the duodenum, travelling to its destination in the substance of the transverse mesocolon, the alternative and less probable route being through the small intestine and ascending colon with perforation of the large gut at the site where it was found.

COMMENTARY

References in the literature to the site of foreign bodies in the respiratory and intestinal tracts at various intervals after ingestion gave only one example of a foreign body having perforated a hollow viscus to enter another organ. Prof. Ameline (1937) instances a woman aged 68 who accidentally swallowed a glass-headed pin. She was admitted to hospital 7 days later. There were no physical signs in the abdomen and no symptoms except a subjective sensation of the pin having become lodged in the stomach. Repeated radiographs confirmed that the pin had perforated the posterior gastric wall. Fifteen days after the accident gastrostomy was performed. The pin was found embedded in the posterior wall of the stomach, the point being fixed in the pancreas. It was removed and the patient recovered.

In our case a history was obtained of the girl having previously swallowed other foreign bodies, but we could not get any information about the needles which caused her death.

Of 17 cases recorded—1 by Ameline (1937), 1 by Kennedy (1935), and 15 by Jackson and Jackson (1936)—of ingestion of pins and needles, 9 were found in the bronchi, 2 in the pharynx, and 4 in the oesophagus, while the remaining 2 were in the stomach.

The interesting features of this case are: the absence of any history of having swallowed foreign bodies, with resulting difficulty in diagnosis; the penetration of the pancreas, with expansion of the pancreatic tissue around the haematoma; and the perforation of the splenic artery, with subsequent aneurysmal rupture and fatal haemorrhage.

I am indebted to Mr. T. Bates for permission to publish this case, and to Dr. W. H. McMenemey, who performed the post-mortem examination, for his very kind help and criticism.

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Diverticulum of the Jejunum

H. C. Edwards, in his *Diverticula and Diverticulitis of the Intestine* (Bristol, 1939), says that jejunal diverticula give rise to two main symptoms: (1) vague abdominal discomfort and sometimes pain, particularly after meals; (2) flatulence, sometimes very pronounced and associated with loud borborygmi. The condition is uncommon. Edwards found it only 9 times in 2,820

FIG. 1.—Showing barium filling the diverticulum of the jejunum 3 hours after injection of barium.

necropsies at King's College Hospital—an incidence of 0.31%. As this condition is unusual and presents difficulty in diagnosis, the description of a case in which dyspepsia with pain thought

to be due to a duodenal ulcer was eventually proved to be due to a large jejunal diverticulum should be instructive.

CASE REPORT

The patient, a married woman aged 56, had for more than 14 years complained of attacks of abdominal pain accompanied by much flatulence. In 1924 she had had a left nephrotomy for a large renal calculus; the history about this time is somewhat confused by the renal pain. From 1926 onwards the

FIG. 2.—The specimen. The diverticulum is on the mesenteric border.

attacks of upper abdominal pain accompanied by much flatulence, which was relieved by bringing up gas and also by taking food, were well defined. In 1926 a laparotomy was performed after a diagnosis of duodenal ulcer had been made; but no ulcer was found, and the gall-bladder was normal. As a result of these findings, from 1926 until 1939 the attacks were treated symptomatically on the assumption that they were largely due to nervous dyspepsia.

In Nov., 1939, after a particularly severe attack, a new radiological examination was made. Previous x-ray examinations of the stomach, duodenum, and gall-bladder had been negative. On this occasion Dr. R. O'Donoghue demonstrated a large jejunal diverticulum (Fig. 1) 18 inches from the gastro-jejunal flexure. There were also several small diverticula in the small intestine. These emptied with the intestine, but the large diverticulum retained the barium for more than 48 hours.

The patient was an obese subject with chronic bronchitis, and the operation had to be postponed owing to her developing bronchopneumonia. After suitable convalescence, laparotomy was performed under local anaesthesia on April 10, 1940. In spite of the many adhesions from the previous laparotomy, the diverticulum, which was on the mesenteric border of the intestine, extending into the mesentery, was easily located. The segment containing the diverticulum was excised and the continuity of the jejunum restored by end-to-end anastomosis, which was reinforced by a free omental graft. The patient made an uninterrupted recovery, and has remained quite free from her former symptoms. She is, in fact, better in health than at any time during the past twenty years.

Examination of the specimen (Fig. 2) showed that the diverticulum was about the size of a tangerine orange. When it was distended with water it held nearly half a pint.

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In an investigation of carbohydrate metabolism in animals reduced to a subacute state of thiamine deficiency, H. A. Harper (*J. biol. Chem.*, 1942, **142**, 239) found that, compared with normal animals, there was a decrease in the rate of absorption of glucose from the intestine. There was also a decrease in the extent of hepatic glycogenesis, as well as in the rate of breakdown of glycogen.