INTESTINAL OBSTRUCTION IN A CASE OF DUPLICATION OF THE TERMINAL ILEUM

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Duplication of the alimentary tract is a rare but well-known condition, the aetiology of which is imperfectly understood. The present knowledge and theories are discussed by Willis (1958). Duplications occur on the dorsal or mesenteric aspect of the normal alimentary tract and may or may not communicate with it. Often they do not communicate and the secretions of the epithelial lining lead to cyst formation, giving rise to a variety of symptoms. Such cysts are found throughout the alimentary tract but are most common in the terminal ileum. They are lined by epithelium, which resembles the adjacent bowel but which may contain any type of intestinal epithelial cell. The muscular coat is intermingled with that of the adjacent bowel and their blood supply is common, making operative dissection of the cyst impossible (Gross, 1953).

Intestinal obstruction may result from pressure on the adjacent bowel when it and the cyst lie where movement is restricted. Duodenal duplications are particularly prone to give rise to obstruction in infancy, showing a picture akin to that seen in pyloric stenosis. Duplications in the rest of the bowel are not likely to give rise to early obstruction as the bowel can be displaced by the growing cyst.

A case is described in which an anatomical structure was seen to be the cause of the neonatal intestinal obstruction.

Case Report

N.S., a male child, was admitted aged 15 days. Delivery had been normal at full term and his birth weight was 9 lb. He had been fed with National Dried Milk. Meconium was passed and a normal stool was seen on the fourth day. The bowels continued to be open until the fourteenth day, when vomiting, which had been occasional and mild, became marked and changed from milk curds to brown fluid.

On examination the child was slightly dehydrated but in good general condition. Peristalsis was visible and bowel sounds were excessive.

In the right iliac fossa there was a smooth well defined cystic swelling, which was mobile in both directions. On rectal examination the lump could be felt bimanually and its smooth surface and cystic nature were confirmed. It was also noted to be grooved rather like a plum.

A plain radiograph of the abdomen showed distended loops of small intestine. The appearance of the chest and spine were normal on the antero-posterior radiograph (see Fallon, Gordon and Lendrum, 1954).

A diagnosis of low small bowel obstruction was made and was thought to be due to the palpable cystic mass. It was felt that this must therefore be a duplication of the ileum. The significance of the groove was not appreciated.

Rehydration was begun and the child was submitted to laparotomy. Through a right lower rectus-splitting incision the abdomen was entered and the ileo-caecal region was exposed. The terminal ileum was obstructed by a cystic swelling on the mesenteric border, the normal bowel being compressed against a firm vascular band running to the caecum. The diagnosis of duplication was therefore confirmed and a resection of the ileum adjacent to the cyst and the caecum was performed. A two-layer end-to-end anastomosis was made between the ileum and ascending colon, and the mesentery was repaired.

The bowel sounds returned on the second post-operative day and normal feeding was resumed on the fourth day. He was discharged on the twentieth post-operative day having been delayed by a persistent oral thrush.

The specimen removed at operation consisted of a cystic mass 5 cm. in diameter on the mesenteric border of the ileum at the ileo-caecal angle (Fig. 1). The normal ileum was shown to be patent by passing a probe into the caecum but the lumen was compressed by a cyst. Acute obstruction occurred where the vascular fold of the caecum formed an unyielding structure on the anti-mesenteric border of the bowel (Fig. 2). This fold is a normal anatomical structure and contains the anterior caecal branch of the ileo-colic artery. This formed the

FIG. 1.

FIG. 2.

groove which was palpable per rectum. Microscopically the cyst was lined by flattened epithelium of the small bowel type. In some areas groups of cells were seen similar to Brunner's glands of the duodenum.

Discussion

A reduplication cyst of the terminal ileum is a rare cause of intestinal obstruction. These cysts may cause obstruction due to intussusception and

a number of such cases have been described. It is less common for obstruction to be caused by obstruction of the ileo-caecal valve, although Gross (1953) mentions six cases. In the case here recorded I suggest that intestinal obstruction occurred early in life because the ileum was compressed against the vascular fold of the caecum. Pachman (1939) and Hardaway, Wedgwood, Swartley and Rudman (1952) record similar cases at the ages of 2 and 5 days respectively. They do not mention the presence of the caecal fold though in both cases the description and photographs lead one to suspect that this may have been the cause of the obstruction.

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