A CLINICAL LECTURE

ON

APPENDICITIS AND ITS SURGICAL TREATMENT.

Delivered at the Western Infirmary, Glasgow.

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You have already had an opportunity of seeing various forms of appendicitis and the operations for their relief. I will now try to make clear to you the points of importance to be borne in mind in treating such cases.

For clinical convenience, inflammatory affections of the appendix vermiformis may be divided into three forms:

1. Catarrhal, with no distinct lump or swelling around the appendix.

2. Appendicitis with a swelling which may entirely disappear, either by absorption or the formation of a local abscess, which may require an operation or may burst into one of the viscera, such as the bowel or bladder, or more seriously into the free abdominal cavity.

3. Acute perforative appendicitis, which leads to general peritonitis and the formation of abscess in the general peritoneal cavity.

CATARRHAL APPENDICITIS.

You have seen several cases of this kind operated on, and you will remember the general history of these cases is: The patient complains of sudden pain in the right iliac region or in the neighbourhood of the umbilicus, sometimes being referred to the epigastrium: sickness frequently accompanies this pain in varying degrees of intensity. On examination you find tenderness over McBurney's point, pulse quicker than usual, with elevation of temperature. The patient gives you a history of not having been well for some days with possibly more than usual exposure to cold. The pain is soothed by morphine, either given as a suppository or by subcutaneous injection, warm fomentations over the abdomen, and only soups and barley water as nourishment. These remedies in mild cases are generally sufficient to relieve the patient, followed by an enema of warm water to secure a movement of the bowels. So great is the relief in many cases that patients object to keeping at rest until all tenderness in the iliac region has subsided. Sometimes the attacks are so slight that they ascribe them to ordinary colic, which they relieve by a dose of medicine and taking no other care, so that when you are called to see them they are probably suffering from their second or third attack, which might have been prevented by careful dieting and rest from work until they were entirely free from discomfort on pressure. As a rule when patients have suffered from two attacks an operation is recommended, the more so because the appendix is apt to give way after two attacks, and lead to the third and most serious form of appendicitis. In America the operation is done at once.

After a second catarrhal attack the operation for removal of the appendix when possible ought to be done after all acute symptoms have subsided, and after the patient has been carefully prepared for it. The diet for four days ought to consist of soups, barley water, and white meats, avoiding milk and starchy foods in order to secure an absence of flatulence, which is very annoying when it occurs after an abdominal section. The bowels should be regulated so that they are thoroughly moved the day before operation. The usual arrangements for the preparation of the skin are carried out, 3 ozs. of soup with a tablespoonful of whisky are given as a nutrient enema three-quarters of an hour before operation, and a subcutaneous injection of $\frac{1}{10}$ gr. of strychnine which materially diminishes shock, and this may be repeated in the middle of the operation if necessary. An incision, varying in length from 2 to 3 inches according to the stoutness of the patient, is made on the outer side of the rectus muscle over McBurney's point, dividing skin and fascia, the muscles are then separated, not cut, and the peritoneal cavity carefully opened in the usual way, a small sponge with string attached is introduced into the abdomen, all small vessels

are then tied in order to get rid of the pressure forceps in the neighbourhood of the wound, as they might bruise the bowel if it requires to be drawn out in the process of separating the appendix. Removing the sponge from the abdomen, the appendix is found in connection with one of the longitudinal bands passing downwards, inwards, or backwards, and, with care, it is separated, sometimes with great difficulty. At times it is so adherent that it is wiser to leave it alone and trust to the effect of the exploratory incision. Having separated the appendix and tied its mesentery, it is removed by one or other of the methods recommended. You have seen the coat-sleeve method with application of carbolic acid to the interior of the stump of the appendix carried out in several cases, but it may also be removed by means of the cautery, the stump being turned in, and one or two Lembert stitches used to fix it, or it may be crushed at its base with pressure forceps, a purse-string suture passed round it, the stump turned inwards and one or two Lembert sutures applied.

Cases operated on in the way above described are with rare exceptions quite successful. The after-treatment of patients who have had this operation performed is the same as has been recommended to you in other abdominal cases. Keep the patient gently under the influence of morphine for two days, and give only soups and barley water (starvation diet). After the bowels have been moved on the sixth day, a more generous diet is allowed, and in three weeks the wound will be firmly healed, and the patient be allowed to be on the sofa wearing an elastic bandage to avoid any strain on the wound. At the end of the fourth week, if the wound has been small, walking about moderately is permitted, and gradually the patient resumes his ordinary work. Generally great improvement in health follows this operation, and patients frequently express surprise that they no longer suffer from so-called indigestion.

APPENDICITIS WITH SWELLING.

Appendicitis with a distinct swelling commences very much in the same way as a catarrhal attack, but on the third or fourth day a distinctly localised swelling is to be felt. In many instances this swelling is due to a very slight perforation in the appendix which causes a limited peritonitis, which may or may not lead to an abscess. If the temperature increases above 101.5° , with tenderness in the swelling, suppuration is probably taking place, and this occurs in most cases without the least rigor. Always examine the rectum in such cases, as bulging may be detected, and the abscess should be opened at that point. If nothing is found in the rectum, the swelling ought to be opened without delay, and this must be done with the greatest care, more especially in cases where it is downwards or inwards. When backwards, the swelling may be opened posteriorly without entering the free abdominal cavity by making an incision over the swelling down to the peritoneum, turning it forwards and evacuating the abscess, thereafter filling it with glycerine and iodoform gauze. In cases where the abscess is downwards or inwards, as a rule the peritoneal cavity must be opened and protected with antiseptic or sterilised gauze around the abscess, which is opened carefully with the fingers, separating the cæcum at one or other side which forms part of the abscess. Having dried out the abscess cavity, the appendix may sometimes be removed easily, but very frequently it is incorporated with the abscess cavity, and it is unwise to interfere with it, the more so as it generally comes away as a slough in the process of healing. Sometimes the abscesses are so large that the patient is best turned on the side previous to the abscess being opened, in order to allow the pus to run out. A large tube may be put in the centre of the abscess with gauze around it, being removed in forty-eight hours; the upper dressings are changed every three hours until discharge diminishes. In the event of the wound being large, a few stitches ought to be put in to diminish the chances of ventral hernia, which is more apt to take place in cases with abscess formation than in the first form. A generous diet with stimulants ought to be used in all cases requiring operation with abscess.

Sometimes the temperature suddenly falls on the fifth or sixth day, and the patient feels much relieved. This is

generally due to the abscess having burst into the bowel, and this may result in a permanent cure, or the abscess may partially fill again, as a result of which the temperature rises, and an operation similar to what is above described may then be necessary.

Exploring appendiceal swellings with ordinary exploring needles is unwise, more especially in small abscesses, as the needle frequently never reaches the abscess, and it is therefore better to do the operation, as, even supposing that no pus is found, the exploratory incision will hasten the disappearance of the inflammatory swelling around the cæcum. All these points have been fully illustrated in the cases which you have seen operated upon. In cases where there is a swelling without any suppuration the temperature is not so high, and gradually the lump disappears, and these patients may or may not have a recurrent attack; in many cases a cure takes place where prolonged rest and careful dieting is insisted upon.

ACUTE PERFORATIVE APPENDICITIS.

Acute perforative appendicitis is due to rupture of the appendix from acute ulceration occurring to such an extent that general peritonitis takes place, the symptoms being intense pain, sickness, rapid pulse, temperature frequently subnormal or only slightly elevated, pain on pressure over the iliac region, with frequently a board-like condition of the muscles. In such circumstances the patient's only chance of recovery is an operation without delay. Opium may be given to soothe the pain when severe, but on no account delay operating. Cases of this kind ought to be put in the same category as ruptured gastric ulcer or ruptured typhoid ulcer, and the sooner this fact is recognised the better it will be for the patients suffering from such a dangerous disease.

The operation itself is carried out in exactly the same way as above described, with the exception that pus is found in the free abdominal cavity, and the burst appendix can generally be removed. Saline solution is used to cleanse the peritoneum, and two large tubes are left in the abdominal cavity along with gauze drains to ensure free drainage, and the usual dressings applied. Cases operated on before the beginning of the third day may recover, but after the third day the chances of recovery are very small. The two cases which you have seen recently illustrate the truth of this remark; the little girl sent by Dr. Langmuir, who was operated on thirty-six hours after the commencement of her illness, recovered completely, as also the patient sent by Dr. Somerville, who was operated on four hours after she was seized with pain. Another case recommended by Dr. Garnett Wilson, within twenty-four hours of the seizure also recovered, but you have also seen cases in which patients refused operation, and declined to come to the infirmary until it was too late.

I cannot too strongly impress upon you the great importance of early operation in all cases in which the symptoms show acute perforation. Cases are from time to time recorded as having made wonderful recoveries, but try to operate upon your patients within six hours of the attack commencing, and you will be able to publish frequent satisfactory results.

THE first annual meeting of the American National Association for the Study of Epilepsy and the Care and Treatment of Epileptics was held at Washington on May 14th and 15th. The objects of the Association are to promote the general welfare of sufferers from epilepsy, to stimulate the study of the causes and treatment of the disease, and to advocate the care of epileptics in institutions where they may receive education, learn trades, and obtain suitable treatment.

THE MARRIAGE OF FIRST COUSINS IN PENNSYLVANIA.—The various States of the American Union seem to be vying with each other in legislating for the hygienic perfection of matrimony. We presume, at any rate, that this is the intention of a recent enactment whereby the marriage of first cousins is made illegal in the State of Pennsylvania on and after January 1st, 1902, and all such marriages contracted in the State after that date will be declared void. If heredity counts for anything, Pennsylvanians must have a considerable strain of Quakerly meekness in their composition; but even the most peaceful of Quakers might resent such grandmotherly legislation as this.

AN ADDRESS

ON

THE SYMPTOMS AND MODERN METHODS OF DIAGNOSIS OF STONE IN THE BLADDER, KIDNEY, AND URETER.

Delivered before the East Sussex Medico-Chirurgical Society.

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THE characteristic symptoms of stone in the bladder are four in number:

1. Increased frequency of micturition.
2. Pain in connection with the act of urination.
3. Hæmaturia.
4. Sudden stoppage of the flow of urine.

If a patient suffers from these four symptoms, you will at once suspect that he or she is suffering from stone in the bladder. If in addition you ascertain that previous to the setting in of these symptoms the patient had passed one or more small calculi, your suspicion will grow into almost a certainty that there is a stone in the bladder; in which case it is probable that the urine will be found to contain pus and mucus; but it must be remembered that the passage of clear acid urine is consistent with the presence of a lithic or oxalate of lime stone in the bladder. A phosphatic calculus is, however, invariably attended by pus and mucus in the urine. A stone may be found with any three of these symptoms, any two, or even any one of them. A large calculus may even exist and give rise to none of these symptoms. This urate stone which I show you, the *débris* of which weighs 3 ozs., I removed successfully by litholapaxy from a young man of 20, and he repeatedly assured me that till six months before coming under my care he had been troubled by no urinary symptom. Still, this calculus did not grow in six months; it was the product of years. So that the patient must have carried it about in his bladder for a lengthened period without any inconvenience. On the other hand, very similar symptoms to those I have indicated may exist and no calculus be found or be present, simply from the fact that these symptoms may be produced by some other disease than stone.

Let us now examine these four symptoms individually, and see what are the peculiar characteristics of each when due to stone:

1. Increased frequency of micturition is the earliest, as it is the most constant, symptom of stone. The bladder becomes irritable—frets, as it were—at the presence of its unnatural and unwelcome tenant. This, like most of the symptoms of stone, is aggravated by exercise and diminished by rest. Consequently it is less frequent at night, when the patient is lying down, than in the day, when he is going about, exactly the reverse of what occurs with enlarged prostate—a point of diagnostic importance, as we shall presently see.

2. The pain which is almost invariably present with stone is, strange to say, rarely referred to the bladder itself. It is reflex in character, and situated near the end of the penis, at the posterior aspect of the glans, most frequently in the position of the frænum. It occurs, as a rule, in connection with the act of micturition, setting in, and gradually increasing in intensity, towards the end of the act, as the bare walls of the bladder come in contact with the stone; and it gradually disappears as the bladder refills, the urine acting as a buffer between the stone and the bladder walls. But any form of exercise, such as riding, running, or jolting in a carriage over a rough road, will bring on the pain. It is described variously by different individuals as of a scalding, burning, aching, or lancing character. A patient of mine once described it as a sensation as if the penis were being broken off. The pain diminishes in intensity as life advances, being much more excruciating in children than in aged persons. There is nothing more heart-rending to behold than the suffering of a little child afflicted with stone as he dances about the floor during and after micturition, shrieking with agony and pulling at his foreskin (which becomes elongated and probably ulcerated), trying to relieve the pain.