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A New Method of Incision of the Intestine.

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A NEW METHOD OF INCISION OF THE INTESTINE.

Enterectomy, or the resection of a portion of the intestine, is regarded as such a tedious and prolonged procedure that many operators hesitate to undertake it in cases in which it is the ideal and desirable operation.

Prolonged exposure of the abdominal viscera and much manipulation of the intestines, adds so much to the shock and also to the danger of exciting peritonitis, that the time and manipulation required by the ordinary methods of excision often render impossible the attempt to thus restore the natural channel.

The tedious and time-taking steps in the operative methods commonly used, have consisted:

Firstly, In the great number of interrupted Lembert or Czerny-Lembert sutures used—twenty or thirty being the approximate number.

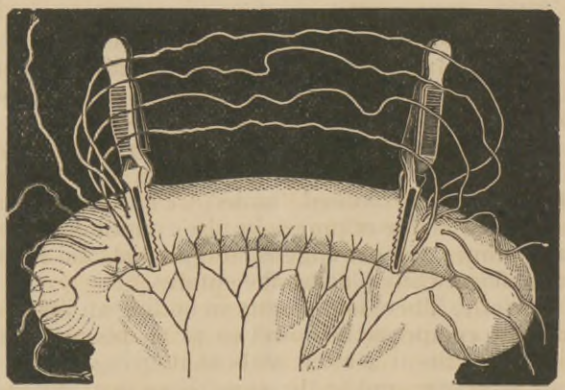
Secondly, In the difficulty of placing accurately the sutures at an even distance from the serous margin of the excised border. This margin is concealed and overlapped by the everted mucous membrane; the cut edge is soft, pliable, and hard to manage while placing the sutures.

Thirdly, There is difficulty in finding an instrument to compress the bowel so as to prevent the escape of fæcal matter without injuring its delicate structure, and at the same time not impede the movements of the operator. The fingers of

an assistant are the best, but these tire when so many sutures are to be placed, and the hands of an assistant are in the way of the operator.

I shall not attempt to compare the various operative methods pursued in the resection of the intestine, nor yet attempt to discuss fully the merits of the method which I submit to you for your consideration. The method I have followed obviates some of these delays and difficulties; hence, I venture to submit it to you for your criticism and for trial. The value of any such procedure depends somewhat upon the operator and his familiarity with it, and its general utility can only be attested by the experience of the various surgeons to whom it may commend itself.

The method I have followed during the past few years is one that I first tried March 16, 1886, when called upon to excise a portion of gangrenous intestine for hernia, and as it answered well, I have continued its use in such cases as have demanded resection at my hands, as also in some experimental work.



The method is as follows: The loop of the

bowel being made free and easy of access, two pairs of forceps are placed upon it, marking the lines at which the excision is to be made. Seven or eight presection interrupted Lembert sutures are to be placed before the portion of the bowel to be removed is excised. The outer borders of the forceps serve as an accurate guide for their insertion. A common cambric needle, threaded with a long piece of fine silk, is used to place these interrupted sutures. See cut No. 1.

They are quickly placed, for the intestine is firmly held by the Péan catch forceps or the preputial forceps, which are used as clamps. The needle is entered about three-eights of an inch from distal side of one pair of the forceps, passed through the serous and muscular coat into the sub-mucous, making its exit about an eight of an inch from the line of the forceps, after traversing nearly one-fourth of an inch of the intestinal wall. The needle is then carried across the space between the forceps and enters the intestinal wall one-eight of an inch from the proximal side of the other pair of forceps, and traverses the wall of the intestine, as before described. The thread of the suture thus placed should be long, so as not only to leave a free loop between the two ends of the bowel, but also to give the free ends which are necessary to ease and security in managing and tying the sutures. Two of these sutures, seven in number, should be so placed as to have one on each side of the mesentery; another at the free margin and two intervening sutures on each side of the bowel, dividing equally the space between the free and mesenteric borders. These sutures should be left with long threads and not tied until after the excision is made.

The mesentery should now be secured, by including it, when not more than two or three

inches of the intestine is removed, in a single ligature which should be placed parallel to not more than half an inch from the mesenteric border of the intestine. The section of the mesentery is made between the ligature and the border of the gut. The portion of the mesentery included should be fully equal to the intestine excised.

The section of the intestine is now to be made. Before making the section, the bowel at the proximal and distal side is emptied of its contents and held by an assistant with his fingers. The operator now slips a finger on each side of the portion to be removed, but under the loops of the sutures, and carries these loops first to the distal and then to the proximal side of the two pairs of forceps. The scissors are introduced between the suture loops and the bowel. The section of the bowel is made first at the distal side and then at the proximal end. The bowel and the forceps are removed together.

The line of the Lembert sutures, when thus placed, is even and regular. These presection approximation sutures are tightened as soon as the portion to be excised is removed, and the divided ends cleansed. A continuous suture of fine catgut carried about the bowel, approximates more perfectly the surface of the serous membrane, and closes any gap that may be left between the interrupted sutures. (See cut No. 2.) The seven interrupted sutures thus placed are quickly and readily tied after the section is made. The continuous suture is easily applied and does not necessarily invert any more of the bowel. The time occupied in such an operation ought not to be more than fifteen or twenty-five minutes, after the bowel is exposed and makes possible an enterectomy when the older methods are not permissible,

for the time occupied need not exceed that necessary for the production of an artificial anus.

The advantages believed to be possessed by this method of operation, are:

1. The manipulation of the portions of the intestine which are to be united is reduced to a minimum.

2. All tissue which has been included in the grip of the compression forceps is removed.

3. The line of the forceps gives an accurate and perfect guide for the placing of the sutures, and makes certain the section and the reunion of the bowel at right angles to its axis.

4. The rapidity with which the interrupted Lembert sutures can be placed is very much greater then where the attempt is made to put them in position after dividing the bowel, and the divided ends are not long exposed; hence, it is more nearly the ideal aseptic operation.

5. The union of the divided ends is accurate and sufficiently firm to retain fluid matter. This is accomplished with a few—seven or eight—interrupted silk sutures and a continuous catgut

suture placed in or near the same line as that occupied by the interrupted sutures. This continuous catgut suture extends around the circumference of the bowel, reinforcing and sealing the Lembert sutures.

6. The eversion of the mucous membrane is controlled and fæcal extravasation prevented.

7. The time necessary to complete the operation is much shortened, because (a) the clamps give easy and perfect control of the suture line; (b) a limited number of interrupted sutures are used; (c) the continuous catgut suture is quickly and easily placed; (d) there is no delay in pushing out of the way the everted mucous membrane which so much delays the placing of the interrupted sutures.

The difficulty of securing the serous margin and holding quietly the edge that is to be approximated can be appreciated only by those who have made the effort.

The only stumbling block in the way of a rapid and satisfactory operation is the management of the long threads of the presection Lembert sutures after placing them, and while making the section of the bowel. This is easily overcome by placing them on a folded towel and by slipping the fingers under the central portion of the loops on each side of the bowel, and carrying the loops back with the fingers beyond the forceps, over the healthy intestine, previous to making the section. The interrupted and the continuous sutures should be carried well down into the wall of the bowel, so as to include the sub-mucous tissue.

The Péan catch forceps answer well for the clamps. I have, in the human subject, had a successful case where a free evacuation of the bowel followed the operation within twenty-four (24) hours, and occurred daily thereafter. Post-

mortem examination after thus excising gangrenous intestine, the result of strangulated hernia, has uniformally demonstrated good union and no leakage at the intestinal wound.

This method of excision was in part described by me in July, 1887, at the meeting of the Mississippi Valley Medical Association, held at Crab Orchard Springs, Kentucky.