

HEPATICODUODENAL ANASTOMOSIS.*

BY GEORGE EMERSON BREWER, M.D.,

OF NEW YORK,

Surgeon to Roosevelt Hospital.

THE object of this communication is to record the history of a case of obstinate biliary fistula, which was treated by a modification of the Sullivan method of choledochus reconstruction. As the outcome has not been entirely satisfactory, and as the time elapsed since the last operation has not been sufficiently long to determine a definite result, the writer begs that the Association will regard this as a preliminary report, presented at this time to elicit some discussion bearing upon the methods to be employed in such cases.

P. Q., aged 35, was admitted to the Surgical Division of the Roosevelt Hospital on Nov. 30, 1909, suffering from acute abdominal pain, vomiting, distention, fever and general malaise. There had been a history of a number of attacks of pain in the upper right quadrant coming on after a full meal, but unaccompanied by vomiting, fever, jaundice, or acid eructations. The man was moderately alcoholic and had lost thirty-five pounds in weight.

On examination the abdomen was distended and everywhere tender. There was rigidity and exquisite tenderness over the upper half of the right rectus muscle. Temperature 101.6°, pulse 112, leucocytes 12,800, 82 per cent. polynuclear. The diagnosis was *acute cholecystitis* probably associated with biliary calculus. Operation was delayed for two days on account of extreme nervousness, in the hope that the acute process would subside.

As this hope was not realized, on the third day under ether anæsthesia the abdomen was opened by an incision through the right rectus muscle over the gall-bladder region. The stomach, duodenum, colon and gall-bladder were matted together by an extensive inflammatory exudate. The acutely inflamed and

* Read before the American Surgical Association, May 3, 1910.

gangrenous gall-bladder was next exposed and removed, the cystic duct being ligated with No. 2 chromic catgut and the wound partly closed with generous drainage. Considerable reaction followed the operation, the temperature rising to 105° on the following day, and the pulse reaching 164. The wound became infected and on the third or fourth day there appeared a profuse flow of bile. His condition gradually improved, however, although there was considerable loss of tissue from sloughing both on the surface and in the deeper portions of the wound. The temperature finally reached normal at the end of the third week. From this time on the wound closed rapidly but a persistent biliary fistula remained which discharged large quantities of apparently normal bile. The stools were examined three or four times a week and no trace of bile was found at any time. The patient's condition improved sufficiently to allow his getting up and walking about the ward, but he continued to discharge large quantities of bile until the eighth week, when the fistula closed. Following this there was a sharp rise in temperature, the patient became jaundiced and experienced considerable epigastric discomfort. Two days later the fistula reopened and the fever, pain, and jaundice subsided. A few days later the jaundice again appeared and the flow of bile diminished. At no time was there detected a trace of bile in the stools.

As it was evident that no bile was entering the intestine and that the entire output was being discharged through the fistula we inferred that the sloughing process which followed the operation had extended to the cystic duct and in all probability had destroyed at least a part of the common duct. An exploratory operation was therefore advised with a view to ascertaining the exact condition, and if possible to reconstruct the duct by the method suggested by Sullivan.

Accordingly on the seventy-fifth day after the primary operation the abdomen was reopened and an attempt made to follow the fistulous tract downward to its junction with the main biliary passage. In this we were unsuccessful owing to the extreme friability of the tissues. After a tedious dissection, however, the open end of the hepaticus was found, but no sign of the distal extremity of the choledochus could be discovered. The peritoneum along the outer border of the duodenum was next divided, the bowel turned toward the median line and the head of the

pancreas exposed. No trace of a duct was found in the retro-duodenal region, but as the head of the pancreas was densely indurated, the lower segment of the choledochus was supposed to lie within this indurated pancreatic tissue. A careful but limited dissection was made of the superior extremity of the pancreatic head but no lumen of the duct encountered. The duodenum was then replaced and the open end of the hepaticus freely explored. A small rubber tube was inserted into the hepatic duct and secured by a purse-string suture of chromic gut. The other extremity of the rubber tube was then passed into the duodenum through a stab wound through its upper surface. An attempt was next made to draw the duodenum upward and hold it in contact with the open extremity of the hepatic duct, but this was unsuccessful owing to too great tension and the fact that the sutures would not hold in the friable tissues surrounding the duct. The duodenum was then allowed to recede until all tension was removed and the exposed median portion of the rubber tube wrapped in a mass of omentum which was secured by sutures in such a manner that it extended well above the opening of the hepatic duct, and downward for a considerable distance below the entrance of the tube into the duodenum.

The abdominal wound was then closed, a cigarette drain being inserted to the omental graft.

A moderate reaction only followed the operation, the patient suffered little discomfort, the temperature and pulse reaching the normal on the fifth day. On the third day the bowels moved freely as the result of an enema, the stool being brown in color and containing well-marked traces of bile. A mercurial purge was administered on the sixth day, the resulting stool containing an abundance of bile.

At no time was there any leakage of bile from the abdominal wound. The drain was removed about the eighth day and all stitches on the thirteenth. The patient gained rapidly in weight, had a ravenous appetite and sat up on the fourteenth day. He had a slight rise in temperature after sitting up for a few hours. This was repeated on the seventeenth and thirty-first days after operation. On the thirty-sixth day there was a chill, high temperature and slight jaundice. These symptoms subsided on the following day, and he was discharged from

the hospital on the fortieth day after the second operation or 115 days after the cholecystectomy. At the time of his discharge he expressed himself as feeling as well as ever in his life. The temperature and pulse were normal, the abdominal wound solidly healed and he had daily movements containing an abundance of bile.

Ten days later the patient was readmitted to the hospital having experienced another chill and transitory rise in temperature and a distinct return of the jaundice. He also complained of diarrhoea and anorexia. Examination of stools showed no bile but an excess of free fat. A day or two later bile again appeared in the stools, the appetite returned and the jaundice diminished. He was again discharged. The rubber tube has never been found in the stools. X-ray plate fails to show it in the abdomen.

The writer is of the opinion that the reconstructed duct though still open and functioning two months or more after the second operation, is considerably narrowed and likely to close. He would esteem it a favor if those members of the Association who have treated similar conditions would give him the benefit of their experience and advice.