CASE II

A fitter's assistant, aged 29. Eleven years' history of indigestion; radiograph confirmed diagnosis of duodenal ulcer. *Operation 1* (August 4th, 1931).—Duodenal ulcer, posterior no-loop gastro-jejunostomy with vertical stoma, appendicectomy. Course at first satisfactory till onset of copious vomiting on August 13th. Treatment by change of position, gastric lavage, and repeated aspiration of stomach contents through Rehfuß tube of no avail. *Operation 2* (August 16th).—Exploratory laparotomy under general anaesthesia; duodenum very dilated; sharp spur present at stoma. It was not easy to understand the failure of the stomach to empty via the efferent loop; a finger could be quite easily invaginated through the gastric wall down this loop, albeit somewhat obliquely. There was no marked gastric dilatation. Owing to the shortness of the proximal loop the only procedure that seemed feasible was an enteroplasty; this had to be done without clamps. After this operation the patient was no better, and was, indeed, very emaciated. His urinary output and chlorides were constantly watched all this time, and salines were administered to maintain their level. *Operation 3*.—Under local anaesthesia a large rubber self-retaining suprapubic tube (Malacot type), conveniently stretched on an introducer, was inserted into a small opening in the stomach, and guided through the stoma down the efferent bowel for 6 to 8 inches. The operation was then completed as a Senn gastrostomy. An immediate feed was given, and in twenty-four hours ordinary feeding was also started. The patient's condition at once began to improve. Seven days after this operation the tube was found to be loose, and accidentally came out. There was no material leaking from the stoma, and the patient went home, on September 10th, with his wound healed and free from indigestion.

CASE III

A man, aged 54. Two and a half months' history of loss of weight and appetite, with some epigastric pain and vomiting; radiograph confirmed diagnosis of carcinoma of stomach. *Operation 1*.—Inoperable carcinoma of stomach; anterior gastro-jejunostomy. Approximately seven days later vomiting of high obstructive type began, and was not relieved by lavage and change of posture. Care was taken to keep up the quantity of urine secreted and its chloride content. *Operation 2* (September 19th, 1931).—Under local anaesthesia the abdomen was reopened and a lateral anastomosis done between the afferent and efferent loops. The site of the previous anastomosis was high up under the costal margin, and could not be examined. The stomach was not grossly dilated. Convalescence was satisfactory; the man was discharged on October 10th.

DISCUSSION

The life of the second patient appeared to be saved by Witzel's procedure of introducing a tube through the stomach down the efferent jejunum, a procedure drawn to my notice by Mr. Bernard J. Ward. A patient suffering from vicious circle vomiting is a poor surgical risk, and is none the better for forty-eight hours of gastric lavage. He is ill fitted for general anaesthesia and such procedures as undoing the anastomosis or plastic operations on the jejunum at the stoma. It is suggested that the intubation operation of Witzel is a suitable treatment for this dangerous complication.

On the question of the aetiology of *circulus vitiosus*, summarized recently by Armitage,⁵ two facts emerge from a study of Case II. First, that the efferent jejunum seemed not to be obstructed; secondly, that the introduction of a tube down this path enabled the stomach to empty itself. It is fair to presume that there was obstruction of outflow from the stomach by this route which was not apparent on palpation. It seems right, also, to be critical of any other explanation of the condition than that there is a mechanical interference with the emptying of the stomach down the efferent bowel.

The first patient, whose life was not saved by jejunostomy, was in desperate condition when this pro-

cedure was carried out. Conclusions cannot safely be drawn from this case, especially because of the extraneous factors of a probable enteritis and a certain suppurative broncho-pneumonia. Nevertheless, although he lived for nine days after the jejunostomy was made, there was a steady deterioration in his condition.

Reference to the literature on the prolongation of life of dogs by jejunostomy feeding below an obstruction shows that almost invariably the animals seem to die (thirty-three days, White and Fender; twenty-nine days, Matsukura). Armour and others⁴ emphasize a loss of weight which treatment could not prevent.

It seems fair to ask the question: Will jejunostomy ever improve the condition of a patient suffering from a high intestinal obstruction? If jejunostomy is the only procedure that a patient in such a condition can stand, will he ever improve sufficiently for further intervention?

The third patient exemplifies the wisdom of always doing an entero-enterostomy when a gastro-jejunostomy is done for carcinomatous pyloric obstruction.⁶

Finally, as pointed out by Armour and others, while non-operative treatment is being carried out, measures must be instituted to ensure an output of 30 to 40 oz. of urine, and to ensure that this contains chlorides. This can be done effectively, if uncomfortably, by the subcutaneous administration of saline.

REFERENCES

- ¹ Finney: *Amer. Med. Journ.*, 1915.
- ² British Medical Association Collective Investigation: *British Medical Journal*, 1929, ii, 1074.
- ³ Witzel: *Centralbl. f. Chir.*, xlv, 1199.
- ⁴ Armour, Brown, Dunlop, Mitchell, Seconds, Stewart: *Brit. Journ. Surg.*, January, 1931.
- ⁵ Armitage: *Brit. Journ. Surg.*, July, 1930.
- ⁶ Rowlands and Turner: *The Operations of Surgery*, ii, 167.

IDIOPATHIC CONGENITAL DILATATION OF THE COMMON BILE DUCT

BY

ERNEST R. FRIZELLE, M.Ch.Belf., F.R.C.S.Ed.

HONORARY ASSISTANT SURGEON, SOUTHPORT INFIRMARY

Mr. James H. Saint's instructive article in the *Journal* of February 6th on a case of that rare and very interesting condition, cystic dilatation of the common bile duct, has reawakened in me a desire to place on record some details of a similar case with which I was confronted a few years ago. Although a reader of the usual textbooks and the more recent current literature in surgery and surgical pathology, I could not, at the time, recall any reference to this condition. In consequence, the task of doing what was best for the patient, and more particularly of dealing with the biliary fistula produced by the first operation, was beset with a considerable degree of anxiety.

CASE HISTORY AND TREATMENT

The patient, a married woman, aged 29, came for treatment as a possible case of gall-stones. Her history was a long one, dating from childhood. She had been told that her trouble started after an attack of jaundice which she could not remember. All her life she had had recurrent attacks of upper abdominal pain, accompanied by vomiting and much flatulence, but there had never been any further suspicion of jaundice; the attacks lasted a few days, and in the intervals she felt comparatively well, apart from some "indigestion." She was a fairly healthy-looking woman, although rather thin; she was not in any pain, but there was definite tenderness in the epigastrium and right hypochondrium. A "fullness" was palpable, but it was, unfortunately, largely ignored, and ascribed to muscular resistance. Her history seemed sufficiently definite to justify an exploratory operation for possible gall-bladder trouble, and no confirmatory investigations were proceeded with.

Three methods of dealing with the condition have been advocated — namely, marsupialization, cholecysto-duodenostomy, and choledochoduodenostomy. I tried each one in succession, the intervals being four and six weeks respectively.

The cyst was a large one, and was found to extend almost from the right margin of the liver to within an inch or two of the cardiac orifice of the stomach. It filled the kidney pouch on the right side and displaced the duodenum in a downward direction. The gall-bladder was normal in size and apparently healthy. An aspirating needle was inserted through the gastro-hepatic omentum and bile-stained fluid withdrawn. The cyst was thought at this time to be pancreatic in origin; a large rubber tube was introduced at the site of the needle puncture and the cyst marsupialized by suturing the edges to the abdominal incision. A biliary fistula was the result, and clay-coloured stools developed. After the first fortnight the fistula made several attempts to close, but on each occasion the patient complained of pain, her temperature rose to 100° to 101°, and the sinus opened again, with the discharge of a large quantity of bile. Up to this time the true nature of the condition was not suspected, although, of course, it was obvious that there was a connexion with the biliary tract.

It was thought that if the gall-bladder were short-circuited by an anastomosis with the intestinal tract, then the fistula might possibly cease to exist on the next occasion when it tried to close. Accordingly, the abdomen was reopened, the cyst was more fully investigated, and the condition was now seen to be a dilatation of the common bile duct itself. It commenced abruptly at the origin of the duct above, but did not involve the intramural portion below. The opening in the cyst was enlarged, and the orifices of the cystic and common hepatic ducts were seen. A probe was easily passed into each, but it could not be made to enter the duodenum. A cholecysto-duodenostomy was carried out, and the cyst again drained.

At the end of another six weeks the wound was still draining copious quantities of bile, and the fistula had shown no sign of closing. The abdomen was opened for the third time, and the anastomosis performed at the previous operation was found to be perfect. There now remained nothing to be done except to try to establish a communication between the dilated common duct and the duodenum. An incision was made in the anterior wall of the first part of the duodenum proximal to the site of the anastomosis with the gall-bladder, and an opening was made through the postero-superior aspect of the bowel directly into the cyst, and without opening up retroperitoneal tissue. A soft rubber tube 3/8 inch in diameter and 1½ inches long was inserted through this newly formed track, and sutured in position with catgut. The incision in the duodenum was closed in layers, and the cyst drained as before. The wound healed, the fistula was closed in about three weeks, and the patient was discharged feeling quite well.

AETIOLOGY

The aetiology of the condition is obscure. Intermittent obstruction, due to a kink, is discussed by Mr. Saint and rejected for the following reasons: (1) The dilatation affects the common duct only (as it did in this case). Taylor¹ states that "where a cyst exists the gall-bladder is as a rule dilated," but the gall-bladder was normal in this case. In the case of a stone in the common duct the gall-bladder is contracted, but this is due to a pre-existing cholecystitis and fibrosis, and, although the obstruction may be intermittent, the two conditions are not comparable. (2) With intermittent obstruction, attacks of jaundice would be a marked feature in the history. This patient could not remember ever having had jaundice. Although it was impossible at the second operation to pass a probe downwards into the duodenum, this could have been due to an inflammatory reaction blocking the duct, since at both the second and third operations the cyst was grossly infected, and the contents foul-smelling. The lower end of the duct must have been patent at the first operation, but unfortunately no attempt was made to demonstrate this.

A theory that the condition may be due to achalasia of Oddi's sphincter is not tenable, because (a) jaundice

would again be prominent in the history, (b) the pancreatic duct would also be affected, (c) the whole biliary system would be involved in the dilatation, and (d) Fowler's case (quoted by Mr. Saint) rules out the possibility of such a theory. I agree with Mr. Saint that the congenital theory would appear to be the only one that will withstand the fitting together of all the facts, both in the history and in the clinical findings.

TREATMENT

In discussing treatment Mr. Saint says: "The anastomosis most commonly advocated is a choledochoduodenostomy, but a cholecysto-gastrostomy appears to be equally efficacious." Taylor says: "It is possibly better to short-circuit the bile from its first distended reservoir, as it may be that a recurrent residual cholecystitis will arise later where the second distended reservoir, the cystic common duct, has been drained into the alimentary canal and the gall-bladder left alone."

I submit that the only treatment that can be depended upon is an anastomosis with the dilated common bile duct itself, and not with the gall-bladder. My justification for this statement lies in my experience of the operation of cholecysto-duodenostomy, which completely failed to effect a cure in this case.

REFERENCE

¹ Taylor: *Brit. Journ. of Surg.*, xvi, 327.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

FOCAL SEPSIS A PREDISPOSING FACTOR IN MINERS' NYSTAGMUS

In a paper on miners' nystagmus (*British Medical Journal*, April 11th, 1931, p. 616) Dr. W. E. Cooke writes that when investigating the blood picture there is a definite increase in the percentage of monocytes, the average being 8.9 per cent. On a further examination of his figures and comparing them with the normal, the author observes there is also an increase in the percentage of lymphocytes and basophils. He states that there was evidence of toxæmia in each case to account for the abnormal polynuclear picture.

Focal sepsis undoubtedly plays an important part as a predisposing factor in the aetiology of the condition known as miners' nystagmus, and in the series of cases which came under my observation I have paid particular attention to the history of infection, whether present or past. The following case is of exceptional interest, in so far as it tends to substantiate what I have already stated, and may well account for the change in the blood picture discussed above. It is not my intention to deal with the further aetiological factors concerned, of which much has been written by other authors upon the subject. On the other hand, the white corpuscular count investigated by Cooke in patients suffering from miners' nystagmus opens up a new aspect of the subject of clinical importance.

The history of this case is unusual, because prior to an attack of osteo-periostitis, following a deep-seated furunculus of the right leg, about four inches below the buttock, the patient had never displayed any symptoms or physical signs of nystagmus.

The patient, a collier aged 39 years, states that he has worked underground for over 20 years without symptoms of eye trouble. Seven months ago he consulted me, complaining of what he described as a "blind boil" on the leg. The condition resembled a localized abscess, surrounded by a hard area of induration, situated about four inches below the right buttock.

No evidence of Pott's caries could be discovered, but a radiograph demonstrated a well-defined shadow about the region of the upper third of the femur. His Wassermann