Section of Surgery.

SUB-SECTION OF PROCTOLOGY.

President—W. S. PERRIN, M.Ch.

[*May* 10, 1933.]

Recto-sigmoidectomy as a Method of Treatment for Procidentia Recti.

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WHEN an internal organ persists in an endeavour to become an external organ, it generally causes a great deal of trouble. The rectum is occasionally an offender in this respect; the resulting condition is known as procidentia recti and consists of an eversion and extrusion of the wall of the rectum throughout its circumference. The eversion begins at the anal margin and the extrusion may either be partial, when only a portion of the rectal wall has been extruded, or complete, when the entire length of the rectum is everted. When the whole of the rectum has been extruded the protruded mass consists of a double tube, one within the other. The outer tube consists of the rectum, the mucosa being continuous with the skin at the anal margin at the base and with the mucosa of the pelvic colon at the apex of the protrusion. The inner tube consists of an equal length of pelvic colon which has also been extruded. Between the two tubes is a prolongation of the pelvic peritoneum which forms a pouch anteriorly and at the sides, but not posteriorly. In complete procidentia the apex of the protrusion is situated at the recto-sigmoidal junction. The eversion of the bowel does not extend beyond that point, on account of the unyielding nature of the so-called recto-sigmoidal sphincter. In cases of pronounced visceroptosis, coils of small intestine descend into the peritoneal pouch, with the result that the protrusion is increased in bulk but not in length. Similarly, the extrusion of a greater length of pelvic colon than that corresponding to the length of the rectum only serves to increase the size of the protruded mass. Anatomically the rectum measures five inches in length, and when completely extruded, even allowing for some degree of stretching, the protrusion seldom exceeds six inches in length, though in bulk it varies considerably.

The repetition of the protrusion whenever there is an action of the bowels, together with the loss of control over the contents of the rectum on account of overstretching of the sphincteric apparatus, causes a great deal of distress to the unfortunate patient and gradually reduces him to a state of chronic invalidism. Almost from time immemorial the minds of surgeons have been exercised in an endeavour to devise a method of permanent cure. A great number of methods have, from time to time, been suggested but none of them have been universally successful. These methods may be divided into three categories: (1) Narrowing the anal orifice; (2) fixation of the rectum to the pelvic wall, and (3) suspension of the rectum from above, e.g., rectopexy and sigmoidopexy. Of these the method which has been attended with the largest number of successes is Mummery's operation, the technique of which is so well known that it needs no description here. In partial procidentia Mummery's procedure can be relied upon to effect a permanent cure, but in complete

procidentia, especially when coils of small intestine occupy the peritoneal pouch, recurrence of the protrusion is apt to take place after a year or two.

There is no doubt that the best and the safest way of preventing recurrence of procidentia is by performing left inguinal colostomy, but patients shrink from having to pass their motions in an unnatural way and prefer to put up with their disability. I have often remarked that many of the patients suffering from procidentia who apply for treatment at hospital are never seen again if an operation is suggested and I have no doubt that the reason for their disappearance is that their medical advisers think that colostomy is intended.

Of all the methods which have been advocated for the treatment of complete procidentia of the rectum, I have found none to afford more uniformly good results than amputation of the protruded bowel. I call the operation "recto-sigmoidectomy," by which is meant excision of the rectum together with the extruded portion of the pelvic colon. I performed the first operation of the kind as long ago as 1904 and up to the present time my experience of it has extended to 31 operations, 7 in men and 24 in women.

Technique of the operation of recto-sigmoidectomy.—The patient, having been anæsthetized—the best anæsthetic for the purpose being intrathecal percain (1 c.c. of 1 : 200 solution) combined with gas-and-oxygen inhalation—is placed in the combined lithotomy and Trendelenburg position. The rectum is protruded to its full extent, and then the following steps[1] are carried out:—

(1) Commencing anteriorly half an inch from Hilton's white line, a longitudinal incision, two and a half inches long, is made through the mucosa, and then, by blunt dissection, the mucosa is separated from the underlying muscular coat as far laterally as possible. At the lower angle of the incision through the mucosa, a pair of Kocher's forceps is placed transversely on the mucosa, on either side, so as to control bleeding from the hæmorrhoidal vessels.

(2) At the level of the upper extremity of the incision the mucosa is divided transversely on either side as far as the lateral margins of the protruded bowel, thus exposing the muscular coat of the rectum.

(3) The posterior aspect of the protrusion is then treated in a similar manner.

(4) The muscular coat of the rectum is incised longitudinally on its anterior aspect by an incision corresponding in length to the initial incision through the mucosa. The object of commencing this incision half an inch from Hilton's line is to prevent damage to the sphincters, and especially to the point of fusion between the levator ani and the external muscular coat of the rectum, upon which depends subsequent control over the contents of the bowel.

(5) The peritoneal pouch having been exposed by the incision through the muscular coat of the rectum, the pelvic colon is found to be free anteriorly, and at the sides, but attached posteriorly by the vascular pedicle of its mesentery. Should the pouch contain coils of small intestine these must be returned into the pelvis and maintained in position by means of a suitable swab.

(6) The muscular coat of the rectum is divided transversely, throughout its circumference, at the level of the upper angle of the longitudinal incision, when it will be found that the rectum can be peeled downwards, bleeding points being secured by forceps.

(7) The cut margin of the peritoneal pouch is sutured to the pelvic colon so as to shut off the peritoneal cavity completely, after withdrawing the swab, if one has been introduced.

(8) The vascular pedicle of the pelvic mesocolon is ligatured half an inch below the point where the pelvic colon is to be divided.

(9) A pair of Kocher's forceps having been placed upon the muscular coat of the

[1] These were well illustrated by means of a film made by the Kodak Company.

pelvic colon anteriorly and posteriorly, in order to prevent retraction into the pelvis, the colon is divided transversely half an inch above the ligature upon the vascular pedicle.

(10) The pelvic colon is sutured to the stump of the rectum by means of a continuous catgut suture, first muscular coat to muscular coat, and then mucosa to mucosa.

(11) As a final step, the index finger is gently inserted through the lumen at the site of the suture line, in order to make sure that there is not undue narrowing, and then a drainage tube is introduced to facilitate the voidance of flatus.

After-treatment.—The bowels should be kept confined for four or five days, and then opened by an olive-oil enema, which should be repeated daily. Strong aperients should be avoided until the suture line is quite sound. At the expiration of ten days the index finger should be gently passed through the junction. This should be repeated daily to prevent constriction.

Complications.—It might be assumed that, owing to the peritoneal pouch being freely opened during the operation, there would be considerable risk of septic peritonitis supervening as the result of *B. coli* infection. This has not occurred in any of the thirty-one cases upon which I have operated. Occasionally there is slight local suppuration in the neighbourhood of the suture line, but it soon clears up.

Mortality from the operation.—Among the thirty-one cases operated upon there has only been one death, and that was not directly due to the operation. Death was due to intestinal obstruction caused by strangulation of a loop of small intestine by a band of adhesion. The patient had, several years previously, been operated upon for ventrofixation of the uterus.

End-results.—These have been remarkably good. There has only been one case of recurrence; this occurred five years after the primary operation. The prolapse was resected, and the portion of the pelvic colon which was removed contained eleven diverticula, each of which contained a mass of fæces.

Sphincteric control gradually improves, and at the end of six months or less is usually fully restored. Much, however, depends upon the assiduity with which the patient carries out the instructions given in regard to practising contraction of the sphincters at intervals during the period of convalescence.

Discussion.—Sir CHARLES GORDON-WATSON said he believed that the operation which Mr. Miles had described as "recto-sigmoidectomy," and which in the past he had been content to call "amputation of prolapse," was the best available for advanced cases and those in which less severe operations, such as the Mummery operation, had failed.

In his own experience, which was limited to four cases, a good deal of blood was lost and some degree of shock was unavoidable. He had not attempted the operation in old people with severe prolapse as he considered that the extreme loss of tone of the pelvic floor, so often present in the aged would militate against success. It was not an operation to be undertaken lightly in old people. He would be interested to hear from Mr. Miles whether his cases included patients of this class, and if he advocated the operation for senile prolapse.

He, the speaker, had found the Mummery operation fairly efficient in the young or middle-aged, but only employed it after cauterization had failed. He believed, however, that there must always be a percentage of patients with chronic prolapse whose pelvic muscles were so relaxed that no operation would provide more than temporary relief, and this applied, he thought, to Mr. Miles's method as well as to others. He was opposed to all types of abdominal operations for this complaint.

When amputating for prolapse he laid stress on the Trendelenburg-lithotomy position to keep the intestine out of the anterior peritoneal pouch, when opened, and emphasized the importance of getting the patient to exercise the sphincters after operation and referred to the value of electrical stimulation of the pelvic floor after operation as carried out by Dr. Heald and others.

Mr. LAWRENCE ABEL said he had carried out this operation three times on human beings, and once on a prize French bull-pup—all with very satisfactory end-results. He found that patients rapidly regained tone in the sphincter muscles by voluntary exercises.

Volvulus of the Cæcal Angle.—P. LOCKHART-MUMMERY, F.R.C.S.

A girl, aged 18, was sent to me with a history of having had three attacks of pain in the abdomen. Each attack had lasted for several days and was quite severe. She had no vomiting or other symptoms. The attacks came on quite suddenly without any apparent reason. During the attacks her doctor noticed, in the middle of the abdomen, a large, firm swelling, which disappeared after the attacks had subsided. No swelling could be felt except during the attacks.

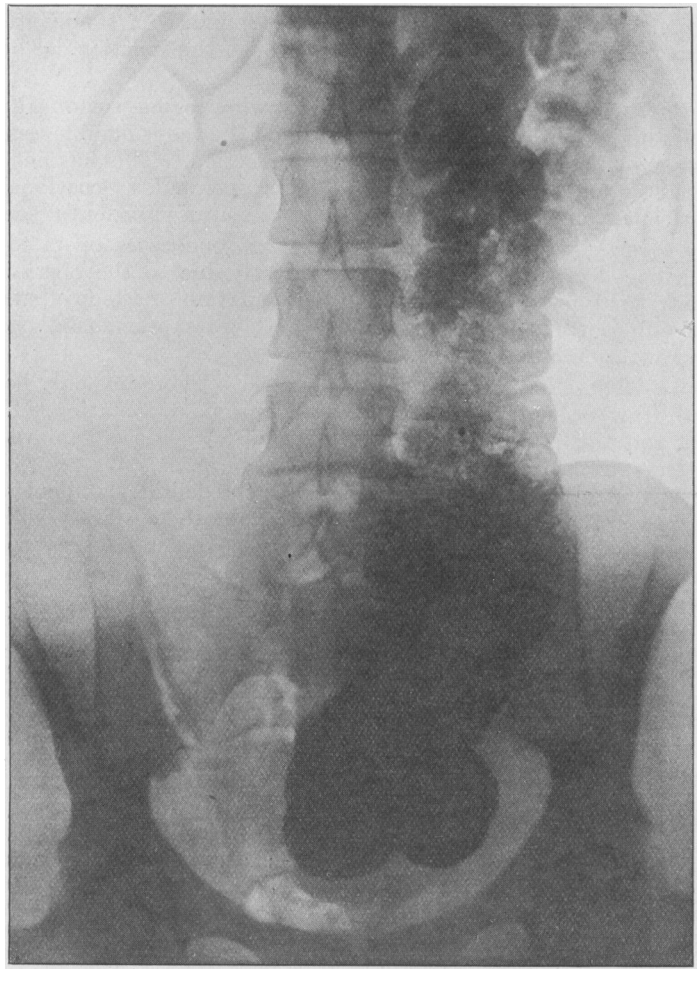

FIG. 1.—Skiagram of colon with barium enema.

Examination with a barium meal showed a remarkable condition. The stomach was pushed up to the left, and when the meal passed into the colon it was seen to go straight down the middle of the abdomen; no colon was to be seen on the right flank at all. A barium enema showed that the colon after forming a loop in the pelvic portion passed straight up to the splenic angle and then back again to the bottom of the pelvis. There were no signs of any cæcum, ascending colon or transverse colon (fig. 1).