort, and to walk about without any pain.

Miss N—— was an unmarried woman, æt. 32, who had been for years suffering from pains in the rectum and end of the spine. Her symptoms were almost precisely like those above described, and there was no lesion in the bowel, but she had an intussusception, not to any great extent, of the rectum. This made us less sanguine of success, but as the pain was undoubtedly sacro-coccygeal, and there was some grating about the joint, we removed the bone and the wound healed well. The joint was found to be in a state of chronic rheumatic arthritis.

Mr. K—— had sustained a most painful injury by falling on the side of a rowing-boat from which he was getting out. He had suffered much afterwards, and a fistula formed in the bowel. This had been opened, but he was no better—when he began to get about, the pain returning in all its previous acuteness. On carefully examining him, it was found that a sinus ran close to the coccyx, and bare bone could be detected with the probe, so no doubt a periosteal abscess had formed. As we believed the bone to be diseased, it was removed. When the bone was excised, there was not

any necrosis evident, but it was unusually dense, inflammation being present. A perfect recovery was the result, all pain being gone before the wound had healed.

We by no means intend to advocate the frequent removal of the coccyx for pains in the neighbourhood of that bone; yet in some cases, where all other means have been exhausted, and there is good evidence that the pain is induced by every movement of the bone, its excision is called for, and may be the means of curing an otherwise incurable disease. There is no particular danger in the operation, and the coccyx may be dispensed with without any evil resulting.

Inflammation of the rectum.

Inflammation of the Rectum (or proctitis) may occur in both a chronic and acute form. The chronic variety obtains in old people. The symptoms are a sensation of heat and fulness in the rectum, frequent desire to go to stool, and great tenesmus; there may be a discharge of blood and mucus. With these symptoms one would suspect impaction, but a digital examination will settle that point. Injections of starch and opium are very beneficial, or suppositories of belladonna and cocaine. Hamamelis is another useful remedy; it is, in fact, rapidly curative in some cases. It may be used as an injection, and also administered by the mouth.

Acute inflammation of the rectum resembles dysentery in its symptoms, but it is distinguished from it by the absence of abdominal pain or tenderness and severe constitutional disturbance; the pain is

generally confined to the sacrum and perinæum ; the bladder is often sympathetically affected, and there is not infrequently difficulty in passing water.

The most effective treatment is leeches around the anus, hot baths, injections of water in small quantity as hot as can be borne ; to this may be added a drachm of Battley's sedative. A hot bath, followed by a hypodermic injection of morphia, is likely to benefit. The patient should keep the recumbent position, take very light, unstimulating nourishment, and no irritating purges should be given. If it be necessary to relieve the bowel of its contents, a flask of warm olive-oil as an enema is the best that can be employed. We have seen very few such cases in this country, but they are not so uncommon in hot climates.

Rare Growths in the Rectum.

Rare growths.

There are several of these growths, such as dermoid-cysts, angiomata, lipomata, etc. ; but as in this region they are surgical curiosities, we do not think they deserve a place in this essentially practical book.

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