CLINICAL LECTURE ON COLOTOMY.

*Delivered at University College Hospital.*By CHRISTOPHER HEATH, F.R.C.S.,
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GENTLEMEN,—You saw me the other day perform colotomy, or at least the first part of inguinal colotomy, on two patients the same afternoon. The first case was one of cancer of the rectum in a woman, who has done perfectly well, and who has now left the hospital; the second was a very remarkable case of cartilaginous tumour of the pelvis in a man. Inguinal colotomy is an operation for opening the peritoneal cavity, taking hold of the presenting portion of the sigmoid flexure or upper part of the rectum, and stitching that to the abdominal wall; then, after two or three days' interval (three or four will be better), when the adhesions have thoroughly formed between the peritoneal surfaces, to open the bowel and allow the fæces to escape at that point. In both these cases the first stage of the operation was done on a Wednesday, and the colon was opened on the following Monday.

The man was sent to me by Dr. Gowers some three or four months ago, having come up from the country suffering from what was supposed to be sciatica. Dr. Gowers found that he had great pain down the left thigh, and it was obvious that the cause of it was a tumour pressing upon the sciatic nerve through the sacrosciatic foramen. With the finger in the rectum I found that he had a large mass of enchondroma, some of which had undergone ossification, and more or less filled up the pelvis. If you look at the patient's buttock, you will see that there is an abnormal prominence due to the projection through the sacrosciatic foramen, and you will also notice that there is a certain amount of eversion of the mucous membrane of the rectum, which is due to the same cause. When I saw the patient I felt sure that before long the rectum would become obstructed, and I told him exactly what would happen—that he would find more and more difficulty in passing his motions, and I advised him, when the difficulty got to be serious, to come into the hospital and allow me to open the bowel for him above the obstruction. There is now a great mass pressing so completely upon the rectum that I cannot pass my finger up, and it has grown considerably in the course of the last three months. Accordingly, he found about a month ago that the difficulty of defæcation became so great that he communicated with me, and I took him into the ward and operated.

What I have done for this patient is to relieve the function of defæcation. There is also the function of micturition to be considered; and since he has been in the hospital there has been, on two or three occasions, very great difficulty in making water. Fortunately that difficulty has passed off, but I cannot hide from myself—and I have not hidden from the patient—the extreme probability that he may have the difficulty increasing as the tumour enlarges, and that eventually he will have to use a catheter, more or less frequently, according to circumstances, in order to relieve the bladder. I speak pretty confidently about it, because, a few years ago, I was consulted about a man who had a very similar tumour of the pelvis, and he had as his leading symptom a difficulty not in defæcation but in urinating. I found in his case that the tumour had pushed the bladder up out of the pelvis into the abdomen, and that it was necessary to use a very long catheter in order to reach the viscus and withdraw the water. I succeeded in doing this, and the medical man, in whose care the patient was, continued to do it for a long time and until the patient died. I secured the pelvis, which is now in the College of Surgeons Museum.

Before the patient leaves I will show you the opening made by the colotomy, and the arrangement we have here for keeping him comfortable. I have found, in these colotomy cases, that the most convenient arrangement is to have an india-rubber pad with a thick rim and teat-like projection from it, which is pushed into the lower opening, and then any little fæces which may extravasate in the course of the

day become collected under the pad and do not soil the patient's clothes or give him any inconvenience. You see now the two openings in the bowel. There is the upper opening through which the fæces escape once or oftener in the twenty-four hours, and which leads into the sigmoid flexure, and there is the lower opening, which leads, as you see, into the rectum. There is no disease of the rectum in this case, but I can feel through the walls of the bowel the irregular tumour of the pelvis which has produced the pressure and prevented defæcation.

It is important in a case of this kind and in all cases of colotomy to remember that there are several inches of bowel below the seat of the operation, and to take care that they are kept clean. There is a certain amount of mucous secretion always taking place in the bowel, and if you allow it to accumulate it is apt to become inspissated and to irritate the bowel considerably. The patient is therefore taught, before leaving the hospital, to put an enema tube into the lower opening and inject water—a little of which will probably escape below, but the main part regurgitates and brings away any of the mucus collected. If the patient does that three or four times a week he keeps himself comfortable.

I want particularly to call your attention to the little projection which you see between the two openings. That is the spur or *éperon* (to use the French term), which it is so important to produce in order to prevent the fæces going into the lower opening. It is a point on which you cannot be too careful, to draw the bowel well out when you are doing the operation, so as to get a very complete spur. The spur in this man is, I think, a very satisfactory one, quite sufficient to prevent the fæces passing directly into the lower opening, though of course if there were a large discharge of fæces under the dressings some of them might possibly find their way down. That spur is exactly like the spur we find in any case of artificial anus. You know that after an operation for strangulated hernia of the small intestine we have now and then to make an artificial anus, and there you always find a spur between the upper and lower portions. If a patient recovers in such a case of strangulated hernia, and you want to restore the continuity of the bowel, you have really to destroy that spur before you can get the fæces to pass on. Here, so far from destroying it, we wish to encourage it, because it is a safeguard preventing the fæces passing down into the lower part of the bowel. I have done many operations, and seen many more, but I have never seen any case in which the fæces came from the lower opening. I find, however, that one or two surgeons record cases in which they find that the bowel gets a curious twist. I cannot quite understand how it can occur, because one has the bowel under one's finger while doing the operation, and can trace it up for a certain distance; but good authorities say that every now and then the bowel gets a twist, and that the fæces come out of the lower opening. Now that is one great argument against doing anything more serious than merely opening the bowel as I have done here. It has been proposed by a surgeon in London to do what I think a very serious operation, namely, to cut across the bowel and to stitch the upper part to the wound and close the lower end, the idea being in that way to ensure that no fæces shall find their way down into the lower part of the bowel, and that there shall be no possibility of irritation from that cause. The fact which I have just mentioned, on good authority, that every now and then the bowel does get a twist, so that the motion comes from the lower instead of from the upper opening, is, I think, a very strong argument against that operation. Suppose that in this patient by some accident the fæces came through the lower opening, and I had closed that opening up and stitched the upper opening to the skin, where should we have been? The whole operation would have had to be undone. Then there is another great objection, namely, the fact which I mentioned just now, that there is always a certain amount of secretion taking place even in a healthy bowel below the seat of the operation. Having stitched that up as proposed, the result will be that you cannot put in an enema tube, and you cannot wash the bowel out, and according to my experience there will be a great deal of irritation from the secretion which will collect.

This operation of inguinal or iliac colotomy is an operation which has come very much into vogue within the last five

years. Yet it is curious that it was originally proposed by Littre in the last century in cases of atresia ani. He proposed in such cases to open the abdomen of the child in the left groin, and there to make an artificial anus; but he does not seem ever to have done it, and I am not aware who really did do it first. It was thought by Callisen, a Danish surgeon at the end of the last century, that it would be better to go into the loin and get further away from the disease, and to do lumbar colotomy, as we now call it. But he never did the operation; and it was not until the year 1839 that Amussat performed the first operation, as far as is known, of lumbar colotomy. We have very good authority for that, because Mr. Erichsen was a student at the time in Paris, and Amussat asked him to be present, as he mentions in his book, and he accordingly witnessed that first historical colotomy. Since that date surgeons have done lumbar colotomy in adults as a rule, and some have done (though others have not approved of it) Littre's operation in children. The late Mr. Curling, surgeon to the London Hospital, who had a large experience in diseases of the rectum, read a valuable paper before the Royal Medical and Chirurgical Society in 1860, giving a large number of cases of colotomy in infants for atresia ani, and he also gave the results of some twenty dissections and experiments on stillborn children, with a view of determining if possible which was the best operation to perform on a child. He came to the conclusion, and I quite agree with him, that Littre's operation—that is, the inguinal colotomy of the present day—was by far the best operation in a child, and for this reason: that you can never tell exactly where the colon will be. You have perhaps dissected into the perineum some distance to find the rectum and have failed. If you operate in the left loin you have no certainty whatever of finding the bowel; it may be abnormal altogether, and may not be in the loin at all; but if you go into the left groin, and open the peritoneal cavity, there is no doubt that you will manage somehow to find the sigmoid flexure, though it may even be on the opposite side. Therefore I think the majority of surgeons (there are one or two exceptions) in the case of newborn children with atresia would recommend inguinal in preference to lumbar colotomy.

[To be continued.]

PERSONAL EXPERIENCE OF ASEPTIC AND ANTISEPTIC SURGERY.

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ANYONE who has seen much surgical work in London in hospital or private practice, or in both, during the last thirty or forty years, who can remember the past and will compare it with the present, must be impressed by some remarkable changes—by the former prevalence and the present absence of suppuration, hospital diseases and surgical fever, by the rapid healing of wounds, and by the steadily diminishing mortality after all surgical operations.

In 1858 or 1859 I was invited by an old friend (since dead) to see him perform his first ovariectomy in a large London hospital. He did the operation as well as it could have been done then, but I asked him how long he thought the woman would live. He said, "What do you think?" I replied, "Not three days." "Why?" he asked. "Because," said I, "you came straight from the anatomical theatre where you had been demonstrating for an hour, and were followed by a crowd of dissecting students. You did the operation as well as anybody could do it, but you cannot reasonably expect the woman to recover." She did not live forty-eight hours. She died of acute septicæmia, then called peritonitis. Several years afterwards he told me this case was a revelation to him; that neither he nor his colleagues nor his teachers had given a thought to such causes of excessive mortality after surgical operations. I could easily add many equally noteworthy illustrations of the wide difference in professional thought and work between 1858 and 1892, not only in London, but where-

ever the English language carries the influence of our example. For the present, however, I must be content with the barest sketch of what my own work has taught and is teaching me in regard to aseptic and antiseptic surgery.

Any student of the history of surgery who wishes to ascertain how my own practice has been modified since 1857, how asepsis gradually became more perfect, when and how antiseptics were introduced and modified, the spray tried and abandoned, may be interested by reading some ten or twelve pages of my book published in 1885 (now, I regret to write, out of print), entitled *Diagnosis and Surgical Treatment of Abdominal Tumours*. Lecturing at the College of Surgeons in December, 1890, I summed up the additional lessons learned in the preceding five years. After referring to Mr. Hankin's work on defensive proteids, and the power of killing bacteria which the serum of healthy blood possesses—a power connected probably with the presence of a globulin which is only soluble in dilute solutions of common salt—I suggested that these investigations may "explain the antiseptic action of common salt and strengthen the belief that we have in dilute saline solutions a safe and useful fluid for surgical irrigation, preferable to water which has been sterilised by boiling, and possibly to solutions of phenol or perchloride of mercury, either of which may irritate the tissues of the patient or injure the instruments of the surgeon." I added, "Some such reflections as these have been leading me to the conclusion that the use of antiseptics in modern abdominal surgery may be summed up as combining the utmost possible cleanliness of the body, the clothing and surroundings of the patient, the surgeons, assistants, and nurses; the perfect sterilisation of all instruments by boiling water, as well as of the silk or any material used for ligatures or sutures, and the absolute purity of the sponges or any substitute for them. I long ago asserted that in our daily work we had much grosser causes of danger to guard against than enemies which are invisible without a microscope—that dried clots of blood, or fragments of diseased tissue, imperfectly cleansed from our knives, scissors, forceps, or needles, may act as directly as vaccine matter. Careful assistants or nurses may not perform this duty of cleansing perfectly, and I think what we are learning from the bacteriologists leads to the conclusion that it will be well after all operations, and probably before them also, to boil all our metallic instruments for a few minutes."

A careful observer in the operation theatre or room of any hospital, or in the private practice of the most scrupulous surgeon, may very often detect imperfections in the way the most perfect arrangements are carried out, or sometimes altogether neglected. Some of the best of trained nurses are far from attentive in details, and very few patients can be made to understand the importance of much which they consider frivolous. To avoid or prevent mischief from any such ignorance or carelessness, I have prepared a code of instructions which, if studied and acted upon by assistants and nurses, with such modifications or additions as the experience or reflection of any surgeon may lead him to adopt, will spare him much troublesome explanation, and secure the observance before, during, and after operations of many precautions too often neglected, but which may seriously affect the result. I hope to offer this code to the profession through the *BRITISH MEDICAL JOURNAL* in a form which, if printed or copied legibly, might be given to relatives and nurses for their guidance. In the meantime I may refer to an admirable paper in the *Liverpool Medico-Chirurgical Journal* of last January by Mr. Alexander on Twenty Years of Operative Work, which no operator can read without interest; to the valuable reports of Mr. Lockwood on Septic and Aseptic Wounds and Surgical Cases,¹ and to the ninth volume of the *Transactions of the American Surgical Association*, 1891, which contains a paper by Dr. Gerster, Aseptic and Antiseptic Details in Operative Surgery, with the discussion which followed, and another article by Dr. Fowler, Aseptic Operative Technique, all these are extremely interesting as proofs of the tendency of thoughtful surgeons to "hold fast that which is good," to reject that which is of doubtful utility, and, above all, to observe the utmost simplicity consistent with safety.

(To be continued.)

¹ BRITISH MEDICAL JOURNAL, October, 1890, and May, 1892.