The Cavendish Lecture

ON

SOME PHASES OF INFLAMMATION OF THE APPENDIX.

Delivered before the West London Medico-Chirurgical Society on June 20th, 1902,

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THE APPEARING OF APPENDICITIS.

MR. PRESIDENT AND GENTLEMEN,—Among those circumstances which are remarkable in the history of medicine in the closing years of the nineteenth century, few are more curious than the almost abrupt appearance of the disease now known as appendicitis.

Less than twenty years ago this malady was practically unrecognized, it found no accepted place in the systematic manuals of medicine, and its very name had not been called into being.

The title "appendicitis" was proposed by Fitz[1] in a communication published in 1886, and although the term is uncouth and lacking in preciseness, it at once found a place in the clumsy nomenclature of medicine. In spite of many protests from the academically minded, the word has passed into general use, and has received, moreover, the liberal patronage of the lay public. There is a bold aggressive modernness about the name suited to a modern disease, which has become with singular alacrity "understanded of the people," and which has advanced, as regards its affairs, in a distinctly modern manner.

It is needless to say that this clumsily named malady is not a new disease which has just fallen, as a last plague, upon mankind, nor is there evidence to support the suggestion that it has undergone any recent and remarkable recrudescence, or that it has become more frequent in its appearance. It is a modern malady only in the sense that it has been unearthed and brought into the light in recent years. It can be traced back to distant centuries, and there is no reason why the cave man should not have occasionally succumbed to its ill-effects. The disease has been buried until now under a vast heap of confused and confusing clinical fragments, and under much vague verbiage. It passed unrecognized in earlier times under the disguise of such terms as "gastric attack" or "gastric seizure," "paratyphlitis," "cramp of the bowels," "inflammation of the intestines," "iliac phlegmon," and the like. It was the *fons et origo* of many forms of peritonitis, of the peritonitis due to cold, of that heaven-sent peritonitis which was called "idiopathic," and of such inflammations of the great serous membrane as were supposed to follow upon certain eruptive fevers, and even upon alcoholism.

A celebrated monograph upon peritonitis, published in 1887,[2] dealt with no fewer than twenty-six different forms of that disease, but since the long-ignored appendix has advanced into prominence the etiology of peritonitis has become attenuated to very narrow limits. Thus it has come about that a disease which can probably claim to be the most common of the really acute troubles within the abdomen (excluding, perhaps, the complications due to hernia) had yet no coherent existence twenty years ago. It was foreshadowed, but it was "without form and void." Isolated cases were published in no small numbers, to show that the appendix had played the chief part in the tragedy involved. More than this, certain writers drew special attention to the disease of the appendix as a cause of certain inflammatory troubles in the right iliac region. Conspicuous among these authors are Mélier,[3] who wrote in 1827, and John Burne[4] whose monograph was published ten years later.

But these utterances were as the voices of men crying in the wilderness, and had no effect upon the blundering pathology of the time. The caecum was still believed to be the organ primarily affected in these troubles [of the iliac fossa, and catarrh of the caput coli was quite a formidable disorder in itself. Typhlitis was indeed the forerunner of appendicitis. Faecal masses and foreign bodies play a great part in the etiology. The rapidity with which the peritoneum can isolate inflammatory effusion and render pus encysted was not understood, and consequently localized iliac abscesses were supposed to occupy the connective tissue of the iliac fossa. This supposition was supported by the erroneous belief that the posterior surface of the caecum was bare of peritoneum.

I think that the writing which did more than any other to force upon the medical world a recognition of the true pathology of pericaecal peritonitis was the monograph of Fitz,[5] published in 1886.

It may be claimed for this communication that it gave the first precise, detailed, and fully demonstrated account of the disease now known as appendicitis.

THE PART PLAYED BY THE PERITONEUM.

In dealing with the pathology of appendicitis it is desirable to appreciate clearly that the clinical phenomena, which are familiar under the name of "an attack of appendicitis," are due to peritonitis in the region of that organ.

The disease is essentially a variety of peritonitis. Its manifestations, its effects, and its possibilities are those only of peritonitis. Whatever may be the antecedent condition, an attack of appendicitis is not in evidence, and, indeed, does not exist until the peritoneum is implicated.

It is needless to say that this peritonitis is induced by inflammatory changes in the appendix itself; and it was to these primary changes, which are antecedent to an attack, that Fitz first proposed to give the name of "appendicitis."

APPENDICITIS WITHOUT SYMPTOMS.

It is interesting to inquire what symptoms, if any, belong to pure appendicitis—to that uncomplicated inflammation of the appendage which precedes the familiar manifestations of an attack, and which are, in other words, preliminary to the peritonitis.

On this subject, three propositions may, I think, be made:

1. Extensive inflammation of the appendix, leading to great thickening of its walls, to widespread ulceration of its mucous membrane, and to some degree even of stenosis, may exist without producing symptoms of any kind. This is illustrated by those cases in which attacks of appendicitis appear without a single preliminary abdominal symptom, and also by those forms of recurring appendicitis in which the patient is entirely free from the least consciousness of trouble in the right iliac fossa during the interval between the attacks. Once in removing a simple ovarian cyst I encountered and excised a much diseased appendix of which neither the patient nor her doctor had had any suspicion, and which had caused the former no appreciable inconvenience. There is a disposition on the part of some writers to assume that no morbid changes can take place in the appendix unless they be accompanied by the phenomena of appendicitis in the sense in which that term is usually employed. Thus Mr. Lockwood, in his excellent work upon the pathology of appendicitis, describes an instance in which "the mucosa of the appendix was destroyed and its lumen obliterated by one attack of appendicitis." The organ was certainly found in the condition named in a patient who had had but one attack of perityphlitis, but it is needless to say that the destruction of the mucosa might have been complete weeks and months before the solitary attack set in, since such process of destruction need not be attended by clinical manifestations of any kind. The onset of the attack indicated not the commencement of the destruction of the mucous lining, but the moment at which the peritoneum became involved in the inflammation.

2. In the second place an acute attack of appendicitis may be preceded by occasions on which the patient has minor seizures of pain in the caecal district which are of short duration and irregular appearance. Such an individual will complain of an occasional sharp pain in the iliac region which may "double him up" and, for a moment, make him feel sick and faint. The peculiarly sensitive may actually vomit. There may be some tenderness manifest. There is no rise of temperature and no notable tympanites, and the episode ends in an hour or so, leaving behind an aching or a vague sense of

weakness or discomfort in the region of the right groin, and often a troublesome constipation. These little disturbances—known sometimes by the quite unsuitable and indeed erroneous title of "appendicular colic"—depend upon changes in the appendix which are short of actual implication of the peritoneum. In a few it is possible that there is a minute infection of the serous membrane and an infinitesimal peritonitis. The most severe represent an outbreak of appendicitis in miniature. These little attacks may become so persistent as to weary the patient and impair his health; and on several occasions I have removed the appendage, although there has never been a definite "attack of appendicitis." The organ on examination has now and then revealed a degree of inflammation and ulceration of its lumen which has been actually in excess of that met with in some cases in which there have been definite attacks of the accepted type. Usually the appendix is found to be of normal aspect, but to have its walls stiff, thickened, and ulcerated. Concretions are common, and in an instance or so I have found the organ adherent.

3. In a third series of examples the patient has an abiding trouble in the right iliac fossa which may continue for months, and may or may not be associated with acknowledged attacks of appendicitis. In examples in which there are no such attacks the condition merits the title of true appendicitis because there can be little doubt but that the symptoms are due to abiding gross changes in the vermiform process which have never spread in an abrupt manner to the peritoneum and so have never produced "an attack of appendicitis." These patients are never well. They are the subjects of unending digestive disturbances, of colics, of constipation, and of occasional severe pains. There is often tenderness in the right iliac fossa with a sense of weight or dragging, pain in the right thigh, and a disposition to walk with the body bent. There need be no rise of temperature.

The condition of the appendix in these cases will vary greatly. It may appear to be normal when viewed externally and to be yet inflamed as to its inner coats, it may contain a concretion, may be twisted or bent upon itself, or clubbed at its extremity. In several of these cases I have been surprised to find the little process full of pus. I cannot avoid the distinct belief that in these and other examples of uncomplicated inflammation of the appendix any advance of symptoms from mere discomfort to acute pain implies an advance of the mischief from the inner coats to the peritoneal surface.

Before leaving this subject I imagine it will be generally allowed that it is not possible (except in gross instances) to predict the state in which the appendix will be found from a mere study of the clinical manifestations. Of the futility of such prophecy I have had many examples.

THE CLASSIFICATION OF APPENDICITIS.

On the subject of the classification of appendicitis from the pathological standpoint, I think very little is to be gained by the elaborate divisions and subdivisions which are affected by many in dealing with this matter.

We are at the present day fairly well informed as to the pathology of inflammation of the intestines and its consequences. The appendix is a portion of the intestinal canal, and it possesses no exclusive pathology of its own. Like the rest of the bowel, its mucous membrane is liable to catarrh, but not to a peculiar catarrh. That catarrh may pass on to ulceration, and the consequences of that ulceration are the same in the appendix as they are in the rest of the intestine. The ulcer may perforate, and the usual results of perforation will follow. The peritonitis induced is in no way a peculiar peritonitis. It may lead to rapid septicaemia or to adhesions of various kinds with possible deformity of the appendix, or it may leave no trace behind. The ulcer may heal and may then lead to stricture of the little process, just as it leads to stricture of the bowel. Both the tube and the intestine may give way behind the narrowed part.

The few peculiarities which can be claimed for the appendix are mainly these. It ends in a blind extremity. It favours the formation of concretions. It is liable to gross disturbances of its blood supply from torsion. Its utter destruction leaves no function impaired.

THE CAUSES OF THE TROUBLE.

Into the etiology of appendicitis I do not propose to enter in any detail. The matter has been elaborately investigated, and it has been clearly shown—amongst other things—that this affection is especially common in the young, and has a remarkable predilection for the male sex—80 per cent. of the collected cases occur in patients under 30 years of age, and 73 per cent. of the whole number in boys and men.

There are three isolated points in connexion with the etiology to which I would like to draw attention.

1. Life in a tropical or a subtropical country has a very marked effect in encouraging appendicitis among Europeans. This may probably be explained, to some extent, by the fact that among the disorders of hot countries intestinal troubles occupy a conspicuous place, and that in such countries methods of living differ notably from those observed in more temperate climates.

2. In female patients the outbreak of an attack of appendicitis is frequently coincident with the menstrual period. This association is far too common to be merely accidental. The appendix and the right ovary are often found in close contact, and may be adherent to one another in uncommon cases. The lymphatics of the two structures are closely allied. It has been shown that certain of the lymphatics from the vermiform process pass through the right broad ligament on their way to the glands about the internal iliac vessels. Clado[illegible] has twice found infection passing from the appendicular lymph vessels to the utero-ovarian vessels. There can be little doubt that the ovary may be infected from the vermiform process, and it is possible also that the appendix may be infected from the ovary, although this latter method of transmission is, I should imagine, rare.

In removing a diseased appendix in a female subject it is well to examine at the same time the right ovary. This structure, in a certain small proportion of cases, will be found to be the seat of chronic inflammation, or to be adherent, or to be cystic. In some of these instances it may need removal. From a clinical point of view there is always a difficulty in deciding whether the organ principally concerned in the production of the symptoms is the appendix or the ovary. This difficulty is met with in cases in which there is abiding discomfort in or about the right iliac fossa with occasional exacerbations attended with inflammatory symptoms, and possibly associated with the menstrual function. In certain of these examples both organs are found to be concerned. Among cases like these I have met with more than one instance where the ovary alone had been inspected and removed, and where attacks persisted due to unrecognized trouble in a diseased appendix. On the other hand, I have seen several examples in which the appendix had been excised for what was reputed to have been chronic or recurring appendicitis, and in which the symptoms continued after the operation, and were in due course proved to be maintained by chronic ovaritis. These difficulties in differentation do not occur in the ordinary case, which is characterized by definite acute attacks of appendicitis of the classic type. These attacks, as has just been stated, may be coincident with the menstrual period, but in the very great majority of examples of this association the ovary will be found to be perfectly normal.

3. I think it may be safe to state that the most common and the most conspicuous factor in the etiology of an attack of appendicitis is a loaded caecum. Over and over again in the history of those who have had many attacks exceptional constipation has preceded the outbreak, and many patients have told me that so long as they kept their bowels in order they had little to fear from this particular trouble.

The lodgement of indigestible or ill-digested food in the caecum is the most common preliminary to an attack. In some cases a considerable quantity of indigestible food has been eaten, and as examples of such food may be cited pine-apple, preserved ginger, nuts, tough meat, lobster, and *hoc genus omne*.

In other cases the patient has his meals at irregular hours, has hurried meals, or bolts his food, or rushes into active work or active exercise immediately after he has eaten. In this category come the campaigning commercial traveller, the eager schoolboy, the "city man" who has his lunch standing, and gorges many things in a few chattering minutes; the

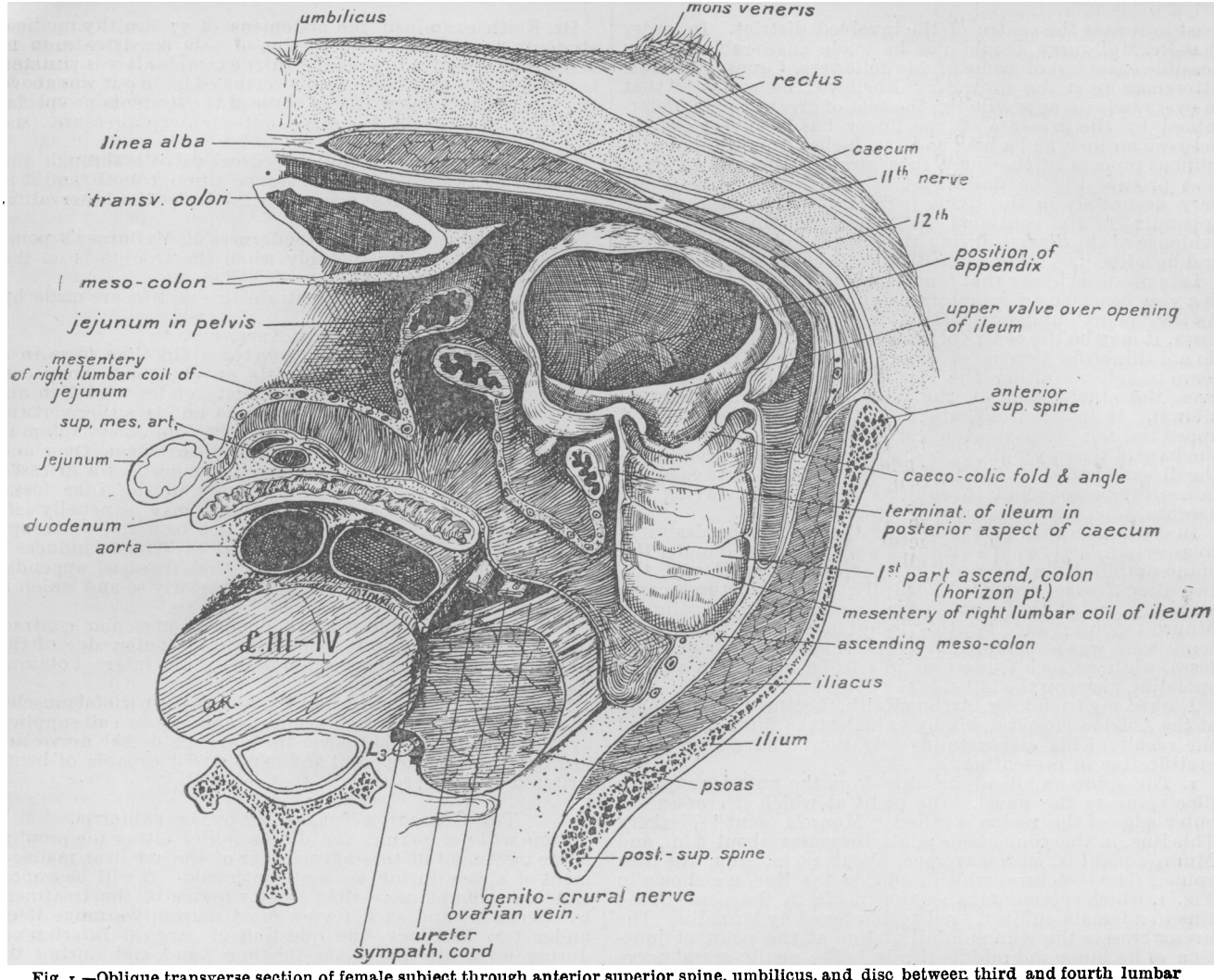

Fig. 1.—Oblique transverse section of female subject through anterior superior spine, umbilicus, and disc between third and fourth lumbar vertebrae. By Dr. Arthur Keith.

neurotic man, who is always in a turmoil, and such a topsy-turvy living individual as the habitually belated journalist.

In other examples the patient has few, if any, masticating teeth, and eats much meat to satisfy the spurious void of the dyspeptic, or he or she (with teeth or without) is a victim to acknowledged indigestion, or belongs to that class of person who is most happy when on a diet revealed to them by a friend. The engorged caecum encourages appendix troubles by becoming the seat of catarrh, by dragging upon the organ, by blocking its orifice, by interfering with its blood supply, by encouraging torsion of the tube itself, and by developing an inflammation of its walls which may spread either directly or through venous and lymphatic channels to the little process. This factor in the etiology is made more vivid by the artificial distension of the caecum in the cadaver. It must be allowed to play some part in the preventive treatment of appendicitis.

I am well aware that in a large proportion of cases the attack appears without any preliminary disturbance, as has just been alluded to, and that the subjects of appendicitis may be careful eaters and have perfect teeth and a perfect digestion. I am aware, also, out of the multitude who have defective teeth, who bolt their food, who regard dyspepsia as a part of their being, or who are habitually constipated, appendicitis occurs in but a trivial proportion.

In spite of the fact that it has been abundantly proved that the swallowing of seeds and small foreign bodies has relatively nothing to do with the production of appendicitis, there are still many who seem to hold that any seed which enters the alimentary canal at once bolts for the appendix, as a hunted rabbit bolts for its burrow; and the upholders of this faith consider that a warning to the patient not to eat seeds embodies the whole duty of man in the matter of appendicitis.

McBURNEY'S POINT.

Time will not permit of any discussion of the familiar clinical manifestations of appendicitis, but I am anxious to draw attention to two matters, namely, to the signification of localized tenderness in appendicitis and to the palpation of the diseased process itself.

Those who are familiar with the literature of this affection will have been impressed with the importance—often so prominent as to be almost absurd—which attaches to tenderness over a certain limited area called McBurney's point. With many, McBurney's point is an inspired sign, a diagnostic talisman, and a key to the whole clinical position. There are numerous writers who regard tenderness at McBurney's point as the principal clinical feature of appendix disease.

If there be tenderness at this spot, then the affection is appendicitis; if much tenderness be not perceived, then there is a strong assumption that no appendicitis is present. The symptom becomes therefore, the very touchstone of the disease. Moreover, it is assumed by many that this tenderness points to the site of the diseased process, or that it at

least indicates the centre of the involved district. In order that Dr. McBurney should not be made answerable for the possible excesses of some of his followers, I quote his own utterances upon the subject. "I believe," he writes,[8] "that in every case (of appendicitis) the seat of greatest pain, determined by the pressure of one finger, has been very exactly between an inch and a half and two inches from the anterior spinous process of the ilium in a straight line drawn from that process to the umbilicus." "The point corresponds very accurately in the living subject to the base of the appendix."[9] He considers tenderness at this spot gives evidence of the disease during the first hours of an attack, and he adds, "no other acute disease presents this feature."

It is needless to say that tenderness in the right iliac fossa is a very conspicuous symptom of appendicitis of all grades. As the "point" under discussion is about the centre of this fossa, it may be the centre of the tender area. Beyond this I do not think the sign is of any clinical value. It does not serve to indicate either the starting point of the disease or even the chief point of the disease (This Dr. McBurney allows). It does not indicate the situation of the diseased appendix, nor does it even correspond in the subject with the base of the appendix. So far from its being peculiar to the disease under notice, tenderness at this point is common in healthy persons and in subjects of colitis, involving the caecum, such tenderness may be quite acute.

In connexion with this subject it appeared to be desirable to ascertain, first, what structures were to be found under the spino-umbilical line; secondly, what difference, if any, the two iliac fossae presented; thirdly, what structures came precisely under the spot known as McBurney's point or Munro's point; and, fourthly, why in healthy individuals tenderness was so common at a certain spot in the right iliac fossa, while no such tenderness was to be noticed in a corresponding place on the left side?

I asked my friend, Dr. Arthur Keith, Lecturer on Anatomy at the London Hospital, kindly to undertake this inquiry, and the result of his elaborate investigation I have now much gratification in presenting.

1. The spino-umbilical line runs from the anterior superior iliac spine to the navel. The point at which it crosses the outer edge of the rectus is called "Munro's point" (Merkel). This line, in the young male adult, measures about 6 in., and Munro's point is, on the average, about 2.6 in. from the iliac spine. The structures which lie below the line are shown in Fig. 1, which represents a section made in the plane of the line in a female subject, aged 55, hardened by formalin. The ureter crosses the spino-umbilical line at the point of junction of its inner and middle-thirds. The genito-crural nerve is close to it (see Fig. 1). The relations are the same on the two sides. The eleventh dorsal nerve enters the sheath of the rectus beneath Munro's point. The skin between the iliac spine and Munro's point is supplied mainly by the lateral cutaneous branch of the eleventh dorsal. Munro's point nearly corresponds to that known as McBurney's, but the former has the advantage of more precise localization.

2. The two iliac fossae present no anatomical differences except that the caecum is found on one side and the sigmoid flexure on the other.

3. The structure, peculiar to the right side, which comes more or less precisely under McBurney's point or Munro's point is the ileo-caecal valve (Fig 2).

This statement is based upon the examination of 50 subjects (40 recorded and figured by Dr. C. Addison[10] and 10 by Dr. Keith in connexion with the present inquiry). In 22 instances the valve was situated under or near Munro's point, in 14 instances above (and on the average external to) that point and in 14 examples below and internal to the point (Fig. 3).

The base or opening of the appendix lies on an average rather more than one inch below the opening of the ileum.

4. There seems to be but little doubt that the right sided tender spot which can be made out in so large a proportion of healthy individuals is represented by the ileo-caecal valve. It must be understood that the tenderness in question is well-defined, is elicited by deep pressure with the finger, and is represented by no corresponding sensitiveness on the left side.

It will be found about the spino-umbilical line and in close proximity to the two "points" which have been referred to in connexion with that line.

Dr. Keith examined the abdomens of 27 healthy medical students to ascertain the relation of this sensitive area to McBurney's or Munro's point. In 11 examples it was situated beneath the line and near to the rectus edge, in 9 it was above the line and in 4 below it. In three of the students no special sensitive spot could be made out on deep pressure (see Fig. 4).

The nerve supply of the ileo-caecal valve is through the eleventh or twelfth dorsal nerves, or through both, and it is probable that, like most orifices in the body, the innervation is elaborate.

As I have already said the tenderness at McBurney's point in some cases of colitis (notably when the trouble is on the right side and chronic) is very marked.

(All the drawings which illustrate this section are made by Dr. Arthur Keith).

A Phantom Appendix.

On palpating the abdomen above the right iliac fossa in a patient suspected of appendicitis an elongated body can occasionally be felt which is often mistaken for a swollen appendix. The little tumour is pipe-like and is either vertical or is more usually placed obliquely. The oblique phantom is always found to be external to the vertical one. Over and over again the discovery has been announced of a diseased appendix lying vertically or obliquely in the iliac fossa. When the part is exposed by operation it may be usually safe to assert that the diseased organ will not be found to occupy the site of the elongated body. Indeed experience induces a great suspicion of the existence of that diseased appendix which is said to be placed vertically or nearly so and which is so readily felt.

This phantom is due without doubt to muscular contraction. This contraction is sometimes in the outer edge of the rectus muscle, sometimes in the fibres of the internal oblique or transversalis muscles.

It must be remembered that the bowel, the parietal muscles over it, and the skin which again covers them are all supplied by the same nerve. Moreover the eleventh dorsal nerve lies just beneath Munro's point and is no doubt capable of being irritated by deep pressure in that region.

The Operative Treatment of Appendicitis.

Time will not permit the discussion of either the prophylactic treatment of this affection or of the medical management of a case during an acute outbreak. It will be impossible to attempt more than a hasty review of the treatment by operation, and such review must naturally arrange itself under two headings—the question of surgical interference during an acute attack, on the one hand, and during the period of quiescence which has followed an attack, on the other.

A perusal of the literature of the subject makes the course which the surgeon should take by no means clear. A right estimate of the value of operation in appendicitis and of the right moment of its application is obscured by conflicting statements, by bewildering statistics, and by contradictory propaganda.

There is, indeed, so great a diversity of opinion among surgeons who are qualified to speak with authority that it is difficult to imagine a mediate line of action which will reconcile extremes and provide grounds for common acceptance. Profuse as are records of a kind, we still lack ample and reliable statistics of the general mortality of the disease, of the results of operation during an attack, and especially of the work of those surgeons who urge that the abdomen should be opened in all non-chronic cases as soon as the diagnosis has been made. The last named operators would justly, in their turn, demand a full return of all cases in which the practice they observe had been ignored. This, again, is not forthcoming.

Hospital statistics are satisfactory only up to a certain point, since they of necessity deal with cases of the most severe type, the cases ill enough to be admitted into the wards. A *précis* of results derived from isolated examples in the various journals is not satisfactory, since it is human to record success and to show little eagerness to acknowledge failure. The best record which could be obtained would be based upon the experience of a number of medical men in large general practice, or upon the systematic records of an

army during times of peace. Some general statistics on these lines have been forthcoming,[11] but when the mortality shown has been low, it has been objected that the cases were not true instances of appendicitis, and when the mortality has been high it has been claimed that the slight cases had been omitted from the record.

As the subect is not yet ripe for dogmatic treatment I have ventured to express no more than the opinions which have been forced upon me by my own experience, with the full knowledge that such opinions are apt to be ill-founded.

OPERATION DURING AN ACUTE ATTACK.

The question of surgical treatment during an acute attack has led to greater differences in practice than has any other matter arising out of the treatment of this disease.

The extremes are represented by those on the one hand who advise abdominal section as soon as the diagnosis is made, and by those on the other hand who would operate only on compulsion, and in the presence of either intensely acute symptoms or the evidence of pus.

The former place the necessity for operating in the same category with the need for interference in strangulated hernia, or perforated ulcer of the stomach, and are particular to claim that a case starting with trifling symptoms may end fatally.

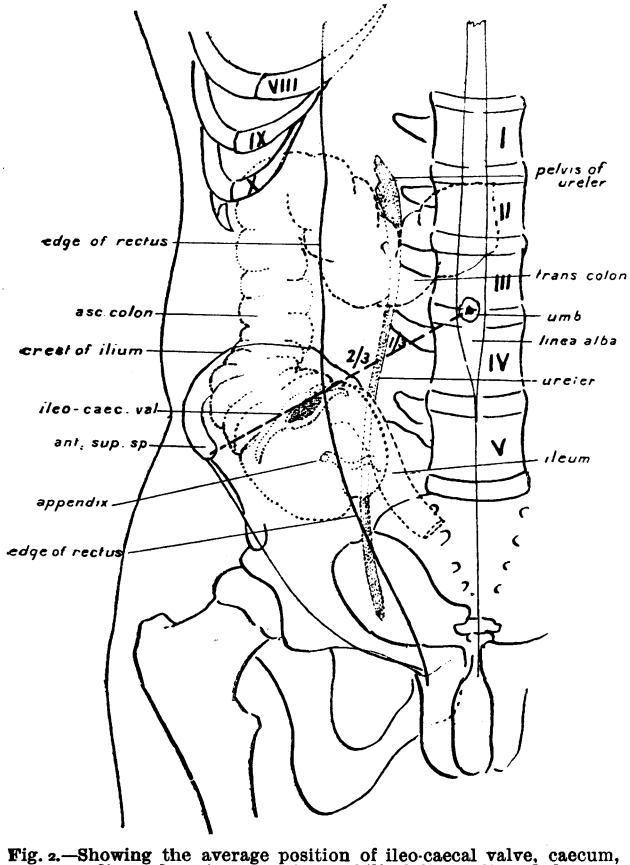

Fig. 2.—Showing the average position of ileo-caecal valve, caecum, appendix, and ureter, on spino-umbilical line. Founded on 50 subjects (40 by Addison, 10 by Keith). By Dr. Arthur Keith.

The latter are occupied with the danger of operating during an attack, with the largeness of the proportion of cases which recover spontaneously, and with the evidence that the diseased appendix is most safely dealt with during the period of quiescence.

In the consideration of this vexed question I would venture to bring forward the following points:

1. In the advocacy of what may be termed indiscriminate operation it is misleading to use the expression "gangrene or rupture of the appendix," "perforation of the appendix," and "appendicitis with acute peritonitis," in exactly the same sense as the terms "gangrene or rupture of the bowel," "perforation of the stomach," and "acute peritonitis" are employed in association with urgent operation.

In every case of acute appendicitis of the accepted type there is acute peritonitis. Limited gangrene of the appendix may be recovered from without operation, and without the formation of an evident abscess, and the same may be said of limited perforation of the process. In a large proportion of examples of acute trouble in this organ there is a perforation although it may be microscopic. I have found a concretion lying outside a ruptured appendix one month after recovery from an acute attack, the affected area having been isolated by adhesions.

I do not wish to minimize the gravity of these lesions, but merely to protest against a course of action being influenced by the misleading use of terms and unjustified analogies.

2. The greater proportion of cases of appendicitis recover spontaneously, and it is probable that the general mortality of the disease—if examples of all grades be included—is not above 5 per cent.

3. Operations carried out during an acute attack are attended with a risk to life which is considerable, and which is probably expressed by a mortality of over 20 per cent. Certain hospital records and collections of cases appear to place the death-rate even higher than this.[12]

4. It must be remembered that relapses may occur after operation carried out during the acute stage. Dr. Mynter incidentally mentions that out of 27 cases so treated there were two relapses. (It is possible, however, that these relapses were due to complications from abscess.)

5. The removal of the appendix during the quiescent period is attended with a very trivial risk, which may be expressed by a mortality of 1 in 500.

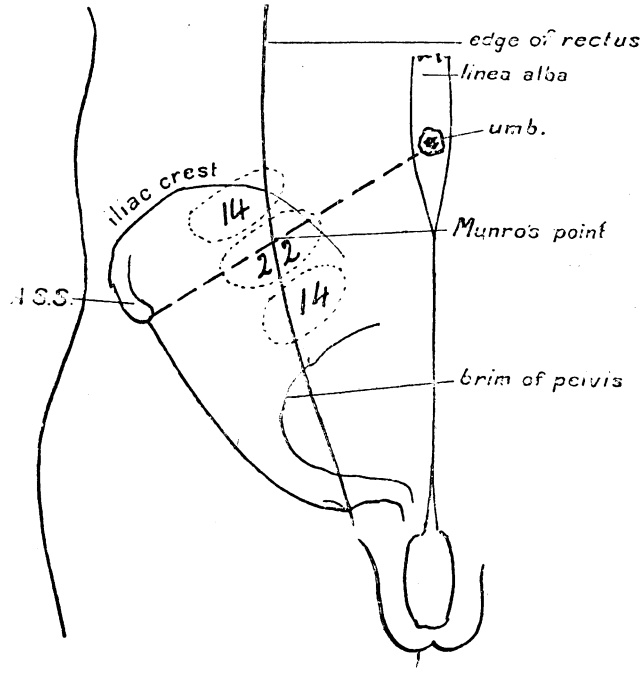

Fig. 3.—Showing diagrammatically the position of the ileo-caecal valve in 50 subjects (hardened by formalin), 40 observed and figured by Addison and 10 by Keith By Dr. Arthur Keith.

Regarding the above propositions as bases for some sort of definite action in the management of the acute case, it has appeared to me that a reasonable course may be established upon some such lines as the following:

(A) I venture to think that our knowledge of the pathology of the disease and its general mortality will not sanction the practice of opening the abdomen in every case of appendicitis as soon as the diagnosis has been established.

(B) Immediate operation is demanded, at the earliest

possible moment, in all ultra-acute cases. These cases embrace those very hopeless examples which present from the onset the phenomena of intense infection, and in which it is evident that a very large dose of poison has suddenly been introduced into the system. In these examples death may occur in thirty-six or forty-eight hours. In the same category are also included cases in which the symptoms are on a par—as regards acuteness—with the phenomena attending the perforation of an ulcer of the stomach. In spite of expressions to the contrary I do not think that these ultra-acute cases are difficult of recognition.

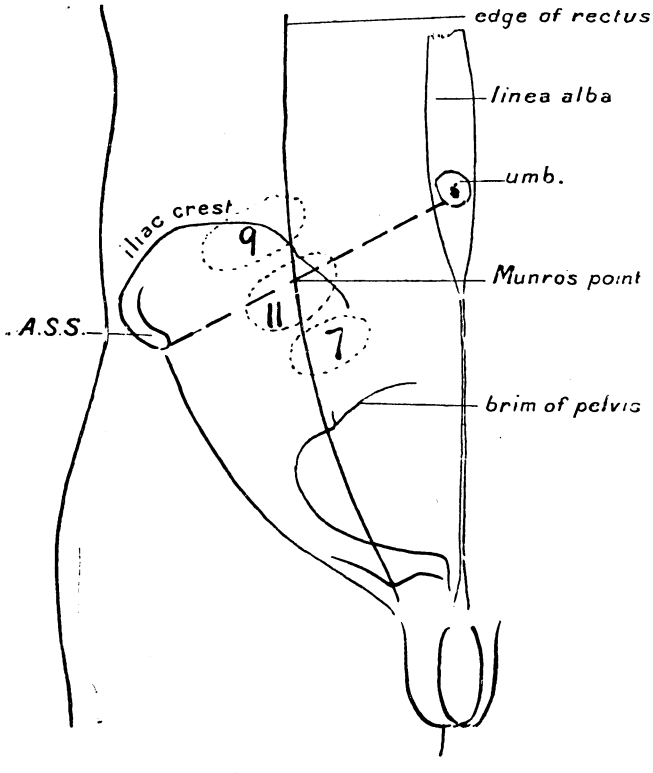

Fig. 4.—Showing diagrammatically the position of the tenderness elicited by deep pressure the in right iliac fossa in 27 students. In the lower group are included 3 students in whom no special tender spot could be recognized. By Dr. Arthur Keith.

(C) Immediate operation is demanded in every example in which there is reasonable suspicion that suppuration has taken place.

(D) In cases outside those above named I venture to think that the question of operation may be kept in abeyance for the first few days of the attack, and may usually be left open for decision until the fifth day or after.

I may lay stress upon the fact that the great majority of cases of appendicitis recover spontaneously without either an operation or the formation of an abscess, that the ultra-acute cases are actually rare, and that, relatively to the whole mass of examples of all degree, suppuration may be said to be uncommon.

OPERATION DURING THE PERIOD OF QUIESCENCE.

In a paper laid before the Royal Medical and Chirurgical Society in September, 1887, I ventured to suggest that cases of recurring appendicitis should be treated by the removal of the appendix during the period of quiescence. My proposal was not very enthusiastically supported, and it is interesting to note that in the debate which followed the reading of the paper one physician of great experience stated that he had seen a good many cases of typhlitis, but that none had gone to a point requiring surgical operation.

Since the discussion took place I have removed the appendix during the quiescent period over one thousand times with two deaths. The very trifling risk attending this measure has led gradually to fewer and fewer restrictions as to the condition under which it should be carried out. I venture to think that when any patient has had one definite attack of appendicitis it is desirable that the appendix should be removed as soon as all active phenomena have vanished. While I cannot agree with Lennander[13] that a recurrence is to be anticipated, at some period or another, in the history of every case, I think that there is no doubt that the balance of probability is in the direction of a second attack.

It is manifest that the risk of the operation is infinitely less than the risk of such attack, and that immunity can be obtained and a weight of doubt removed at a trifling sacrifice. If any attack has been attended by the formation of an abscess which has healed, then the question of removing the appendix may be indefinitely deferred, since by the occurrence of suppuration the patient is—in all but a very small percentage of cases—cured of his trouble. Should there be any recurrence of symptoms after the abscess has closed, then the removal of the appendix is certainly to be advised. Complications arising from the abscess itself may also call for surgical interference.

Some little caution must be exercised in accepting the statement that an abscess has, in any given case, burst into the bowel. In more than one instance the material which has escaped from the rectum, and which has been regarded as pus, has proved to be decomposed and long-retained mucus from a catarrhal colon.

In addition to the cases attended by abscess there are at least two types of appendicitis in which the question of removing the affected organ after the first attack may be reserved for some consideration. A slight or moderate attack of appendicitis in a child, which has definitely followed upon the lodgement of a mass of undigested food in the caecum, may never be repeated if the error in diet be also not repeated.

There are, moreover, cases in adults in which the attack would appear to be led up to by gross deviations from what might be regarded as normal food taking. Among such individuals are those who have no masticating teeth and who "eat anything"; those who habitually bolt their food, eat ravenously, or take irregular meals; those who have a leaning towards a particular kind of indigestible food, or constantly neglect their bowels. If these errors, or any combination of them, be corrected, there may be no repetition of the initial attack.

These examples are not cited as affording definite exceptions to the general rule of operating, but rather as the cases which, in my experience, are most prominent among those in which there is no recurrence after the primary outbreak.

Removal of the appendix is also to be recommended in chronic appendicitis, in those examples in which there are no actual attacks but in which there is abiding discomfort in the right iliac fossa with exacerbations of uneasiness.

In conclusion, it may be in accord with certain signs of the times if it be remarked that the removal of the appendix is not a panacea for all ills, nor even for all those manifold pains which seize upon the lower segment of the abdomen.

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THE ANNUAL TEMPERANCE BREAKFAST.—We are asked to state that the annual temperance breakfast to members of the British Medical Association will be given by the National Temperance League at Manchester on Thursday morning, July 31st, during the annual meeting. Applications for tickets should be made to Mr. J. T. Rae, Secretary, Paternoster House, London, E.C.