A Clinical Lecture

ON

ENTERECTOMY CONTRASTED WITH ARTIFICIAL ANUS.

Delivered at University College Hospital.

By ARTHUR E. BARKER, F.R.C.S.,

Surgeon to the Hospital; Professor of Surgery, University College.

GENTLEMEN,—While we are considering the case before you now practically convalescent from an anastomosis of colon to colon for inoperable carcinoma of the descending large gut, I should like to review briefly the last twelve cases in which I have removed large portions of the intestine for cancer or for gangrene the result of strangulation. It is an important subject. For it appears probable that a long time will elapse before the danger of delay in cases of strangulation is so fully recognized as to eliminate all necessity of operating for gangrenous gut; and I fear that there is evidence that cancer is on the increase, and that for a long time to come operative surgery will be our only means of coping with the disease. It is, however, cheering to notice that palliative operations for the two conditions just named are giving place to procedures for their radical cure, and that without any increase of mortality if not a considerable lowering of the latter.

A glance at the past will convince any one that gangrenous strangulation treated by artificial anus had a high mortality, to say nothing of the distress and misery associated with discharge of liquid faeces and semi-starvation, if not total starvation. And I fancy that those of us who have performed large numbers of colotomies for malignant strictures must have often felt that the operation was but a sad admission of our powerlessness otherwise to relieve a terrible condition. Colotomy is doubtless a most valuable operation, and in its time remedies an otherwise most distressing state of things besides prolonging life. But it does so often at the expense of considerable discomfort, and leaves the patient with the feeling that the inevitable end must be still kept in view.

The great improvements in Listerism in its highest ideals, together with the better knowledge of the pathology of these two conditions of the intestine, have, however, opened up new vistas of hope for these unfortunates. On the one hand we have learned that primary excision of gangrenous gut is not only justifiable, but, in proper cases, offers the best chance as to life, and on the other, that in neoplasm of the bowel the growth can be freely removed and the continuity of the tube restored with moderate risk and no distressing discharge of faeces on the surface. Further, that in many cases, in which owing to delay the growth has relations which render its removal impossible, the continuity of the bowel can nevertheless be restored by short circuit, and so an artificial anus be avoided, as in the case in this bed.

Many cases besides the one before you illustrating these facts have passed through these wards lately, and I now propose to review briefly the last cases of enterectomy for gangrenous strangulation and growth which I have done and try to learn something from them.

FOUR FATAL CASES.

CASE I.—M., aged 22. Primary resection of 12 in. of ileum for gangrenous inguinal hernia. Stitches tore out of softened gut; not enough resected. Peritonitis.

CASE II.—F., aged 33. Primary resection for gangrenous umbilical hernia. Fat, unhealthy patient. No drainage. Radical cure after resection of 52 in. of small gut. Did well at first; then began to vomit, and continued to do so until death. Junction quite sound. An old fibrous band from umbilicus to colon pressed on distal loop and caused obstruction. No peritonitis.

CASE III.—M., aged 58. Resection of splenic flexure and part of stomach for carcinoma of gut. Very well for five days; then, while sitting up, suddenly had a spasm, grew white, and fell back dead. Junction perfect, and bowels acting. No peritonitis.

CASE IV.—M., aged 38. Heavy drinker. Primary resection of caecum and 54 in. of ileum for gangrenous strangulation. Very foul. Sac most part excised, not all. Radical cure. No shock. Passed flatus. No temperature of note. Delirium tremens third day. Pulse rose, and slight distension. No vomiting. Death seventh day. General peritonitis starting apparently from sac. Junction sound.

Twelve Consecutive Enterectomies.

No.	Sex.	Age.	Form.	Operation.	Result.
1	F.	46	Gangrenous hernia	Excised 18 in.	R.
2	M.	20	Gangrenous inguinal hernia	" 36 in.	R.
3	F.	39	Femoral hernia, kink and adhesions	" 37 in.	R.
4	F.	76	Gangrenous internal hernia	" 66 in.	R.
5	M.	22	Gangrenous inguinal hernia	" 12 in.	D.
6	F.	33	Gangrenous umbilical hernia	" 52 in.	D.
7	M.	38	Gangrenous caecum and intestine	" 60 in.	D.
8	M.	30	Cancer of caecum	" caecum, colon 6 in., and ileum 6 in.	R.
9	F.	58	Cancer of colon	Excised 5 in.	R.
10	F.	57	Cancer of des. colon	Excised whole descending colon	R.
11	F.	73	Cancer of sigmoid flexure	Excised sigmoid flexure	R.
12	M.	58	Cancer of splenic flexure and stomach	Excised whole transverse colon and part of stomach	D.

The foregoing list includes all the enterectomies consecutively which I have recently done. They show a very great improvement indeed on my earlier cases in every way. This I am inclined to attribute to a variety of causes, but above all to my own fuller realization of the principles which underlie the whole question of enterectomy and of the need of attention to many details in the procedure which had seemed of less weight previously.

It may be noted in passing that in none of this series was Murphy's button employed, nor any other form of junction than the simple suture of the intestine. This seems to me an important step in advance in the performance of enterectomy as well as of gastro-enterostomy. I have used the button largely in both operations formerly with good results in many cases. But I am glad now, on theoretical and practical grounds, to be able to do without it, and feel much safer in thus abandoning it.

It will also be seen that in all cases but two (caecal) an "end-to-end" anastomosis was the form of junction used. And further, that in the six cases of acute strangulation the excision was a primary one without the previous formation of an artificial anus. This may or may not have been the right course to take in these individual cases, but I have had for a long time past a growing feeling that we have not been bold enough in such cases, and that primary enterectomy ought nowadays, with our improved methods, to yield far better results than have been achieved in the past by the formation of an artificial anus and a secondary excision and anastomosis.

It will be seen from the list that all the cases were serious ones, some of them almost desperate. That there should have been four deaths among them is not to be wondered at. But when we examine the causes of death in the three, we get a grain of comfort. In Case I the fatal issue was clearly due to my not having excised enough of the afferent loop. The part stitched was therefore unsound, and gave way. In Case VI, where 52 in. of small intestine were removed for gangrenous umbilical hernia, the obstruction which followed and caused death was found to be due to an old fibrous band which crossed the gut below the anastomosis, the latter being quite sound. Here the cause of death could hardly be attributed to the method employed. The band—an old one—ran from the umbilicus to the transverse colon, and could not be seen at the operation. But afterwards it led to fatal kinking.

In Case XII, in which I had to excise the whole splenic flexure of the colon and with it a portion of the great curvature of the stomach as large as the palm of the hand, involved in carcinoma, the patient was quite cheerful and sitting up on the fifth day, when he suddenly turned white, had a cardiac spasm, and dropped dead. The anastomosis was perfect, and the superficial wound held faultlessly, but a large embolism was found in the pulmonary artery. This terrible accident, so frequent in many even slight surgical

conditions, cannot be forestalled in them any more than in childhood, but can hardly be put down to any particular procedure or surgical condition.

In Case VII, however, I think, the operation was at fault as far as could be seen at the necropsy. This was a very bad case of strangulation of the caecum, and some 4 ft. of small intestine in an inguinal hernia, the chief strangulation being in a pocket at the upper and outer portion of the sac behind the caecum, where a black knuckle was found tightly shut off from the main sac. When the caecum and intestine were excised, this foul infected pocket ought to have been excised completely with the rest of the sac. But this I could only partially carry out, as the pocket really belonged to the peritoneal cavity. As it was, I partially excised it, and closed the sac, doing a radical cure at once. I think that it was from this pocket, which lay partially within the abdomen, that the fatal peritonitis started. The anastomosis was quite sound on the seventh day, when the patient died, and the bowels had been freely moved as well as flatus passed. I now feel that, if I had excised the whole foul pocket, and stuffed the wound with gauze, instead of doing a radical cure of the hernia, the result might have been recovery. But, at all events, this and Case I are the only cases out of the three fatal ones in which the result could be set down to the procedure itself. As the man, by his own account and that of his wife, was habitually a heavy drinker, and had all the signs of delirium tremens on the third day, it is questionable whether he would have recovered in any case.

All the other cases recovered, and had no trouble afterwards. Those that were treated with gauze drainage did not do better than those in which the abdomen was stitched up without any drainage.

Nevertheless, in the four cases that died, one, I feel sure, would have had a better chance had I stuffed the wound with a gauze apron filled with iodoform gauze instead of closing everything and attempting a radical cure. But, as it stands, I venture to think that this list of cases justifies my belief that I can do more for my patients by a freer use of primary excision for gangrenous gut on the one hand, and on the other by excision of growths of the intestine rather than by artificial anus, and all this with but little more risk than the older methods involved, perhaps with less. In inoperable cases of cancer of the intestine the case before you shows what can be done by anastomosis, and how an artificial anus with all its drawbacks can be avoided.

The details of the various procedures by which all this can be done are a long and interesting study into which I cannot go now. They include the treatment of the patient before, during, and after the operation. You can only realize their meaning and importance by careful study of these cases as we prepare them in the wards beforehand, deal with them on the operating table, and treat them subsequently. And this study I very earnestly commend to you, for a mere textbook knowledge will not help you much.

DUODENO-CHOLEDOCHOTOMY FOR RETAINED GALL STONES AT THE DUODENAL END OF THE COMMON BILE DUCT.

By HENRY BETHAM ROBINSON, M.S.LOND., F.R.C.S.,
Assistant Surgeon, Surgeon in charge of the Throat Department, and
Lecturer on Practical Surgery at St. Thomas's Hospital.

THE cases, upon which the above operation was performed and which are described in detail below, belong to a group important both from the clinical aspect and from the point of view of treatment.

The association of jaundice with febrile attacks was brought into prominence by the writings of Charcot, but during recent years we are indebted to Osler¹ especially for further elucidation of this most important subject.

When a stone makes its way, usually from the gall bladder, into the common duct, in the ordinary way it passes on into the duodenum. During its passage there may be a typical attack of biliary colic, pain, some fever, vomiting, and jaundice with its usual accompaniments, bile in the urine,

and pale constipated stools; the depth of the jaundice will be dependent on the length of time the stone takes to pass through the duct, and on the associated catarrh of the mucous membrane. With the entry of the stone into the bowel all the above signs disappear and the stone may be sought for and found in the stools. Sometimes the fever instead of being slight and continued may be high and intermittent, accompanied by shivering and sweating.

A stone may remain in the common duct and, if free to move up and down in the duct, may be accompanied by no symptoms if it does not interrupt the normal flow of bile.

At the duodenal end of the common duct, after it has been joined by the pancreatic duct, is a dilatation beneath the mucous membrane of the bowel, the diverticulum of Vater. The opening of this enlargement into the gut is very small, so that there is a tendency for a gall stone to remain lodged in this site, having a certain amount of play, and acting like a "ball valve." Although, as stated above, a gall stone in the common duct, free to move up and down, may have no attendant symptoms, when we have a "ball-valve" stone to deal with, it is always some obstacle to the discharge of bile, and the symptoms presented are rather characteristic.

The jaundice is essentially chronic, and, although never going away, may for some considerable periods be only slight, and without any other symptoms except a little pain or discomfort. From time to time, however, there will be attacks of colicky pain, with chills or rigors, fever, and sweating, succeeded by a much greater intensity of the jaundice; these symptoms after a while pass off, leaving the patient in his former state to await the repetition of another exacerbation of symptoms, which may occur at very varying intervals, sometimes very shortly after, and in others at intervals of several weeks. The fever in these attacks is intermittent in type, with a similar daily rise for some days together, and it may be accompanied by some enlargement of the spleen. A very pointed fact is that, although the patient during such a chronic illness loses weight, he does not necessarily feel ill, and may in the intervals of the attacks go about doing his work.

The onset of these attacks is caused by some temporary impaction of the stone associated with swelling of the mucous membrane; after a certain degree of distension behind, the stone tends to shift its position, and the bile leaks out by the side into the bowel, with subsidence of the symptoms. The associated fever has been considered due either to nerve irritation from the distension or by the absorption of toxins by the altered mucous membrane.

The liver is not much enlarged, but may be tender, and the gall bladder, as a rule, is not enlarged, or, if so, not much, owing to the intermittent escape of the bile. The pain is usually more referred to the epigastrium than over the right hypochondrium.

In establishing the diagnosis the presence of jaundice for some time, varying in its intensity and never very deep, points to a stone, and especially, when the accompanying signs are taken into consideration, to its probable position at the end of the common duct. As the jaundice will be occurring at the period when cancer is also likely, there may be some difficulty in making a decision. In cancer, which is so common about the head of the pancreas, and thus involves the end of the common duct, there is a steadily progressing obstruction; the jaundice tends to slowly increase, is persistent, and of much greater depth of colour, so that the patient may be deeply bronzed; the gall bladder and the liver slowly enlarge; and when there is pain it is more gnawing and stationary rather than acute and paroxysmal. With the tumour there may be some fever, and in some cases it is of the intermittent paroxysmal type before referred to. It must be borne in mind, however, that the latter symptom, as others, may be due to the additional presence of gall stones which is very frequent. Again, the steady loss of weight and strength with the increasing depth of the jaundice are marked, whereas in the case of the stone, although there is generally loss of weight, yet the general health may be very fair and the jaundice slight, except during the paroxysmal attacks. Lastly, the time element will be an important factor between them. Many of the signs suggesting cancer will be present with any other condition producing a steadily progressing obstruction by blocking of the common bile duct as in a gummatous infil-