SECTION OF SURGERY.

COLECTOMY.

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THE interesting subject of enterectomy, inclusive of colectomy, has, I am aware, been discussed in former Sessions at meetings of this Section, yet, as cases calling for the performance of such operations are uncommon, I venture to bring forward on the present occasion particulars of the only patient from whom I found it necessary to remove a portion of the intestinal canal by abdominal section.

The following brief report will make clear all the leading features of my patient's history:—About the middle of October in last year (1889) I was visited by a gentleman, Mr. C., who complained of abdominal pain, loss of appetite, occasional vomiting, and of increasing debility. Mr. C.'s age was forty-two years, and he informed me that, with the exception of an odd bilious attack, he had enjoyed fair health until September of 1888. At the time just named Mr. C. began to feel languid, his appetite became impaired, he lost weight gradually, and abdominal pains of griping character occasionally gave him trouble.

Believing that he was suffering only from biliary disturbance, Mr. C. gave little attention to symptoms until midsummer in 1889. He then made a short sojourn at Matlock, and in August a small tumour was discovered occupying part of the umbilical region. About this period Mr. C. went to the North of Ireland, and late in September he consulted Dr. Thompson of Omagh.

Dr. Thompson at once diagnosed the condition present, and explained to his patient that a serious operation alone would be likely to afford the prospect of any real benefit.

Mr. C. came to Dublin in October, and, at the instance of some friends, he visited me. I was at once impressed by the wasted, anæmic appearance of the patient. In point of fact he presented quite a malignant aspect.

Palpation of the abdomen enabled me to distinguish a somewhat elongated, or slightly fusiform mass, hard and movable, which sometimes by pressure, but chiefly by changing the patient's position, could be caused to slip from a situation above and on the right of the umbilicus, to a point below and on its left. The volume of this tumour seemed equal to such as would be represented by a medium-sized pear. No fulness or distension of intestine could be detected in relationship to the mass.

It was obvious that no operation ought be performed in the patient's then state of health ; hence I prescribed such regimen and medication as seemed likely to effect partial restoration of strength. Improvement fortunately did occur, and when Mr. C. paid his third visit to me I proposed immediate consultation with a view to operative action.

My friend Dr. Corley carefully examined Mr. C., and, in consultation, it was arranged that laparotomy should be performed without greater delay. We judged the tumour to be malignant, and to be adherent to, if not absolutely incorporated with, the transverse colon.

November 8th, 1889, was the date selected by the patient for performance of the operation, and all preparations were duly effected. Dr. Cruise kindly arranged to administer anæsthetics. Dr. Corley afforded his able assistance, whilst Dr. Maguire, the devoted friend of my patient, lent valuable aid, not alone on the day of operation but at all times throughout the trying period of Mr. C.'s convalescence.

A median incision, carried from the umbilicus downwards for a length of about four inches, enabled me to bring outside the abdomen all structures involved with the diseased mass. At once it was

made evident that carcinoma, engaging the central part of the transverse colon, existed; also, that the growth had invaded portions of the great omentum and of the transverse meso-colon; between the layers of the latter fold some infected glands could be distinctly felt.

It was manifest that all diseased parts should be removed expeditiously. The patient was not in a condition favourable for the performance of a prolonged operation. The colon was at once clamped by pairs of compressing forceps applied well beyond the proximal and distal extremities of the carcinomatous mass. Next, the great omentum was cut through, from below upwards, on either side until the intestine was reached, all bleeding points being pinched up and ligatured in small bunches.

The colon, raised on a flat sponge, was then divided. As the gut was quite empty, no escape of matter occurred.

Owing to the presence of infected glands, a considerable portion of the meso-colon was excised, and with the object of at once effecting arrest of hæmorrhage, and of ensuring contact between the free edges of the more or less V-shaped gap, the cut borders were at different points pinched up, and tied together with ligatures of carbolised catgut. When the above measures had been nearly completed, Dr. Corley compressed either portion of the colon, whilst, with scissors, I cut off the parts which had been subjected to forci-pressure. There was no difficulty about introducing a sufficient number of sutures, applied after the method of Lembert. The peritoneal cavity was next freely douched with a 3 per cent. solution of boracic acid at blood heat, and finally the wound in the abdominal wall was closed with sutures of carbolised silk, some of which penetrated its entire thickness, whilst others engaged only the skin and subcutaneous tissue. The whole operation was completed within an hour and a half, and the patient got on very fairly throughout that day. A zymised nutrient suppository was placed in the rectum every fourth hour, a little ice only being taken by the mouth. The bladder was relieved, when necessary, by catheterisation, and at night a tabloid, containing $\frac{1}{4}$ grain of bimeconate of morphia, was administered. The evening temperature reached 100.8° ; the pulse rate 106 in the minute.

On the second day, as there was no tendency to disturbance of stomach, the patient took—at intervals of from two to three hours—a teaspoonful of Brand's essence of beef. Like doses of weak whiskey and water were also allowed. Temperature in the morning, 99.8° ; in the evening, 101.6° F. As the pulse-rate varied 108 to 120, I prescribed tinct. digitalis, M. x., nepenthe, M. xv., to be taken in a teaspoonful of whiskey and water at bed-time. The patient slept well.

It would be alike tedious and unprofitable to furnish a daily record of progress. I must, however, mention that on the third day my patient was attacked with repeated severe fits of coughing, which shook him considerably, causing notable distress about the site of operation.

Inhalations of medicated steam, the use of eucalyptus jujubes, small doses of sal volatile in water, and other simple measures, afforded relief from cough; but as the pulse remained rapid, whilst the temperature varied between 99° and 100° F., it was considered advisable to persevere with the combination of tinct. digitalis and nepenthe. As a rule, from two to three such doses were given in the twenty-four hours.

On the fourth day Mr. C. took half a cupful of sago in addition to dessert-spoonful doses of Brand's essence. Also, at his own particular request, he was allowed to substitute half an ounce of champagne, in a like quantity of soda-water, for the teaspoonful measures of whisky and water.

The patient spent a restless night; he vomited three times, and hiccough was present when I visited him. Examination of the wound disclosed the chief cause of disturbance—it was manifest that suppuration at its lower angle was inevitable. Two or three of the sutures were removed, and in lieu of other dressings a bread poultice, prepared with carbolic acid solution, was applied. During the day only a few doses of Brand's essence, with a little whisky and water, were permitted. The patient had a very quiet day; vomiting occurred but once, and the temperature fell from 100.2° to the normal standard. Soon the wound-discharge exhibited distinctly fæcal characters, and on the eighth day I prescribed an

enema of milk and warm water, which produced a motion per rectum. Enemas were repeated daily with like result, but on the third occasion a little of the injected fluid escaped through the wound.

The patient felt so well and hungry that he was allowed to take a few oysters daily, in addition to jelly, beef-tea, and a very small amount of toast with tea.

The amount of fæcal matter and of flatus discharged from the wound steadily diminished, the bowels acting naturally each day without further use of enemas, and by the seventeenth day all evidence of fæcal fistula had disappeared. The patient was now allowed to sit up for two or three hours, and he enjoyed a mutton chop for dinner, washed down with half a tumblerful of champagne.

During the winter and spring Mr. C. remained well, the bowels acted with perfect regularity, his weight increased, and he thoroughly enjoyed his meals.

In the early summer, however, Mr. C. began to experience pain about the hepatic region; he again consulted me, and, to my regret, I found very marked evidence of carcinomatous disease throughout the liver. Sedatives relieved pain for the time; later, by the advice of Dr. Thompson, of Omagh, he learned how to use the hypodermic syringe, and although he suffered from wasting, anorexia, and debility, he was always able to secure ease from pain by employing at first $\frac{1}{6}$, and afterwards $\frac{1}{4}$, of a grain of bimeconate of morphia. For safety, I provided him with the hypodermic tablets sold by Messrs. Burroughs & Wellcome.

About the middle of August Mr. C. died from exhaustion, but between the date of operation and the time of his death he never experienced the smallest recurrence of intestinal trouble, nor had he ever need to employ aperients.

I have very few remarks to make supplementary to the foregoing report. First, with regard to the formation of temporary fæcal fistula, I believe two causes operated, in concert, to favour, or rather determine its development. One was the presence of some fæcal matter in the transverse colon at a time when adhesions must have been recent, and consequently liable to yield under strain of

any kind. The other, and exciting cause, I attribute to the stress thrown upon the intestine during the fits of coughing which produced so much discomfort on the third day after operation.

Since writing the history of my patient's case I have read Mr. M'Ardle's comprehensive paper on enterectomy and enterorrhaphy, published in the transactions of this Academy for the year 1888. Through the courtesy of Dr. Kendal Franks I have been favoured with his most interesting paper on colectomy, published by the Royal Medical and Chirurgical Society of London. I gather from Mr. M'Ardle's article that he employed successfully the form of intestinal suture known as the Czerny-Lembert. Dr. Franks supplies good reasons for the selection in his case, also successful, of Gély's suture. I found the simple Lembert suture quite effective, and it possesses the important merit of being applied with rapidity—an element of the highest value in abdominal operations. Illustrations of various sutures are to be seen in Sir William MacCormac's work on Abdominal Section, in Mr. Barker's "Manual of Surgical Operations," in the articles published by Dr. Senn in the *Annals of Surgery*, &c.

I do not purpose going over a subject so widely known. I may be allowed, however, to exhibit diagrammatic drawings most kindly prepared by my friend and colleague, Dr. Birmingham. The object is, by one, to render clear how, with points of ligature, the margins of spaces, or gaps, cut in peritoneal folds may expeditiously, as well as securely, brought into close contact; by the other, to show Dr. Senn's procedure for bringing together the proximal and distal portions of a divided bowel.

The morbid specimen removed from my patient was exhibited here last Session. This evening, however, I again present it for examination and with it some excellent microscopic sections made by my friend, Dr. M'Weeney. They prove the growth to have been a typical example of columnar epithelioma.

MR. KENDAL FRANKS said his case adverted to by Mr. Hayes was operated on in October, 1887, for the removal of a cylindroma, which was microscopically examined. There were few intestinal symptoms. There was flatulence, but no obstruction. The diagnosis, which was difficult, was that there was a solid tumour involving either the mesentery or omentum, and it might or might not involve the intestine. The tumour was easily movable. It was on the right side, a little below the liver, but it was movable into the right iliac fossa—rather to the right or to the left side. The operation occupied him an hour and three-quarters. On opening the abdomen he found a tumour the size of his fist, involving the transverse colon in its whole thickness, with large glands in the meso-colon behind. The only chance was in complete excision. He divided the intestine on each side, an inch and a half to two inches from the growth, and, dissecting into the meso-colon, he enucleated all the glands he could find, removing also a V-shaped piece from the meso-colon. The length of the intestine removed was five inches. He sutured the intestine with Czerny's suture. The Lembert suture was theoretically the most perfect, but the other could be made a continuous suture and be more rapidly inserted, and it was of the greatest importance to complete the operation as fast as possible. On the fifth day there was an enormous discharge from the bowels. Three years and a month had elapsed since the operation, and the man was still in perfect health. Mr. Hayes' case and his were the first two successful cases in the United Kingdom. Statistics of 51 cases showed that 59 per cent. recovered from the operation, and about 40 per cent. died as the immediate result of it. The after-results were not encouraging, and were mainly due to recurrency of the disease in 2, 3, 9, and 18 months. It was only in early cases that the operation would be justifiable.

MR. M'ARDLE, referring to the statement of Mr. Hayes, that a discharge of fæces took place about the fourth day, said that was about the time the suture would hold, if it would hold at all; but as regards Mr. Hayes' explanation that it was the result of coughing, coughing did not influence the intestinal canal. Previously to operations on the intestine it should be the rule to wash out the intestinal tract from above and below. He did not think that coughing would affect an intestine firmly sutured, if weakness did not exist and the seat of weakness was at the mesenteric border. A Lembert's suture was not sufficient to close the tube. Unless

the V-shape was taken out, a pouch would be left into which a hernia would afterwards drop. The suture for closing the V-shaped slit was undoubtedly the continuous suture, which would effect as complete a closure as by ligaturing. At present the tendency was to join the intestines very rapidly by large plates of bone drawn together, even in removal of pieces of the colon. Still more favourable results were obtained by intestinal anastomoses, which frequently gave the same relief as was obtained by excision.

SIR WM. STOKES attributed the high mortality to the great length of time occupied by the operation, necessitated by the complicated system of sutures usually adopted. Decalcified bone plates in early cases would lead to more favourable results.

MR. CORLEY said the operation performed by Mr. Hayes was perfectly successful, but was yet only a temporary expedient to stave off the prospect of death a few months longer. Taking out a triangular piece, he found there were still glands that seemed to go up under the upper surface of the liver that no man in his senses would try to take out, and it was not surprising to hear, in three months, of symptoms of carcinoma of the liver being set up.

MR. THOMSON said the operation of enterectomy was one of great difficulty and danger, and, no doubt, useful under certain conditions; but he was not sure that it was one which, however successful from the surgeon's point of view, was always the best for the patient. The question of what kind of suture was most likely to be successful was one of great importance, and ought to be settled. The justifiability of enterectomy in cases of epithelioma was, however, a question of doubt, from the fact, that after taking out a tumour, there still remained affected glands, which would inevitably reproduce the disease in time. Therefore, the operation, however successful in a surgical point of view, was, after all, one of palliation only in cases in which the malignant disease was left behind, and in such cases either an operation which would provide an artificial anus or establish anastomosis would be less dangerous.

The PRESIDENT said there was no question as regarded all cancerous operations that there could be nothing better than complete removal, if it could be done consistently with safety. Cancerous cases did not bear prolonged operations or loss of blood, and he would stitch the intestine as quickly as possible.

MR. HAYES replied.—As regards the occurrence of fæcal fistula being attributable to some defect in the suturing of the meso-colon to the colon, the sutures were carefully inserted, and the meso-colon

was folded upon the intestine to secure thorough preservation from interference of blood-supply to the gut at that point. The ligatures were placed close, and the edges overlapped, and were thoroughly secured. His opinion still was that the coughing did cause a strain on the great intestine. The intestine was thoroughly washed out, and nothing was left undone that could favour progress after the operation. The decalcified boneplates were appropriate if the operation of effecting anastomosis could be performed, but where it was necessary to establish continuity after the removal of a piece of intestine, he did not see how the decalcified boneplates could be brought into play. As to performing the operation at all, if he saw a patient wasting with suffering from abdominal pain, complaining of the great difficulty of action of the bowels, and he felt a movable tumour, he would recommend the operative procedure. In his own case, the patient was thankful for having the operation performed, as resulting in complete relief from intestinal trouble, and that relief was maintained to his death. When cancer reappeared, it attacked a different organ—namely, the liver. The patient lived for nine months, having enjoyed immunity from all trouble for six months. With that result, and Mr. Franks' patient still alive and free from disease, he would look with favour upon the performance of the operation even for intestinal cancer.