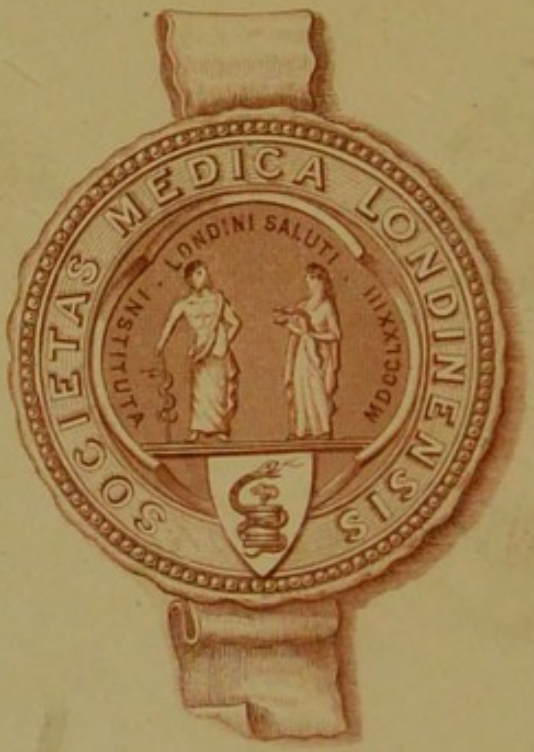
On appendicitis : two clinical lectures delivered at St. George's Hospital / by William H. Bennett.

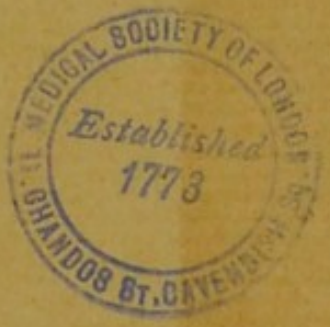
PPENDICITIS.

TWO CLINICAL LECTURES.

WILLIAM H. BENNETT.

Presented by
the Author.

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ON APPENDICITIS:

TWO CLINICAL LECTURES DELIVERED AT ST. GEORGE'S HOSPITAL.

BY

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ON APPENDICITIS.

LECTURE I.

GENTLEMEN,—So much has already been written upon what is commonly called appendicitis that its discussion in these lectures may at first sight seem superfluous. A considerable experience, however, leads me to think that the interest of the subject is not altogether exhausted; moreover, the disease has come to be regarded as common, and the consideration of common diseases is always profitable.

Before entering upon a discussion of the question, let us be sure about our position with regard to the term; in other words, let us distinctly understand what is commonly meant at the present time when the term "appendicitis" is used, because in this respect a loose habit of speaking has grown upon us, which is not altogether advantageous. There is a certain train of symptoms, characterised for the most part by a more or less sudden onset of pain generally although not always accompanied by vomiting, high temperature, and very often by rigors, together with fulness, dulness, and tender-

ness in the neighbourhood of the right iliac fossa, the tenderness being, in the majority of cases, more or less concentrated in a certain spot known as McBurney's point. Those are the symptoms which are usually described as being indicative of the complaint called appendicitis. The symptoms are not, however, necessarily due merely to a disease of the appendix; in a good many instances, therefore, it is quite incorrect to describe these cases as cases of appendicitis only. You may take it for practical purposes that there are four distinct classes of case which give rise to these symptoms:—(1) APPENDICITIS, in which the appendix itself is diseased only. This condition may be a tuberculous manifestation. (2) TYPHLITIS, in which the cæcum is the seat of the disease, the appendix being for all practical purposes healthy. Such cases you may find following upon dysentery and typhoid fever. (3) PERITYPHLITIS, in which there is no obvious disease in either the cæcum or the appendix, but in consequence of surrounding inflammation the parts have become bound down by adhesions to a variable extent. (4) COMPOUND CASES, in which the cæcum and the appendix are both diseased at the same time, although it is not always easy to say in which of these the disease originated, the practical point being that the two structures are involved in the disease.

Of these the commonest variety is appendicitis, but the cases in which both appendix and cæcum

are involved at the same time are moderately frequent.

Those, then, are the four ordinary conditions which may give rise to the symptoms to which I have referred. There is, I believe, a fifth condition which I venture to call VOLVULUS OF THE APPENDIX. I have not seen it described hitherto. The following cases are typical examples of the conditions mentioned :

APPENDICITIS.—A young man, 25 years of age, was seized suddenly with pain in the right iliac fossa, of the ordinary type occurring in what we call appendicitis. He had a temperature of 105°, some fulness, loss of resonance, and the characteristic tenderness, the attack having been preceded by the eating of half a melon. The case was a good example of the usual symptoms of an acute attack of appendicitis. The first attack subsided, but he subsequently had two other attacks, which led to operation in the ordinary way. Upon opening the belly the appendix was seen lying just inside the peritoneal cavity. It was somewhat bulbous in shape, with a large thick end, but there were no adhesions of any kind. The cæcum was quite free, and the operation for the removal of this isolated appendix, thickened as it was, and having no adhesions, was so simple, and occupied such a short time, that one felt some doubt whether it was right to accept the large fee which is commonly charged for these operations. The disease was entirely limited to the appendix, which at the point

of section was perfectly healthy. On the distal side there was a stenosed part, and beyond that the appendix was thickened and somewhat dilated. The disease was reported after examination to be tubercle. That is a good example of disease confined to the appendix.

The following is an example of disease of the cæcum—TYPHILITIS, as it used to be called. The patient, a man, had been in India many years, and had had both dysentery and typhoid fever. There had been several attacks of discomfort about the right iliac fossa, sometimes associated with diarrhœa, sometimes with constipation. As a rule, perhaps, the diarrhœa was more manifest than the constipation. On two occasions there had been vomiting. These attacks were ascribed to "relapsing appendicitis," as it was called. He was never quite well between the attacks, and so he came home. When the patient came under observation he had had many attacks of this so-called appendicitis. He was seen in an attack at home, which showed the ordinary symptoms I have described. The tenderness was rather diffuse, and not quite so acute as in the majority of the cases I have seen. The vomiting was very severe; the temperature was 103°. The attack subsided with diarrhœa, which is not at all uncommon in these cases. It was thought right to operate for several reasons, and I performed the operation. The appendix was healthy, but the cæcum, on the other hand, appeared to be to a great extent cicatricial, the

result, I suppose, of old dysenteric ulceration. So thin, however, was the viscus at one spot that in separating a slight adhesion to make a proper examination I tore a hole in the gut. The opening was sewn up, and the patient did well. Here was an example of a case in which the disease was limited to the cæcum; and, as I said just now, such cases are generally those which occur after typhoid fever or dysentery, as the case may be.

The next is a COMPOUND CASE, the appendix and the cæcum being diseased at the same time. A man about thirty-three years old had the usual train of symptoms, and in this case between the attacks (of which he had had eight or ten) he was always conscious of a certain amount of discomfort about the right iliac fossa. He almost always had constipation, but occasionally he had profuse attacks of diarrhœa. Whether these latter attacks had anything to do with the disease in question I do not know. At all events, the case was diagnosed in the ordinary way as appendicitis, and I operated upon the man. The appendix was very large, almost the size of my index finger, thick and hard. Everything was very much matted together, and at the end of the appendix there was discovered an abscess of moderate size. On pressing upon the walls of the abscess it could be emptied with perfect ease, a circumstance which is not common in an abscess connected with the appendix. To isolate the appendix it had to be separated from the sac of this abscess. After

separating the appendix from the abscess sac there was found to be a hole leading into the cæcum, through which I could pass the tip of my index finger; this accounted for the ease with which the abscess could be emptied by pressure. Here was a case in which the appendix was extensively diseased, and the cæcum so much so at the same time that a portion of its wall had disappeared; the abscess which was also associated with the appendix could be squeezed into the cæcum through this large opening in its wall. Where the primary disease had commenced it was impossible to say, but there was no doubt of the two structures being involved in the disease at the same time. The appendix was removed and the opening in the cæcum sewn up; the man did well.

A case showing the effect of a few adhesions about the cæcum, the gut itself and the appendix being apparently free from disease (PERITYPHLITIS) is the following:—A man forty-three years old was subject to occasional attacks of constipation, which, if they were at all exaggerated, always terminated in pain and tenderness in the right iliac region, accompanied by vomiting and fever. The attacks usually passed off, when managed in the ordinary way, in the course of three or four days; but on one occasion an attack lasted ten days. There was nothing to distinguish the case from one of relapsing appendicitis. I therefore operated, and found the appendix normal; the cæcum appeared also natural, with the exception of some

rather firm adhesions binding it to the abdominal wall. On separating the small mass of adhesions a caseated flat nodule was found in its centre. The cæcum was freed thoroughly, the man recovered as usual, and when last heard of had had no further attacks since the operation.

There is another class of case to which I wish particularly to call your attention in which a patient suffers from attacks of what are indistinguishable from what we call appendicitis; the pain and tenderness are the same, and there are all the symptoms which we associate with that complaint, excepting perhaps that the subsidence of the symptoms is rather rapid. And yet, when the surgeon cuts into the belly in the quiescent stage, he finds an apparently healthy condition of parts. These when not purely neurotic are, I believe, cases of VOLVULUS OF THE APPENDIX. The following is an example:

I operated upon a girl about five years ago, who I was assured had had three or four attacks of typical appendicitis, and from the description there was no doubt she had so suffered. I operated on the strength of this history. It is true I could feel nothing at the time of my examination of the patient; there was no tenderness, but that is also often the case in what is commonly called relapsing appendicitis. On opening the belly, as far as I could see everything was healthy. The only thing I noticed to be a little peculiar was that the appendix seemed to be slightly constricted at a

point about three-quarters of an inch from the cæcum, but not more so than I have seen many of these appendices in the post-mortem room, and I should not have thought anything of it had not this girl had such very characteristic symptoms. Under these circumstances the question arose what was to be done? As far as I could see I had cut into a healthy belly in a patient who had had symptoms of appendicitis three or four times. There was nothing neurotic about the aspect of the case; I therefore assumed that there must have been some cause for the attacks, and so, as there was this little depression in the appendix I thought I would remove it. I did so, and upon opening the appendix after removal this depression was found to be of no importance; there was no organic constriction or anything of that kind, and the appendix seemed to me to be quite healthy, except that perhaps *it was a little more flabby than usual, as if it might have been abnormally dilated at some time.*

The patient, of course, did well after the operation, and she has never had another attack of the symptoms. I was very unhappy about this case, because I have a prejudice against doing operations when they are not necessary, and I could not help feeling for some time that I had in this case performed an operation which was really uncalled for. It is certain, however, that the symptoms never recurred, and I have no doubt now, viewed by the light of a case which I had the other day,

that I was quite right in doing as I did in this girl's case, and that the symptoms from which she suffered from time to time were due to a volvulus of the appendix.

A patient a few months ago consulted me with regard to symptoms which appeared to be those of relapsing appendicitis; an operation was therefore advised, and I carried it out. On opening the belly there appeared to be some old scars about the cæcum, otherwise everything seemed quite healthy excepting a small soft adhesion which tied the cæcum slightly to the abdominal wall. The appendix was very much of the normal size, but it was pointing rather forward into the belly; and whilst we were looking at it, the appendix, quite straight and normal so far as we could see, gradually following apparently upon some peristalsis in the cæcum, began to stand a little erect, and then falling over it bent on itself. In point of fact it was a good example of what may fairly be called volvulus of the appendix. It appeared as if the bending over of the appendix in this way was due to the fact that its little mesentery was rather short, and so was abnormally dragged upon. When the cæcum began to contract in a certain direction it seemed to pull the appendix so that it got twisted, just as occurs in twisting or "volvulus" of the small intestine, for example. There is no doubt that this appendix, judging from the look of it after removal, had been from time to time greatly distended. As far as I can explain the case it

seemed to me that this peculiar change occasionally took place, and that in consequence of the twisting of the appendix upon itself in this way it must have become distended, and so gave rise to the symptoms of appendicitis. Later, I suppose, some other little movement occurred before peritoneal adhesion could take place, and the small piece of gut unwinding itself was emptied, and so the symptoms subsided. I do not know that any other explanation will fit the circumstances. The explanation in the girl's case which I have mentioned must, I fancy, be as follows:—She occasionally had these twists of the appendix, which, after it had become distended to a certain extent, were rectified by the uncoiling of this little piece of gut. Of course the removal of the appendix in such a case would naturally cure the patient. In the other case also I removed the appendix. Although the cæcum was not in a very healthy condition I did not interfere with it, because I did not see any reason for supposing that it was the cause of the trouble. All I did was to remove the appendix and separate a small adhesion which seemed to tie the cæcum very slightly to the abdominal wall, and so prevented its free action during peristalsis. I have not seen any mention of cases of volvulus of the appendix in the ordinary surgical literature.

Taken together these cases which I have described are good examples of what we speak of sometimes very inaccurately as appendicitis. As

you know, in these times there is practically only one treatment for appendicitis, unless the symptoms entirely disappear after the first attack. If a patient has what is called a "relapsing appendicitis," with most of us there is only one treatment, namely, operation. Removal of the appendix is usually recommended without hesitation if a second attack occurs; it is then considered almost as a matter of course that the patient's interest will be best consulted by the removal of the appendix. Practitioners of some few years ago used to see as many cases of appendicitis as we meet with now. But the operation for the removal of the appendix at the time I am speaking of was practically unknown; that is to say, twenty or twenty-five years ago. Now the experience of practitioners of that time, although I fear some of you are inclined to think them old-fashioned, is extremely valuable, and their experience undoubtedly goes to show that a number of these cases of so-called appendicitis do not end disastrously if they are not submitted to operation, and that some cases in fact get perfectly well after a series of attacks. It is not long ago that a practitioner of large experience asked me what the justification really is for operating to the extent we now do upon these cases, seeing that in his experience a considerable number of cases, if left alone, certainly do not die, and that some get perfectly well. A question like this is not always easy to answer at once. Of course there is not the least doubt

that many of the cases would not prove fatal if the disease were left alone, and that a certain proportion of people suffering from relapsing appendicitis recover completely. I think I know now at least a dozen people each of whom has an attack of appendicitis from time to time. The patient lies up for a few days during the attack, then seems to get quite well until the next attack, and excepting for the inconvenience he does not seem any the worse. They are all hale men, and not one of them has the least intention of being operated upon. I do not think that the lives of any of these people need be shortened at all by their declining to submit to operation. If, then, it is a fact—and I have no doubt it is a fact—that some of those who suffer from this so-called appendicitis do not risk their lives in these repeated attacks, why are we so very anxious to operate in all cases? What is the justification for our position in the matter? That is the question some of the older school of practitioners ask. The justification is this:—We know quite well that although, as I have said, many of the people who suffer from appendicitis do not die of the disease, a considerable percentage of cases proves fatal sooner or later, supposing the diseased appendix is not removed. *At the same time we have no means in the absence of obvious signs of suppuration, as far as I know, of judging whether any given case is one of those likely to be associated with great risk or not.* We cannot, in fact, tell which are

the cases that are dangerous to life as distinguished from those which are not; and as we do not regard the operation now with any great degree of anxiety so far as its immediate risk is concerned, it seems on the whole safer to advise operation as a rule in order to be sure, as far as one can be sure, of saving the lives of those who happen to have the type of the disease which would be likely to prove fatal. That is the justification for our present line of treatment. It may not be a very strong justification at first sight, perhaps, but a very little consideration will show you that it is sufficient.

It has been said that chronic cases and those which are insidious in their onset, giving rise to subacute symptoms only, might be with safety ignored so far as operation is concerned. But that is entirely wrong. It was also said that the cases which in their original onset are very acute are the most commonly associated later on in the relapsing period with the greatest risk to life. That again is not always the case. For example, I operated on a case only the day before yesterday the patient being a man who had had practically no symptoms worth mentioning excepting constipation and a lump in the right iliac region, with very slight tenderness indeed. He had had three attacks, and between these he never seemed to be quite well. He was a professional man in active practice, and he thought he could get along well enough as he was, provided that the

attacks did not become more frequent. As he was not a very strong man in some respects, and as other matters pointed to the desirability of his being relieved of the disease, I thought it better for him not to run the risk which these repeated attacks involved, and I therefore operated. Now, although he had had so few symptoms, and had suffered so little, the case was one of the most difficult of the sort with which I have had to deal. It took us one hour and a half to remove the appendix, and we found running behind it an abscess about two inches in length, full of the most poisonous material; the abscess was so situated that it travelled towards the general peritoneal cavity, into which there is no doubt that before very long it must have burst, probably with fatal effects. The case is a good example to show how impossible it is to judge of the character of these cases by the mildness of the symptoms or the insidious way in which the disease comes on—a most important point to bear in mind. On the other hand, I have operated on cases in which the onset has been most acute, so that if there were any relation between the acuteness of onset and the risk to the patient's life, it must have existed in such cases, and have found the appendix in some of these very slightly diseased, in fact merely a little adherent. I do not know of any more important clinical fact connected with the subject of relapsing appendicitis than the entire inability which exists of forming from the mildness or severity of the

symptoms any reliable estimate of the gravity of the local conditions or of the difficulties of the operation requisite for properly dealing with them.

LECTURE II.

A MATTER for careful consideration in dealing with cases of appendicitis is the proper period for operation if such be indicated. Speaking generally, it is no doubt best to operate if possible during the quiescent stage, or at all events after the acute symptoms of an attack have passed.

So far as the deliberate removal of the appendix is concerned, it should, I think, certainly be advised, for the reasons given in the previous lecture, if a second attack of the symptoms occurs.

In many cases it is, I have no doubt, greatly for the benefit of patients if the appendix be removed after the first attack, for although there are, as I have said, cases which undoubtedly get apparently well after one attack if left without operation, some certainly prove fatal during the second attack, and some, indeed, during the primary attack in which suppuration followed by perforation into the general peritoneal cavity may occur—the so-called fulminating cases. In the ordinary relapsing ap-

pendicitis the only means we have of distinguishing between the different cases clinically is by abdominal section, which in competent hands should subject the patient to so little risk, that it is in my opinion desirable in the majority of instances after a primary attack, if the least sensation of any abnormal kind remains upon the subsidence of the objective symptoms.

Although we speak somewhat loosely of a patient being "well" in the intervals between attacks, *complete recovery is in fact quite the exception.* There may, it is true, be no tenderness or pain, but the great majority of patients are conscious between the attacks of something unnatural in the cæcal region, this unnatural feeling as often as not amounting to nothing more than a sense of slight restraint or discomfort upon the patients stretching themselves out to the fullest extent, as, for example, in standing in an exaggerated upright position, or bending slightly backwards. This symptom is, I believe, a sure indication for operation, to be performed deliberately for the purpose of removing the appendix.

In cases, whether the attack is primary or recurrent, in which abscess forms, the best means of dealing with the appendix is an interesting question. Should the abscess be merely opened or drained, or should the appendix be removed at the same time? In a general way there is no possible doubt that drainage only of the abscess is indicated unless the abscess be very small, in

which case I prefer to clear the abscess well out and remove the appendix. Under such circumstances the operation should not be dangerous, at all events in my experience all the cases so treated have recovered, and the healing period has been greatly shortened. In the larger acute abscesses I have always been content with free drainage, excepting in two cases in each of which the appendix was presenting so obviously at the base of the abscess that it would have been foolish to leave it, and it was in each case easily removed without the interference with any important adhesion. The main reason, of course, for being content with free drainage is the danger of infecting the general peritoneum by the separation of protective adhesions if the operation for removal of the appendix be attempted. This objection, if the operation is performed by an expert, is, I think, overrated. There is, however, another reason for not subjecting these patients, who are often extremely ill, to the risk of removing the appendix, viz. that if they survive the immediate effects of the disease the abscess almost invariably heals perfectly with drainage—although the appendix has been left untouched at the operation—healing sometimes occurring very quickly upon the coming away of a fæcal concretion or perhaps the sloughing off of the whole appendix, which I have washed out of the cavity as a gangrenous mass within forty-eight hours of opening the abscess in four cases. It is at first sight singular that so few cases of fæcal

fistula or sinus follow upon the opening of these abscesses and other operations upon the appendix and cæcum. Permanent sinus or fistula is very rare, the only case which I have seen in my own practice in which a fæcal fistula has remained open for a very long period being that of a youth in whom the opening of an abscess at the angle of the scapula was followed by the escape of a fæcal concretion which was found to have come from the appendix. The operation for dealing with such an extensive condition in order to provide proper drainage was very severe, and even four years later a small unhealed sinus remains; but there is every reason, judging from the progress of the case, to believe that finally healing will occur. The inherent tendency of these wounds to heal not only shows that the removal of the appendix in cases of large acute abscess is generally unnecessary, but what is equally important, or more so, it very distinctly negatives the justifiability of the performance of extensive operations for the purpose of closing these fistulæ by resection or anastomosis of bowel, even when they have been one or more years in existence, such operations being as a rule unsuccessful and often fatal, a statement which will I feel sure be corroborated by all surgeons who have seen anything of the results of such cases.

Removal of the appendix having been decided upon, a point of some interest is the method which seems most useful for the purpose. I always open

the abdomen through the semilunar line; the smaller the incision the better—three inches, or at the most four inches, will generally suffice for dealing with the most difficult case. This, however, judging from the scars I have sometimes seen resulting from operations by others, is not the opinion or experience of all surgeons. Personally I never "deliver" the cæcum and appendix in the manner depicted in some of the books unless it is absolutely necessary, because I am sure that the less the cæcum is dragged out of the belly the better it is for the patient. I think I am correct in saying that I have in the course of a large experience found it necessary in only a few cases to draw the cæcum completely out through the abdominal wound, as in the great majority of cases it is quite easy to free all adherent structures and remove the appendix without much disturbance of the cæcum from its bed —this I regard as an important detail. Of the complications, serious and otherwise, following operation, there is nothing more distressing and sometimes more grave than the abdominal distension apt to ensue in some of these cases after removal of the appendix, and I have noticed that the less the intestine is pulled out and dragged from its normal position, the less is the tendency to distension afterwards. A moment's consideration is enough to show that this is not remarkable. In the actual removal of the appendix the habits of surgeons differ to some extent. When possible I

always ligature the appendix after it has been isolated by a strand of catgut placed around it about half an inch from the cæcum. The peritoneum with the muscular coat, generally greatly thickened, is divided by a circular cut about half an inch to the distal side of the ligature, the mucous membrane being left intact; the "sleeve" of peritoneum, &c., thus formed is turned back towards the ligature as far as possible, the mucous membrane cut across, and the appendix taken away. The short piece of mucous membrane is then freely scraped with a sharp spoon and treated with carbolic solution—1 in 20. The peritoneal coat, is then sewn over the mucous stump with fine silk. The removal of the appendix in this way with a sharp knife or scissors is such a precise and easy matter that it is with surprise that one sometimes reads of ingenious plans for effecting this simple proceeding by the use of the electric cautery or other means involving the use of apparatus which is not likely always to be at hand even if any advantage were derivable from its use.

In cases in which the situation of the disease or its extent makes such a methodical proceeding impracticable, the opening left upon removal of the appendix is closed by ligature only or by stitching. When there is any doubt about the security of the closure thus effected an omental graft or plug, which is readily obtainable, should be used. In the operation performed in the quiescent stage a drainage-tube is entirely unnecessary.

In dealing with the abdominal wound I always use fishgut sutures, transfixing the whole parietes, peritoneum, muscles, and skin. This is preferable to the three-layer system in use with some, which certainly produces a weaker scar finally and provides much less firm resistance to any straining which may occur immediately after the operation. Moreover, the separate suturing of the different layers introduces many foreign bodies in the form of sutures, the bulk of which are buried in the parts —an objectionable proceeding when it can be avoided, as it is a matter of general experience that these buried sutures, however carefully sterilised, do sometimes cause irritation and come away at remote periods.

Cases are occasionally heard of in which within a few hours after an abdominal operation the bowels protrude through the operation wound; this is impossible if the wound be closed by strong fishgut or silk sutures, each of which transfixes the whole thickness of the parietes. With the superimposed layers of sutures it is, however, different, as under circumstances of great strain neither of the three layers of tissue is invariably strong enough to resist the straining effectually. No more disastrous complication than the protrusion of gut from the giving way of the wound a few hours after operation in an appendix case could happen, unless by chance the surgeon be on the spot and ready to return the gut immediately. I have seen one such case in which it was thought

undesirable to return the cæcum, which protruded through the wound in consequence of the sutures giving way; the case terminate fatally.

The main complications arising after appendix operations are pain, vomiting, and abdominal distension. These troubles may or may not be of great importance. Treated rationally, as a rule they subside without causing more than temporary discomfort: if badly managed they may endanger life. Pain more or less as a rule follows the operation; it usually subsides in from twelve to thirty-six hours, and is better left to itself unless too severe, when an injection of morphia hypodermically is usually effectual. Vomiting and distension are more serious matters. I have just recently operated upon a patient—a strong and healthy man—who vomited persistently for three days; it was the most unmanageable case of the kind I have yet seen. Vomiting of this kind may be in some way due to the operation, or may be dependent only upon the anæsthetic. As a rule, vomiting subsides spontaneously if the patient is kept quiet and allowed to sip small quantities of warm water, rectal feeding being used; sometimes, however, it will not yield until the bowels have acted,—the action must be something more than the mere emptying of the large intestine, hence an enema is as a rule not effectual—the only practical means of obtaining the desired result is to place five grains of calomel on the tongue, which usually acts like a charm.

The most distressing and in some respects the most serious complication short of peritonitis is abdominal distension. This may come on at any period from a few hours to two days after the operation. As a rule, if it does not supervene during the first twelve hours it is of little consequence. In simple cases a large injection containing rue is unsurpassable as a treatment; turpentine in the place of rue may be used, but it is uncertain in result. In many cases an enema only is insufficient. In passing it may be pardonable perhaps to emphasise the necessity of avoiding the introduction of air with the enema. I have known the symptoms of distension greatly increased by the introduction of air in this way by inexperienced or careless people. The familiar saline purgative treatment (*e. g.* ʒij of sulphate of soda every two hours till the bowels act) is often effectual, but in my experience far less so than the old-fashioned nostrum of ʒvj of castor oil and ten or fifteen drops of laudanum, which I therefore employ. Of course if there is vomiting it is inapplicable, and five grains of calomel upon the tongue are then probably the best means of bringing about the desired end.

In connection with the removal of the appendix in cases of so-called relapsing appendicitis the following very pertinent question is not infrequently raised: Does the operation invariably effect a cure? The answer is, in my experience, Yes, provided that the disease is really of the

appendix primarily, and understanding also that the word cure is only held to mean freedom from the occurrence of further attacks of a typical kind. It must, however, be admitted that attacks of constipation with feelings of discomfort about the cæcal region follow from time to time in a certain number of cases, especially if the patient is neglectful in the management of the bowels. At times the constipation is extremely obstinate and difficult to overcome; in one case, for example, which came under my notice the constipation was accompanied by the formation of a large, hard, fæcal mass in the cæcum, which was so difficult to deal with that the question of abdominal section was on the point of arising. In conclusion it may be well to remind you that the healing about the parts involved in the operation is generally associated with the formation of adhesions, and that such adhesions may, under great strain, within six months or even more from the time of operation, either themselves give way or lead to tearing of the adherent bowel. In a case upon which I operated death occurred rapidly from acute peritonitis eight months after the operation in consequence of a strain accompanied by severe abdominal pain whilst riding. Apart from the actual tearing of adhesions or bowel by violent exercise, it is, I think, clear that great exertion or strain *before the adhesions are properly organised and tough* might lead to their stretching so as to form elongated bands, which may subsequently tend to

intestinal obstruction. I am almost certain that such was the cause of obstruction by a thin band which nipped the small intestine in a patient upon whom I operated for appendicitis, and who insisted upon ignoring all ordinary precautions the moment the sutures were removed from the abdominal wound. It is therefore obviously prudent to impress upon patients the necessity for moderation in violent exercise for at least one year from the time of the operation.

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