RELAPSING TYPHLITIS TREATED BY OPERATION.

BY

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TYPHLITIS, perityphlitis, and paratyphlitis are terms that, in the light of recent pathology, are losing no little of their original meaning. The distinctions that separated them have in great part vanished. The terms are now practically synonymous, and refer mainly to an inflammation in the vicinity of the cæcum. This inflammation will be chiefly peritoneal, and need not involve the cæcum itself either primarily or secondarily. Paratyphlitis, or inflammation of the subserous connective tissue in the cæcal region, is ceasing to be a disease with a clear individuality. It possibly belongs to the time when it was believed that the cæcum possessed a non-peritoneal surface. Since it has been shown that that bowel is always entirely enveloped by peritoneum the condition has been less heard of.

The so-called subserous abscess, the result of paratyphlitis, proves in the majority of cases to be an encysted peritonitis. There is no more reason why the subserous connective tissue in the cæcal district should inflame

under supposed irritation than would apply to the tissue outside a hernial sac.

The term typhlitis, as implying an inflammation of the cæcum, is usually a misnomer. It is the vermiform appendix and not the caput coli that plays the most important part in these grave affections.

In the greater number of fatal cases of typhlitis the cæcum has been found intact, while the appendix is inflamed and probably perforated. The perityphlitic abscess is usually—possibly always—an encysted peritonitis, and the cause of that peritonitis is to be found more often in the appendix than in the cæcum.

Typhlitis, or inflammation of the cæcum, is not to be denied. Ulcers—and notably stercoral ulcers, due to the impaction of fæces in the bowel—are not uncommon in the cæcum. These may lead to perforation, to perityphlitis, and possibly to inflammation of the connective tissue that is not far distant.

The overwhelming influence of the appendix has been well demonstrated by Fitz¹, With², Matterstock³, and others.

The appendix is a part of the human body that is in reality obsolete, and exists as an organic anachronism. It is the deformed relict of the elongated cæcum of lower mammals—of the capacious cæcum of the rodents, and the remarkable blind gut of the marsupials. It would appear to be functionless and to be perishing (as do many obsolete organs) by a pathological process. So high is the mortality in typhlitis, and so common is the disease, that the appendix may be conceived to take some share in evolution, since in the question of the survival of the fittest an advantage would attach to the being whose appendix was abortive or had been obliterated by early disease.

It is significant in this relationship that the tendencies

¹ 'International Journal of the Medical Sciences,' Oct., 1886, p. 321.

² 'London Medical Record (Abstract), 1880, viii, p. 213.

³ Gerhard's 'Handb. d. Kinderkrankh.,' 1880, iv, 2, p. 897.

of diseases of the appendix are to lead to obliteration of that process, and pathology makes it clear that when once the process is involved no better conclusion can follow than that marked by the practical disappearance of this part of the intestine. Indeed, if it be true that a sure guide in active treatment is to imitate the results of such undisturbed morbid changes as lead to cure, then the extirpation of the appendix would appear to be suggested in a somewhat wide extending phase of disease.

The frequency with which the appendix proves on post-mortem examination to have been the seat of disturbance is quite remarkable. Tungal¹ states that during two years he found in the post-mortem rooms of the Hamburg Hospital no less than ninety-six examples of gross disease of the vermiform process. Toft² goes further, and has endeavoured to show that one individual in three possesses a diseased appendix. My own investigations, I must confess, do not lead me to place this proportion quite so high.

In my Hunterian Lectures delivered at the College of Surgeons in 1885 I gave an account of the condition of the appendix derived from the examination of 100 fresh bodies. The growth of the process is uncertain. It appears to attain its full dimensions very early in life. It fluctuates in length from one inch to six inches or more. Its variations in outline are even more extreme. Owing to a certain condition of the mesentery of this process it is apt to become contorted and bent. This bending of the tube may lead to its obliteration, while inflammation may be excited by retention of mucus and other matters in the distal end of the canal. It is common to find the free end of the appendix greatly enlarged and distended from this cause. Moreover, the tube when acutely bent upon itself may be found ulcerated at the seat of flexion, and it is easy to understand that that ulceration may lead to a more widely-spread inflammation. In the majority of cases the vermiform process lies behind the end of the

¹ Matterstock, loc. cit.

² With, loc. cit.

ileum, pointing towards the spleen, but from disease or from simple anatomical changes in its mesentery it may be found lying in all possible positions. Its posture with reference to the general cavity of the abdomen is, of course, mainly dependent upon the mobility of the cæcum. With remarkable frequency the appendix is found to have contracted adhesions to neighbouring points of the peritoneum, a condition that may lead to other and more serious troubles than typhlitis.

These are some of the anatomical conditions in the appendix that may lead to typhlitis, but a still commoner cause of the trouble remains. The muscular coat of this little tube is very feebly developed, and this circumstance, combined with its position and its arrangement as a cul-de-sac, greatly favours the accumulation of matters in its lumen. These take the form occasionally of foreign bodies derived from the food, but more frequently consist of inspissated fæces. Fitz,¹ in his able monograph on the appendix, states that more than three fifths of all cases of perforated appendices are due to concretions and foreign substances lodged in the little canal.

When the appendix does become inflamed, anatomical conditions assist in rendering that inflammation local. In 18 per cent. of all cases I found the process lodged behind the cæcum; and, when in this posture, a perforation would have every prospect of leading to a mere local peritonitis. The extent of fixed peritoneum in the vicinity of the appendix, and the arrangement of the bowel about the cæcum, all encourage the formation of adhesions and assist in localising inflammatory exudations.

A study of the appendix and of the part it plays in the production of typhlitis shows this—that if by some magic an attack of typhlitis could be foretold, it could be prevented in a large proportion of cases by a removal of the appendix itself, or at least by some operation that would remedy the lesions or defects of which it was the seat.

It must not be assumed that every inflammatory dis-

¹ 'International Journal of the Medical Sciences,' Oct., 1886, p. 328.

turbance of the appendix will lead to phenomena that could be classed with typhlitis. Fitz observes that attacks of inflammation frequently occur in the vermiform process without giving rise to any characteristic symptoms, and often without a suggestion of any distinct malady. I met, in the post-mortem room, with three cases of obliteration of the appendix by inflammation in patients whose medical histories, as written in the ward notes, showed that they had never had notable abdominal trouble.

There are cases, however, where operative interference is distinctly indicated in typhlitis, not so much for the purpose of dealing with existing symptoms, as of warding off further troubles.

When peritonitis has been induced, or when a perityphilitic abscess exists or a localised collection in the serous membrane is recognised, the treatment is plain enough; the abdomen is opened and the inflammatory exudation is treated as are like collections elsewhere, viz. by free incision and drainage.

These, however, are not the only cases that appear to me to demand operation. Typhlitis is very liable to relapse. Fitz has shown that successive attacks occur in 11 per cent. of the cases. The attacks may be numerous. Eichhorst cites the case of a man who had five attacks in one and a half years. I am under the impression that the great majority of examples of relapsing typhlitis are due to troubles in the appendix. Indeed, that diverticulum affords anatomical reasons for relapse that are not provided either by the cæcum or by the peritoneum. A simple local peritonitis shows no disposition to relapse, nor are there circumstances in those lesions of the cæcum that lead to typhlitis, which will readily explain frequent attacks of inflammatory trouble.

If these premises are well founded, relapsing typhlitis should be readily treated by operation in a certain proportion—and probably in a very large proportion—of cases.

The following case serves to illustrate the matter, and has afforded the only opportunity I have had of carrying

this proposed treatment into practice. The case was simple and the patient made a sound recovery.

A man, æt. 34, a working engineer, was admitted into the London Hospital under the care of Dr. Stephen Mackenzie, on December 31st, 1886, suffering from typhlitis. He had been a healthy, vigorous man of sober habits. He had had no illness except an attack of bronchitis fifteen years ago. He had been free from abdominal trouble previous to the present affection and his bowels had always been regular. Early in August, 1886, he was seized with pain in the right iliac fossa, followed by local swelling, vomiting, and constipation. This was his first attack of typhlitis. He was confined to bed and for a while improved under treatment, but after a week or so of freedom from pain, the symptoms reappeared with renewed vigour, the swelling and tenderness in the iliac fossa became once more pronounced, and the patient, to use his own expression, "was as bad as ever again." Between the attacks he was not well enough to leave his bed, nor was he ever quite free from a sense of discomfort in the cæcal region. He was confined to bed for three months, *i. e.* from the commencement of August to the end of October. In November he was able to resume his work, and for a while complained of no trouble in his abdomen. He found, however, that his bowels did not act so freely after his illness as before. He remained well until December 27th—four days before his admission into the hospital—when he was once more seized with pain in the right iliac region attended by local swelling, sickness, and much prostration. He at once took to bed, but as his symptoms did not abate he came to the hospital.

When admitted he presented the ordinary symptoms of typhlitis. He was well nourished and exhibited no organic disease other than that in the abdomen. A globular swelling occupied the right iliac fossa and was the seat of extreme tenderness. The abdomen was but slightly distended, the bowels were confined, but there was no

vomiting. His temperature was 99.2° . Opium was given and the constipation was relieved by enemata. His progress was very slow, the pain in the abdomen persisted, the swelling remained tender and diminished but sluggishly. It was not until February 8th, some six weeks after the commencement of the attack, that the abdominal symptoms had entirely disappeared. The patient was much weakened by his confinement in bed, but he complained of no pain or tenderness in his abdomen, and no trace of any iliac swelling was left. Dr. Mackenzie now requested me to see the patient with reference to possible operative interference. Dr. Mackenzie was of opinion that the patient would be the subject of further attacks, and endorsed the suggestion that the abdomen should be opened and the cæcal region explored in the hope that the cause of the trouble might be removed.

I performed laparotomy on February 16th. I opened the abdomen by a vertical incision immediately over the region of the cæcum. That part of the bowel was soon exposed. It was free from adhesions. There were evidences of old peritonitis about the appendix. To the base of that process the omentum had become adherent. The mesentery of the appendix was shrunk and had bent the tube upon itself at an acute angle. The part of the process on the proximal side of the bend was of normal aspect, that on the distal side was distended, was greatly thickened, and formed a rounded swelling the size of the end of the forefinger. I had intended to remove the appendix, but it at once became straight on cutting away the omentum. I bared the convex side of the tube of peritoneum, thinking that fresh adhesions might occur upon that side and so hold the appendix in a straight position. The whole process only measured two inches and a half. I set free the omentum, sutured a small rent in the peritoneum that had been made during the examination, and closed the abdominal wound. It was evident that the shrinking of the appendix mesentery had so bent that tube as to occlude it. Mucus had

accummulated beyond the bend, and becoming retained had excited the peritonitis. The lumen had not become obliterated and the end of the diverticulum had apparently not been perforated.

The patient recovered without a bad symptom. On March 18th, some little time after he was up and about, he had some slight pain in the seat of the old trouble. It was apparently due to constipation, as it disappeared at once on the administration of an aperient. The patient was kept in the hospital for another month, in order to be under observation. He remained perfectly well and has since that time had no further abdominal trouble.

In the majority of cases it would probably be wiser to remove the appendix. If this is done as much care must be taken to close the divided end of the tube as would be taken to close a hole in the small intestine. A mere ligature would not be safe. Two sutures would suffice to bring the mucous membrane together, and the peritoneum should then be adjusted over this line of union by several points of Lembert's suture.

It must be remembered that peritoneal adhesions or a peritoneum scarred by adhesions will not possess the same plastic power as the normal membrane.

In the event of the process being so greatly thickened that suture of its serous coat is impossible I should be disposed to fix the stump to the nearest point on the surrounding parietal peritoneum.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' New Series, vol. ii, p. 337.)