CONTRIBUTIONS TO INTESTINAL AND ANAL SURGERY.[1]

INGUINAL COLOTOMY—EXCISION OF HEMORRHOIDS—EXCISION OF FISTULÆ IN ANO—NEW OPERATION FOR CURE OF PROLAPSUS ANI.

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INGUINAL COLOTOMY.—It is a well known fact that in the operation of colotomy, inguinal as well as lumbar, in which merely a lateral opening in the gut has been made, the contents of the latter will, as a rule, escape to some extent into the intestine below the wound, and, being forced upward by antiperistaltic action, will prolong and render difficult the process of defecation. I must confess that in nearly all of my cases of colotomy which were performed according to this method the result in regard to this point had been unsatisfactory until I adopted Madelung's plan of cutting across the entire gut, closing the end of the lower portion, and stitching the upper end into the abdominal wound. The result was perfect, so far as concerned defecation; the patient passed fæces once or twice a day in a short period of time, and was free from all annoyance during the rest of the day. From reading a discussion that took place at the Paris Société de Chirurgie, my attention was called to the possibility of danger eventually arising from retention in the closed portion of gut above the point of stricture, and I have therefore adopted in my last three cases Verneuil's plan of forming a spur, and thus securing the complete evacuation of the fæces through the artificial anus, while at the same time the interior of the lower portion of the gut remained accessible. The technique of the inguinal operation is as follows: Under strict antisep-

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tic precautions an incision is made parallel with Poupart's ligament and about three centimeters above its outer third. The peritonæum is opened to the extent of not more than three or four centimeters, a loop of the colon, in the region of the sigmoid flexure, is brought into the wound, and a needle armed with a coarse catgut ligature is passed under the gut at the point of attachment of the mesentery; the ligature is not tied, but serves merely as a handle. A spur is then formed by passing through a part of the intestinal wall on both sides of the mesentery a fine needle threaded with iodoform catgut, the line of stitches being about equal to the thickness of the abdominal wall, or perhaps a little larger. Then by similar sutures the opposed parietal and visceral peritoneal surfaces are brought in contact, so that the peritoneal cavity is entirely shut off from the wound, and the loop of intestine, so far as its peritoneal surfaces had been approximated by stitches, is secured above the level of the parietal peritonæum. The gut is then opened by an incision extending in a transverse direction toward the attachment of the mesentery, the edges being united to the integument by a few sutures of silkworm gut. Some iodoform gauze is introduced into the peritoneal space at each angle of the wound; this promotes good drainage during the first twenty-four hours, The wound is dressed with vaseline and iodoform powder. I have performed this operation three times, the three operations occurring at the German Hospital within a period of fourteen days. Two of the patients had inoperable cancer of the rectum, the third an extensive syphilitic stricture. Recovery followed rapidly in each instance without any unfavorable symptoms, and the final result is so satisfactory that I feel justified in recommending this method.

I now present two of the patients to the society. In one of them you observe that there is a slight prolapse of the mucous membrane, which the patient attributes to the fact that to-day she did not properly adjust the elastic belt which retains a pad of cotton against the opening. These patients, as well as the third, who could not be present, discharge their fæces through the artificial anus. Defecation occurs once or

twice daily, and occupies only a few minutes. The lower portion of the gut can easily be washed out by introducing a thick rubber tube into the rectum, seating the patient upon a chamber, and injecting fluid through the artificial anus. This procedure is an important one, especially in the case of syphilitic stricture. The history of this patient I shall mention briefly. She is a married lady, about thirty-six years of age, who contracted syphilis from her first husband. I treated her for about six years for stricture of the rectum, accompanied with extensive and obstinate ulceration; colotomy was proposed long ago, but she would not consent to it. In October, 1886, a severe pelvic peritonitis developed, apparently due to extension of the ulceration to the intestine above the seat of stricture; there was considerable exudation, and an abscess formed that was evacuated through an incision made on the right side above Poupart's ligament. It was necessary to separate adherent coils of intestine in order to reach a large collection of extremely fœtid pus, which filled the entire true pelvis. A counter-opening was made in the vaginal fornix. Within a few weeks the patient rallied sufficiently to admit of the performance of inguinal colotomy. In spite of her miserable condition recovery was perfect, and her strength and state of nutrition have been greatly improved. There is still a discharge of pus and blood from the rectum, yet it is much less than before.

A NEW METHOD FOR CURE OF HÆMORRHOIDS BY EXCISION. —In mild cases of hæmorrhoids, I have obtained good results by injecting equal parts of glycerine and carbolic acid. In severe cases complicated with prolapse of the mucous membrane I have adopted a method of operation that is to be commended not only on account of its facility and the completeness of the cure, but because of the fact that it is not followed by suppuration and necrosis of the tissues. It consists in excising the entire affected portion of the mucous membrane, and in suturing the edges of the remaining part to the integument. The essential advantages are the perfectly aseptic character of the process, and the small loss of blood. The operative procedure is as follows:

After the patient has been duly prepared by proper attention to diet, and the thorough evacuation of the bowels, a sponge is pushed high up into the rectum, and the lower part of the gut is thoroughly irrigated with a weak solution of corrosive sublimate, followed by one of boro-salicylic acid. The patient is thoroughly anæsthetized, so as to avoid straining and consequent venous congestion. The field of operation is constantly irrigated with an ice-cold boro-salicylic solution. An incision is carried around the anal orifice at the line of junction between the skin and mucous membrane, the parts being put on the stretch by making traction with tenacula. If the skin is flabby and in excess, a portion of it may be included within the incision; the latter is carried downward until it reaches the fibers of the external sphincter, the distended hemorrhoids being easily avoided. The mucous membrane is easily separated from the sphincter as far upward as may be deemed necessary. In this way the entire degenerated portion is isolated and, so far as the arterial blood supply is concerned, remains connected with the healthy tissue only by the vessels that supply it. So far but few bleeding points require to be secured. If now the entire diseased part should be excised, there would undoubtedly be a considerable loss of blood, as occurred in my first case; the mucous membrane would retract as it was divided, and the operation would be long and embarrassing. I, therefore, insert a number of buried sutures of iodoform cat-gut close to each other, between the base of the external flap and that of the separated mucous membrane; these do not include any of the fibers of the sphincter, neither do they penetrate into the rectum. Particular care should be taken to avoid the sphincter, since I have observed in several cases that the patient suffers from severe tenesmus if the stitches penetrate the sphincter. The sutures may be either continuous or interrupted; they secure nearly all the vessels supplying the hemorrhoidal portion. The mucous membrane is excised in parts, at a point from one-half to one centimeter above this line of sutures, and the cut edges are approximated by sutures of silkworm gut.

In several instances I have passed deep stitches which in-

cluded the entire sphincter, in order to diminish the tension, but I think that these can be dispensed with.

From the beginning of the third day following the operation, the patient is allowed to have a passage daily, and is kept on liquid diet for a week, at the end of which time the sutures may be removed; a few days later he may be allowed to get up, and at the beginning of the third week he will, in my experience, be able to attend to his business.

Much of the success of this operation depends upon the technique. From my own experience in about a dozen cases, the rapidity and completeness of the healing process, the comfort of the patient, and, in short, the neatness of the entire procedure, induce me to prefer it, in suitable cases, to other methods (Allingham's, Langenbeck's, etc.). Strict antisepsis and the avoidance of hemorrhage, in the manner described, are indispensable to success.

COMPLETE EXCISION OF FISTULA IN ANO.—Year before last I suggested, at a meeting of this society, the advisability of treating fistula by excision of the entire fistulous tract, the raw surfaces being brought together with sutures, with the view of securing healing by first intention. I described a certain method, but my experience at that time was derived from a few operations, the results of which were only partly successful, though encouraging. The first operation was performed two years ago upon a lady who had a deep-seated fistula, the internal opening of which was situated two or three inches above the sphincter. She was perfectly cured in two weeks. Since then I have had about a dozen cases, in which the extent of the lesion and the gravity of the operation varied, the results being as follows: In four cases primary union occurred without suppuration; in three a similar result was obtained with but slight suppuration; in four the wound healed by granulation, in a shorter time than it would have done after one of the old operations. In one instance I did not sew up the wound at all on account of inflammatory infiltration of the edges; in another, that of a gentleman whom I had treated during the acute stage of a very extensive gangrenous periproctitis, there was so much cicatricial tissue that I did not

venture to excise it all, for fear of removing so much of the muscle that incontinence might result. This patient has still an internal fistula, which causes no inconvenience, except a slight discharge.

My technique has been essentially the same as that described at a former meeting, viz., excision of the entire fistulous tract, together with all the lateral sinuses, such as not infrequently exist in the cellulo-adipose tissue above the sphincters, and union of the deep tissues by means of buried sutures of iodoform-catgut, as well as accurate adaptation of the edges of the mucous membrane. Several include the entire field of operation, in order to relieve the tension of the parts. The field of operation is constantly irrigated with boro-salicylic solution. The edges of the integument I prefer to unite by only a few sutures, in order to allow drainage of the first secretion. Opium is administered during the first two days; after the second day the bowels are moved easily with injections, a sitz-bath being used after defecation. I have performed this operation only once in a case of fistula of tuberculous origin, the result being perfect. There was a large, shallow sinus, which did not communicate with the rectum—a condition which, in my experience, is not infrequent in tuberculous fistulæ. I am skeptical regarding the existence of so-called incomplete external fistula in any other cases, having always succeeded in finding the internal opening, except once in a dermoid fistula. Neither do I accept the general opinion that muscular contraction prevents a fistula in ano from healing; it is very probable that entrance of obnoxious matter into the sinus causes repeated attacks of inflammation and accounts for the chronic nature of the affection. In the last patient, upon whom I operated a few days ago, I did not find an internal opening, its former site being occupied by a slight elevation covered by a thin cicatricial tissue. This was probably only transient cicatrization. In the *Medical Record* of June, 1886, Dr. Stephen Smith published a paper on this subject, in which he stated that in 1879 he conceived the idea of treating fistula in this manner after reading in Dr. Emmet's book a description of that gentleman's plastic operation upon

the perinæum. At that time Dr. Smith excised the granulating surface of a fistula that had been operated upon unsuccessfully six months before; consequently, that operation was scarcely applied to a fistula proper. He does not state just when he adopted the method described by him, but if it was immediately after the operation above mentioned, he was probably the first surgeon to practice it. I take the liberty of claiming priority in my description of the details of the operation, and especially the use of antiseptic precautions, which differs in no essential feature from that given by him.

A NEW OPERATION FOR PROLAPSUS ANI.—The operation about to be described was devised to meet the necessities of the following very aggravated case:

For almost twenty years Mr. P. G. has been suffering from prolapsus recti, with more or less incontinence. It seems that an inflammatory disease of the rectum (probably dysentery), accompanied with intense tenesmus, was the original cause. He has been operated upon a number of times after the usual methods (cauterization and excision of the mucous membrane), but apparently with only transient and partial relief. After one operation done by my colleague, Dr. Adler, he was improved for several years. Altogether he had undergone five different operations, when, in October last, he was readmitted into the German Hospital. He suffered from incontinence as before. The anal ring was quite relaxed and wide open, and even with slight pressure the rectum was pressed out. The patient assured me that the prolapse was at times worse than ever before, and from Dr. Adler's statement I concluded that formerly the rectum would protrude to the length of fully six inches.

Not taking into consideration cases of partial prolapse of the rectal wall, we must admit that our methods of treating prolapsus recti do not yield very encouraging results. Once, in pre-antiseptic days, I assisted at the operation of amputating an extensive prolapsed portion after a preliminary operation, the purpose of which was to set up an inflammatory adhesion of the peritoneal layers. The patient died several weeks after from septicæmia. The amputation was done, if I am not mistaken, with the galvano-caustic snare. In our present aseptic era, I believe that such an operation, or a similar

one, would be much less dangerous; but the question is, Would the result be lasting? As long as the lower part of the gut is allowed to pass through a widened and relaxed muscular sheath, which is formed by the levator ani and the sphincters, and the lowest portion of the rectum itself remains wide, there is always, I think, a strong probability of recurrence. I therefore, in my method of operating, have tried to meet both indications—to narrow the rectum as high up as possible, and to fix around it a narrowed muscular ring. Anatomical and clinical observation lead me to infer that the levator ani takes an important part in the closure of the rectum. Be kind enough, gentlemen, when the opportunity presents, to place the tip of your finger upon the anus and then try to make that muscular effort by which you prevent the passage of fæces. You will find that your anal orifice is not only lifted, but also slightly drawn forward against the perinæum. This, I presume, is due to the action of those fibers of the levator ani which, in passing behind the rectum and uniting with those of the opposite side, form a strong muscular arch which in contracting must necessarily exert a pressure against the posterior wall of the gut, and in this way cause closure of the same.

I operated in the following manner: The patient was fixed on the table in the knee-elbow position, a thick cushion placed between his knees and under the lower part of his thorax and the upper part of his abdomen, giving a sufficient support; his legs were tied to the table, and his head rested sideways on a pillow. I have lately performed almost all my rectal operations with the patient in this position, and I cannot recommend it enough. The hæmorrhage is decidedly diminished, the parts are all more accessible, and the principal vessels can nearly all be secured before they are divided.

An incision was carried from the lower part of the sacrum down to the anus until the posterior wall of the rectum is reached. I then removed the coccyx, for two reasons—first, I wished to narrow the gut as high up as possible, and, secondly, I thought that the proposed action of the levator ani might thus become less impeded.

The lumen of the rectum was narrowed in such a way that buried étage sutures of iodoform catgut were introduced which did not perforate the entire thickness of the gut, the first row being inserted near

the middle line, and forming a fold in the posterior wall, which protruded against the rectum. In this way the more lateral portions of the gut, as far as it could be done without causing too much tension, were brought into apposition. Then the surfaces of the levator ani and sphincter externus, which had been dissected back in order to lay bare the posterior wall of the rectum, and next their cut surfaces, were united by similar sutures. In order to secure a more lasting union, several buried sutures of silk-worm gut were also inserted into this muscular crest. Finally, a few sutures in the integument were introduced, and the cavity corresponding to the removed coccyx was left open and loosely filled with iodoform gauze.

The healing process proceeded without any special disturbance. Everywhere the sutured parts united by first intention, and only from that portion of the wound which had been left open did a slight secretion take place. The patient's control over his bowels began to be manifest after the first few weeks, and never after the operation did the prolapse recur. Gradually the muscular closure became more and more energetic, and now, if a finger is inserted into the rectum, a very firm voluntary action of the muscles can be made out. The greater depth of the rima ani is observed, and the fact that it is drawn inward by the action of the levator. I have tried, in a case of extirpation of the rectum for melanotic tumor (I show the specimen), to secure muscular closure by uniting the levator ani. The result is not absolutely perfect, but the patient, a woman of about forty years, has more control over her bowels than these patients usually have. Only about three inches and a half of the gut, including the sphincter, were removed in this case. Of course, in more extensive operations, where the gut cannot be sufficiently pulled downward, this plan cannot be executed.