The patient's hospital menu was then examined, and this showed that chicken had been included in the diet on three occasions, twice after the dental extraction and once the day following the pseudarthrosis. It would seem most probable that the offending bone was swallowed on the last occasion, since this was rapidly followed by vomiting and then a haematemesis.

COMMENT

Haematemesis due to an ingested foreign body is a rare occurrence. Occasionally the oesophagus is perforated and an adjacent vessel penetrated with fatal consequence, but this occurred in only 3 of the 505 patients treated by Clerf (1940) for foreign bodies impacted in the oesophagus.

In the stomach, haemorrhage may occur from the pressure-ulceration of a bezoar. DeBailey and Ochsner (1938), in a review of the world literature, found 22 such examples in 311 cases. Furthermore, the large collections of metallic objects swallowed by lunatics, criminals, or circus side-show performers may erode the stomach wall and cause bleeding; examples have been recorded by Henderson and Gaston (1938) and by Wheeler (1936). These complications are unusual, but still less common is the haematemesis following laceration of a gastric vessel by a solitary sharp foreign body.

In 1909 Wolfner and Lieblein (quoted by Henderson and Gaston, 1938) reported a fatal gastric haemorrhage from an ingested fish-bone which had perforated the posterior wall of the stomach. Matthews (1930) recorded a fatal haematemesis due to a small piece of copper turning which had ulcerated the oesophagus in three places and which had also transfixed a large vessel on the anterior stomach wall. Dervillé, Lefrou, and L'Épée (1947) described a third case where haematemesis, again fatal, followed impaction of a sharp duralumin ring at the pylorus.

It is perhaps surprising, considering the large number of ingested sharp foreign bodies which are encountered in practice, that they should prove to be such a rare cause of haematemesis.

We thank Mr. R. G. Taylor and Mr. A. Elliot-Smith for permission to publish this case, and Dr. M. S. Dunhill for the necropsy report.

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Intussusception in a Case of Penetrating Abdominal Injury

Exploration of the abdomen for a penetrating injury revealed three interesting lesions—a perforation of the small bowel, an ileo-ileal intussusception, and a very short intestine. It is suggested that this is more than a strange coincidence.

CASE REPORT

The patient, a well-built man of 30, was admitted to the General Hospital, Colombo, with a history of having been stabbed in the abdomen with a knife about three hours previously.

On examination his general condition was satisfactory. His pulse rate was 96, blood pressure 110/75, temperature 98.6° F. (37° C.), and respirations 22. He had an incised wound of his epigastrium with protrusion of omentum through it. The abdomen was not distended, but there was marked guarding and tenderness in the epigastrium below the wound. Bowel sounds were absent. There were no

other injuries. He was prepared for urgent laparotomy, and an intravenous drip and gastric suction were begun.

Operation.—Under general anaesthesia a right paramedian incision was made. The prolapsed omentum was withdrawn into the abdominal cavity from within. It was intact. The peritoneal cavity contained a small quantity of blood. A perforation with a diameter of $\frac{1}{2}$ in. (1.3 cm.) was found in the jejunum, and on further examination of the intestine an ileo-ileal intussusception was located; this was observed for some time, and there was no spontaneous reduction or increase in the mass, which was about 4 in. (10 cm.) long; the sheath was tight at the neck of the intussusception. It was also noticed that the intestine was surprisingly short, and, on measuring, it was found to be about 12 feet (3.6 metres). There was no other injury to the viscera. The perforation in the intestine was closed and oversewn. The intussusception was reduced and there was no bruising or haematoma of the intestine in this region. The stab wound and the paramedian incision were closed in layers without drainage.

Post-operatively, gastric suction and intravenous therapy were continued for 48 hours and penicillin and streptomycin were administered for four days. The patient made an uninterrupted recovery, except for a short delay in the healing of the stab wound, and was discharged on the fifteenth day.

COMMENT

Intussusception is uncommon in adults, and most cases are secondary to some lesion in the bowel. Intussusception in the absence of a lesion of the bowel is still more uncommon in the adult. Some observers have noted such intussusceptions at necropsy (Boyd, 1955), and others have recorded temporary intussusceptions during abdominal operations (Perrin and Lindsay, 1921). In recent years the occurrence of intussusception in relation to abdominal injury has been recorded in a closed injury of the abdomen (Aldis, 1944). In the case described here it was associated with a penetrating injury. In neither case was there any evidence of injury to the segment involved in the intussusception.

The length of the small intestine, from the ileo-caecal valve to the duodeno-jejunal flexure, was very short, measuring 12 feet (3.6 metres). The average length of the small intestine is about 21 feet (6.5 metres) (*Gray's Anatomy*, 1942). Recent studies show great variations in the length of the small intestine (Underhill, 1955); in the male the range was between 16 and 25 feet (4.9 and 7.6 metres) (measured from pylorus to ileo-caecal valve). Thus in this case the intestine was shorter than the minimum recorded above (allowance being made for the length of the duodenum).

While shortening may have been due to a congenital defect, the simultaneous finding of an intussusception suggests another explanation. Treves was of the opinion that some irregular or disordered contractions of the intestine, perhaps connected with incoordinate action of the circular and longitudinal muscular layers of the bowel, are the prime cause of invagination (Barnard, 1910). Spasm of the longitudinal muscle of the intestine would account for some of the shortening of the bowel. It would also be a factor in the formation of the intussusception. Here, spasm may have been initiated by the intestinal perforation caused by the penetrating injury.

I wish to thank Dr. Noel Bartholomeuz, under whose care this patient was admitted, for permission to publish this case.

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