LUMBAR VERSUS ILIAC COLOTOMY.

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PROFESSOR OF SURGERY IN THE PHILADELPHIA POLYCLINIC; DEMONSTRATOR OF ANATOMY AND LECTURER UPON SURGICAL ANATOMY IN THE UNIVERSITY OF PENNSYLVANIA; ATTENDING SURGEON TO THE PHILADELPHIA, GERMAN, ST. AGNES'S, AND ST. MARY'S HOSPITALS.

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THE subject which appeals to every surgeon whose lot it is to see many cases of carcinomatous disease of the rectum, is that of colotomy. My object in writing a paper on this topic is to record the result of my experience in the two operations—lumbar and iliac, not inguinal, as it is frequently called; to advocate the establishment of an artificial anus early in the disease, when it is not feasible to remove the involved portion of the bowel; to speak of the indications for the operation; and of operative procedures other than colotomy, for malignant disease of the large intestine elsewhere than in the rectum.

Having performed both lumbar and iliac colotomy, I am convinced that, in the majority of cases, the lumbar operation is preferable, as well as the most logical, for the following reasons:

1. Notwithstanding the opening of the peritoneal cavity is now a factor of comparatively little importance when deciding between what shall be an intra- or an extra-peritoneal operation, I believe that, when the same end can be accomplished without opening the peritoneum, the patient should be given the benefit of it. We must admit that an additional risk, be it ever so small, is coupled with an intra-peritoneal operation.

2. Regarding simplicity. The essential element of success in any operation is a correct knowledge of the surgical anatomy of the part. The lumbar operation is as simple as the iliac, especially when the intestines are greatly distended, as they are apt to be in the advanced stages of the disease, when symptoms of obstruction are pronounced and when acute obstruction supervenes upon chronic. In opening the peritoneal cavity where the abdomen is distended, the protrusion of

the small intestine through the wound complicates the operation. When the abdomen is distended, the lumbar operation is simplified by the bulging of the colon into the wound, thus making it more accessible. The advocates of the iliac operation claim that the additional advantages gained by opening the peritoneal cavity, providing the disease has not extended too far, are: to verify the diagnosis, to determine definitely the extent of the disease, to resect and reëstablish the continuity of the canal. I do not regard the diagnosis in carcinomatous disease of the rectum or the sigmoid flexure, assuming the form of a growth or a stricture, with symptoms both local and general, together with the history of the case and what can be learned by an examination of the abdomen and of the rectum (if need be, assisted by anæsthesia), at all difficult. Where the sigmoid alone is involved, the additional comfort gained by a resection would not warrant the patient assuming the risk consequent upon this operation, in comparison to that of establishing an artificial anus through the loin.

The advocates of the iliac operation, again, produce the following arguments in its favor, namely:

1. The impossibility of opening the small for the large intestine. In answer to this I can say, this mistake cannot occur in the lumbar operation unless the peritoneum is opened, which should not occur to a careful surgeon, non-interference with the peritoneal cavity being the important factor in the lumbar operation. Should the surgeon be unfortunate and open the peritoneal cavity in the lumbar operation, mistaking the small for the large intestine would be a gross anatomical error. The presence of one or more epiploic appendices tells positively that it is the large intestine, these never being present as constituents of the small intestine. Again, the arrangement of the longitudinal muscular fibres of the large intestine into three separate bands, and the sacculated condition of the large intestine where both are not obscured by distention of the gut, assist in deciding the question. The small intestine may be met with so distended as to equal or exceed in size that of the circumference of the large; under such circumstances, the question of difference would be still more difficult for the surgeon not familiar with the anatomical peculiarities of both. The percentage of cases in which the descending colon does not hold its normal position to the abdominal walls posteriorly is so very small as, in my mind, not to enter into the question of deciding between the two operations. In the large number of bodies I have seen dissected in the anatomical rooms of the University of Pennsylvania, I have yet

to meet with a single case of pronounced anomalous arrangement; yet, I would not be understood as disputing the fact. Mr. T. Bryant, having operated in 170 cases, in but one of which he found it necessary to prolong his incision forward to find the colon at the brim of the pelvis, is the best argument to offset that set forth by the supporters of the iliac procedure.

2. The position of the anus in the iliac operation is claimed to be a more convenient one for the patient to keep clean, as well as for the adjustment of the necessary pad which has to be constantly worn. I admit that an artificial anus in the abdominal walls anteriorly can be kept clean more conveniently by the patient than one in the loin; but the former situation, owing to the recession of the abdominal walls in certain positions assumed, allows the pad to shift. This is not the case in the loin, as the latter offers a more fixed and stationary point to retain the pad.

3. Those who prefer the iliac operation claim that, owing to the meso-sigmoid being longer than the descending meso-colon, it renders the stitching of the bowel to the edges of the wound easier; also, that there is less tendency to prolapse of the gut following this than the lumbar operation. I confess that the long sigmoid meso-colon will permit of the bowel being drawn up much further than will the comparatively short descending meso-colon. This offers, however, no advantage over the lumbar operation, as the length of the descending meso-colon is such as to allow the surgeon to bring the bowel up far enough to suture it to the edges of the wound of the abdominal walls, before or after it is opened, without any difficulty. In the case of a very fat subject, where the abdominal walls are flaccid, the last stages of the lumbar would be somewhat more difficult than that of the iliac operation.

The formation of the spur, the barrier to the passage of the contents of the intestine from the upper into the lower opening, is claimed as being more pronounced after the iliac than the lumbar operation. This has not been so in my experience; on the contrary, I have been very much disappointed with the iliac operation in this respect. True, I have only performed two of the iliac operations; in both of these the patients were greatly annoyed by the collection of feces in the rectum above the seat of the trouble, and the consequent rectal tenesmus excited by the same. In my lumbar colotomies, by following the plan adopted by Mr. Bryant, namely: Having exposed the descending colon by an incision carried in the line of the normal crease situated about midway in the costo-iliac space—the structures

divided being the skin, the superficial and deep fascia, the posterior border of the external oblique, the anterior border of the latissimus dorsi, the lumbar fascia with the posterior borders of the internal oblique and transversalis muscles, and the anterior border of the quadratus lumborum and the fat covering the posterior surface of the bowel, which should be separated by the fingers—it is grasped at the site of the posterior longitudinal muscular band, rotated well forward on its longitudinal axis, brought into the wound, and there fixed. Operating in the above manner, I have formed a most excellent spur, serving its purpose very satisfactorily to the patient as well as to myself. I would restrict the iliac operation to that class of cases where the upper portion of the sigmoid flexure is not involved, and where it is done first as an exploratory measure—not in a diagnostic sense, but for the purpose of determining whether resection is justifiable, when, if it be impossible, the operation is completed as an iliac colotomy. In the two iliac colotomies that I have performed, the cases not being urgent, I divided each operation into two stages; the first consisted in fixing the bowel in the wound (colorraphy), and the second in opening the bowel at the end of seventy-two hours. It is not necessary to give an anæsthetic when the bowel is opened, it being almost painless. I follow this course in the lumbar operations as well, when the urgency of the cases does not demand an immediate opening.

Indications for the operation: Carcinoma of the rectum, either in the form of a growth or a stricture, too high to render the removal through the perineum or back by excising the coccyx, and, perhaps, one or two of the lower segments of the sacrum, or through both the perineum and the back.

Stricture of the terminal part of the sigmoid flexure and of the upper part of the rectum with symptoms of obstruction, too high to treat successfully by dilatation, divulsion, or division.

Incurable cases of recto-vaginal or recto-vesical fistula. Extensive and otherwise incurable cases of ulceration of the rectum, making life a burden to the patient.

Imperforate anus, where operation through the perineum and back proves of no avail.

Irremovable growths of the pelvis, causing obstruction by making pressure upon the rectum. In this connection, I will make mention of a suprapubic cystotomy that had to be done by a colleague in one of our hospitals for retention of urine, occasioned by pressure of such

a growth against the base of the bladder. Here it was only possible to pass a catheter when the patient (male) was anæsthetized.

When should the operation be done? I believe the position held by most surgeons in regard to the operation of colotomy, namely, that it is only to be thought of as a last means of relief in cases of carcinoma of the rectum and sigmoid flexure, also in strictures of small calibre, otherwise incurable, is a too conservative one. We must all admit that the chief factor in the rapid growth of carcinoma involving the bowel is the irritation to which it is constantly subjected, first, by the peristaltic action of the bowel, and, secondly, by the passage of fecal matter through the involved portion; therefore, the position I maintain is, that the sooner the operation is done, there being, of course, no doubt as to the character of the trouble, the better, and for the following reasons: First, by the early establishment of an artificial anus, the patient is relieved of the severe pain caused by the contraction of the enfeebled bowel in attempting to expel its contents; to relieve this, it is necessary to administer anodynes which interfere with digestion and assimilation. Second, the diarrhœa, so frequently a common symptom in these cases, does not occur. Third, the danger of total obstruction, one of the causes of death in unrelieved cases, is prevented. And, lastly, the opportunity afforded of subjecting the affected bowel to frequent antiseptic irrigation, by which the progress of the disease is very materially stayed. I am convinced that in the case of lumbar colotomy I here report, showing a drawing of the artificial anus, by frequently washing out the lower bowel with a one-half-per-cent. solution of creolin (preventing the collection of the excretions of the growth, which cannot be done thoroughly until an opening is established with the bowel above the seat of the growth), as has been done conscientiously by my resident surgeon, Dr. C. D. Hamman, the patient's comfort has been greatly added to; also, that the progress of the growth since the operation has been but little, if any.

Thus far, I have spoken simply of left lumbar and left iliac colotomy. Owing to the modern advancement made in intestinal surgery, right lumbar and right inguinal colotomy are operations, I hope, of the past. I trust, at this time, no surgeon who is abreast with the times would think of either of the two last-mentioned operative procedures, but would open the abdomen of his patient, remove the growth—if possible, by resection—and reëstablish the continuity of the canal, either by lateral implantation, or, better, lateral apposition by perforated decalcified bone plates or rubber

rings. Where it is not possible to remove the growth in the cases last referred to, sooner than establish an artificial anus, make a lateral anastomosis.

In carcinomatous disease of the upper portion of the rectum, colotomy offers the only operative means of relief. In carcinomatous disease of the sigmoid flexure, or of the descending colon, too high for colotomy, lateral anastomosis by ileo- or colo-rectostomy may be feasible, but here I give preference to lumbar colotomy; elsewhere I prefer anastomosis.

James R., hostler, aged thirty-eight years. Admitted to the German Hospital July 26, 1890. Family history negative. Has had pain on defeca-

FIG. 1.

Showing the artificial anus. The two openings drawn apart so as to bring out the spur.

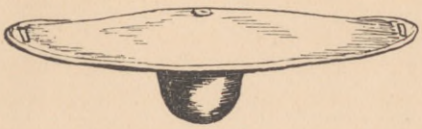
tion, and discharge of blood-stained matter. On examination, an ulcerating mass was found high up in the rectum, involving the entire calibre of the gut.

August 16. Left lumbar colorraphy performed.

17*th*. Considerable tympanites.

18*th*. Gut opened; immediate relief from tympany. Wound was dressed twice daily. Primary union. Patient discharged September 6th.

Fig. 2.



Pad.

The patient was able to regulate the movement of the bowels at the end of two weeks. He improved markedly in health and strength.

Fig. 3.

Showing pad adjusted.

December 17. Patient has been doing light work as a hostler for six or eight weeks. His bowel is washed out twice a week with a one-half-per-cent. solution of creolin.