A Clinical Lecture

ON

THE SURGICAL TREATMENT OF RELAPSING APPENDICITIS, WITH A REPORT OF THREE SUCCESSFUL CASES.

Delivered at the General Hospital, Birmingham, on Jan. 27th, 1897,

BY GEORGE HEATON, M.B. OXON.,
F.R.C.S. ENG.,

HONORARY SURGEON TO THE HOSPITAL; SURGEON TO THE
BIRMINGHAM AND MIDLAND COUNTIES HOSPITAL FOR
SICK CHILDREN, ETC.

GENTLEMEN,—Inflammation of the vermiform appendix, or, as it was formerly termed, perityphlitis, is a disease from which in the majority of cases a patient suffers once, and once only, in a lifetime. He has an attack—severe or mild as the case may be—and if, under proper medical care and treatment, he is restored to health his appendix in the majority of cases gives no further trouble. But in a certain number of cases, the sequence of events is not so happy. After an interval, it may be of months or of years, a relapse occurs, and this is followed at longer or shorter intervals by a number of other ones varying much in severity. These may be so frequent and so severe as to render the patient a confirmed invalid even if he does not actually die in one of them. Relapses are, I fancy, more frequent than is generally deemed to be the case. Hospital patients, from whom most of our statistics on such subjects are derived are a very wandering population, especially in our big cities, and for this reason it is very difficult to obtain an accurate knowledge of the after history of our patients or to determine the actual percentage of relapses after apparent cures. Hawkins¹ from an analysis of 250 cases admitted into the wards of St. Thomas's Hospital found that in 23.6 per cent. there was a history of one or more previous attacks. These figures show that the percentage of relapses after apparent cure of appendicitis is certainly as high as 23.6 per cent.; and inasmuch as amongst these 250 cases are included cases which, though suffering on admission from a first attack, may possibly, after apparent recovery and discharge from hospital, have had other attacks, the percentage of relapses is probably considerably higher. In almost all these relapsing cases it is the appendix itself which is the starting-point of the recurrent attacks of inflammation. In one or two exceptional cases only have they been traced to ulceration in the cæcum itself. The principal morbid conditions which are found may be grouped under six heads: (1) an enterolith is imprisoned in the appendix (as in Case 1) with occasional distension of its blind end with pus; (2) the appendix is surrounded by dense, inflammatory adhesions enclosing an encapsuled abscess; (3) the lumen of the appendix is destroyed by ulceration and its distal end is distended with mucus or pus; (4) the appendix is coiled upon itself or acutely "kinked" and fixed in this position by adhesions; (5) the appendix is free but much thickened, resembling a mass of cartilage rather than a mucous tube (such an appendix is occasionally lengthened and unequally distended along its length); and (6) the appendix is surrounded by dense old adhesions, matting it to the cæcum, small intestine, bladder, rectum, or the abdominal wall.

In some cases these relapses seem to become milder, in others more severe as time goes on; but a severe or even fatal relapse may follow a succession of very mild ones, and we cannot predict with any certainty the character of future relapses from that of the previous ones. For this reason the principle of treatment by removal of the offending organ during a quiescent period, which has been so ably advocated, and so successfully carried out, by Mr. Treves in this country, cannot be too strongly insisted upon. But I would go still further and make it a rule to strongly advise operation in all cases where there has been a single relapse after the primary

attack. Careful dieting and medicine with prolonged rest in bed may in a few of such relapsing cases effect a lasting cure, but this is the exception, and in the majority of cases relapse follows relapse, producing in some cases a chronic state of invalidism, while each relapse adds to the difficulties and dangers of any operation which may ultimately have to be performed. In my own experience during the last few years I know of five cases in which a sudden fatal general peritonitis has followed the repeated warnings given by a succession of mild relapses and in which, had this treatment been adopted and the removal of the diseased appendix been effected after one of the earlier mild attacks, these lives would in all probability have been saved.

The operation itself is often extremely simple; in the first two of my own cases it was so; but it may, on the other hand, be one of extreme difficulty. I have more than once assisted at cases where, owing to the dense and extensive adhesions, and the intimate adhesion of omentum, intestine, and cæcum, it has been found quite impossible even to expose the appendix, and the attempt has had to be abandoned. The mortality, however, attending it in skilled hands is extremely small (Mr. Treves has published a brilliant record of 150 cases with only one death). The repeated attacks of inflammation have fortunately rendered the peritoneum both less vulnerable to injury and less absorbent of poison; and for this reason an amount of tearing and bruising which, with a normal peritoneum would almost certainly set up the most intense inflammation is frequently followed by little or no disturbance. Wherever possible the stump of the appendix left after removal should be provided with a serous covering. With this object in my two first cases I raised a circular flap of peritoneum only from the appendix, commencing some half an inch beyond the point at which it was intended to excise it. The muscular and mucous coats were then ligatured with silk, cut through, and the stump touched with pure carbolic acid. The flap of serous membrane was finally stitched over the stump so as to completely cover it in. It was impossible to do this in Case 3, and I am disposed to attribute the localised suppuration which occurred to an infection of the wound from the exposed mucous membrane. No drainage of the peritoneum is necessary in uncomplicated cases. It should be avoided if possible, as the liability to a subsequent yielding of the scar and formation of a ventral hernia is thus considerably lessened. The rapid gain in weight and flesh and the quick restoration to robust health after the operation is one of its most remarkable features.

CASE 1. *Relapsing appendicitis; removal of appendix after the fourth attack; recovery.*—The patient, a man aged nineteen years, came under my care at the General Hospital on March 19th, 1896, with slight tenderness in the right iliac fossa. His first attack—the most severe one—was five years previously, the second three years, the third six months, and the fourth, whilst at the Jaffray Hospital, one month previously to his coming under my care. The attacks usually lasted about a week or ten days, and were accompanied by some pain and tenderness in the abdomen and a slight rise of temperature. He had never been sick during an attack. The last one was brought on by eating an apple. His condition on admission was as follows. He had no pain, but there was some slight tenderness in the right iliac fossa. On palpation a well-defined mass could be felt about the size of a walnut. It was situated two inches from the right anterior superior iliac spine, along a line drawn from that point to the umbilicus. Operation was performed on March 14th. The abdomen was opened by a linear incision over MacBurney's point. The appendix was found to be surrounded by matted omentum. This was separated and removed. The appendix, which was bound down and twisted on itself, was then separated from its adhesions and its mesentery was ligatured and cut through. A circular flap of serous coat only was raised for about half an inch near its junction with the cæcum. This was turned back, a silk ligature was tied tightly round the muscular and mucous coats, and the appendix cut away. The stump was touched with pure carbolic acid and the serous flap was then stitched over it with a continuous catgut suture. A small drain of iodoform gauze was left in the abdominal wound for twenty-four hours. The wound united by primary union save where the drain had been. His temperature did not reach 99° F. Some three weeks after the operation he had for about ten days some pain and frequency of micturition and a slight elevation of temperature, which with rest and low diet passed off. He

¹ Hawkins: Diseases of the Appendix, p. 112.

was discharged well on May 4th. When seen in December, 1896, he had some tendency to a small ventral hernia at the seat of the scar, and was ordered an abdominal belt. He had no more pain or abdominal trouble. With regard to the condition of the appendix, it was enlarged and thickened throughout its whole length. In its middle third it was distended into a tense sac, which on opening contained a little muco-purulent fluid and a hard oval-shaped enterolith. The coats of the appendix on section showed evidence of chronic inflammation, which was most marked in that part of the tube where the enterolith lay impacted.

CASE 2. Relapsing appendicitis; removal of appendix after the seventh attack; complete recovery.—A lady, aged twenty-eight years, was seen in consultation with Mr. Turner. She had had seven attacks, varying in severity, during the past four years. The present one began seven weeks previously with vomiting and pyrexia. She had been an invalid in bed ever since with occasional pyrexial attacks and exacerbations of pain in the right iliac fossa. The tumour could be plainly felt in the position of the appendix and was tender on palpation. She had lost flesh considerably. Operation was performed on Oct. 16th, 1896. The abdomen was opened by an oblique incision (as for a right inguinal colotomy). The appendix was found to be elongated and much thickened. There were no adhesions around. A circular flap of peritoneum was raised from it about half an inch from its junction with the cæcum. The muscular and mucous coats were ligatured with silk and the organ was removed after its mesentery had been ligatured with several interlacing silk ligatures. The stump of the appendix was touched with pure carbolic acid and the serous coat stitched over it with a continuous suture of fine catgut. The abdomen was closed. Primary union of the wound ensued. The patient has lost all her pains and has been perfectly well since.

The following microscopic report by Dr. Stanley relates to the condition of the appendix. Section through the appendix showed considerable thickening of, and deposit of fibrous tissue in, the peritoneal surface, with formation of new vessels. The muscular coats were also thickened and there was increase of the interstitial fibrous tissue. The mucous coat showed a form of degeneration of the epithelium and sub-epithelial cells into a series of cells having an epithelioid character and forming a fairly thick layer. In this layer the Lieberkühn follicles and solitary glands were embedded. This cellular layer was covered by cylindrical epithelium which was somewhat retrograde in type, being less well-defined than normal and the cells being irregularly shaped.

CASE 3. Relapsing appendicitis; removal of the appendix after the seventh attack; recovery.—The patient was a thin, delicate-looking boy, aged six and a half years. He was admitted into the Children's Hospital on Nov. 26th, 1896, suffering from appendicitis. With regard to the history, he had had six previous attacks similar to the present one, but increasing in severity, during about thirteen months. This attack began fourteen days before admission with sudden severe pain in the right groin with acute tenderness and fever. Until these attacks commenced he was strong and healthy; he had been gradually getting thin and weak since. On admission to hospital he lay with his right thigh flexed on the abdomen and complained of much pain in the right iliac fossa. There was a hard, oval, tender swelling to be felt about two inches below, and to the right of, the umbilicus. The bowels were constipated, and the tongue was dry and furred. Under rest in bed the tenderness became less, and though he vomited occasionally he improved somewhat in general health. The swelling became slightly smaller. An operation was performed on Dec. 8th. The abdomen was opened in the right iliac fossa just external to the mass. The intestine was found adherent to the abdominal wall. The appendix was coiled upon itself and distended into a hard spherical lump. This was with difficulty separated from the parietal peritoneum and omentum. It was ligatured with silk at its junction with the cæcum and excised. The stump was touched with pure carbolic acid. The abdominal wound was closed. His temperature remained normal after the operation, but his pulse continued somewhat high, varying from 100 to 120, and he vomited slightly on two occasions. On the third day the wound was dressed, and on inserting a small probe about half an ounce of faecal-smelling pus escaped. A small drainage-tube was put in. By Dec. 14th all discharge had ceased, the tube was removed, and all stitches were taken out. On the 20th the wound was soundly closed and the patient was

beginning to increase in weight. He remained an in-patient until Jan. 20th, 1897, when he was discharged, having quite regained his old weight and colour, and his bowels acting well daily. With regard to the appendix, it was distended in its middle third into a sac, which contained a hard faecal concretion firmly wedged in it. The distal portion of the appendix was contracted and acutely twisted back upon, and adherent to, the dilated portion. The whole organ was adherent to the coats of the small intestine and the abdominal parietes.

ILLUSTRATIVE CASES OF APHASIA.

By BYROM BRAMWELL, M.D., F.R.C.P. EDIN.,
F.R.S. EDIN.,

PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY, LECTURER ON THE
PRINCIPLES AND PRACTICE OF MEDICINE, SCHOOL OF
MEDICINE, EDINBURGH, ETC.

(Continued from p. 1143.)

CASE 11. Sudden cerebral attack after confinement; absolute deafness to all sounds for sixteen days; temporary motor aphasia and word-blindness; absolute word-deafness for four weeks; rapid recovery from the motor aphasia; partial recovery from the word-blindness; very slow and imperfect recovery from the word-deafness; slight paraphasia and slight paraphagia; echo speech; retention of the power of writing from dictation and of reading aloud; no hemianopsia; re-development of acute cerebral symptoms (meningitis or cerebritis) six months after the original attack; hyperpyrexia; death; no necropsy.—This case, which is the most striking example of word-deafness without total aphasia which has come under my own notice, presents many points of interest and importance. It is very unfortunate that there was no post-mortem examination; but there can be little or no doubt that the lesion was entirely, or almost entirely, confined to the auditory speech centre or the afferent tracts going to the auditory speech centre. A profound, sudden, destructive lesion such as it must have been, involving the auditory speech-centre, would necessarily entail at its commencement considerable disturbance in the motor vocal speech centre and in the visual speech centre. That these centres (motor vocal speech centre and visual speech centre) were not themselves directly implicated by the lesion is, I think, conclusively proved by the rapid recovery in the power of motor vocal speech and the very marked recovery in the power of reading which were established. When the patient came under my notice the word-deafness was still very complete; but with the exception of some degree of paraphasia the patient could express herself quite well in spoken speech, the only defect being that she occasionally made use of a wrong word and forgot names of objects (slight paraphasia). She could read aloud anything which was placed before her. She could understand short, written sentences which she could not understand when spoken (by the ear). She could express herself in writing, though not without mistakes. The inability to understand complicated sentences and the mistakes in writing which her letters show that she made can be quite well accounted for by the lesion in the auditory speech centre; they do not necessitate a lesion in the visual speech centre. The patient could repeat correctly words and sentences which she did not understand when spoken, and could write from dictation long sentences which she was quite unable to understand by the ear. It is very difficult to explain the fact that the ability to repeat spoken speech (heard by the ear) was retained, considering that the word-deafness was so marked. The most likely supposition seems to be that the repeated (mere echo) speech passed through the right auditory speech centre (instead of through the left auditory speech centre, the usual channel) to Broca's centre in the left hemisphere. Another point of great interest in the case is that for three or four days after the seizure (although the sensorium seems to have been clear) the patient was stone deaf. Absolute deafness is very rarely indeed, as Dr. Hughlings Jackson has pointed out, the result of a cortical lesion. The fact that this patient was stone deaf is suggestive of a bilateral lesion involving both auditory centres, or the fibres passing to both auditory centres. The supposition that the lesion was bilateral (involved both auditory