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A case of perforated cystic duplication of the transverse colon

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Introduction

Duplications can occur throughout the alimentary tract. Localisation in the transverse colon is rare. A case is described which presented as a cystic mass with calcifications located close to the pancreas.

Case report

A 7-year-old girl was admitted to hospital with a 1 week history of diffuse abdominal pain associated with vomiting. She had no previous medical or surgical history. Clinical examination of the abdomen was normal.

On the plain abdominal X-ray there was a group of small nodular calcifications in the left upper part of the abdomen below the splenic shadow and without any mass effect (Fig. 1). US showed a homogeneous, cystic mass (3 cm in diameter) behind the stomach. It was well circumscribed with a thick wall (Fig. 2). CT demonstrated a hypodense mass with a central fluid density, surrounded by a thick wall with nodular calcifications (Fig. 3a). Following the i.v. injection of contrast medium, there was enhancement of the wall but no central enhancement. The mass was contiguous with the tail of the pancreas, but it was impossible to determine if the lesion arose from pancreas, or was separate from it (Fig. 3b). There was no hepatobiliary abnormality.

The preoperative diagnosis was pancreatic tumour such as a papillary cystadenoma or duplication of the alimentary tract.

At surgery, a round mass (3 cm in diameter) was found in front of the pancreas, at some distance away from the transverse colon. It lay in the transverse mesocolon which was stuck to the pancreas. The lesion had its own mesentery and vascular pedicles. There were small granulations. The mass was perforated at its inferior part. It was completely removed.

Histology

The mass was full of mucus, and had a thick wall which on histology showed cylindrical epithelium with calcified mucosecretory cells, a muscularis mucosa, a submucosa, very thick muscular layers with interposed neural plexus, and a normal serosa. The granulations on the omentum were due to partly calcified mucus. The final diagnosis was perforated cystic colonic duplication.

Discussion

A duplication is confirmed by its location in the alimentary tract, smooth muscular layers and mucosa [1, 2]. Within the abdomen, a small bowel location is the most frequent, comprising more than 50% of cases. A colonic site accounts for 17% of patients. Transverse colonic locations are rare [3] (Table 1). A duplication may develop at some distance from the alimentary tract [2]. In this case, the duplication was separate from the transverse colon. It had its own mesentery, which was an expansion of the transverse mesocolon, and it was projecting into the peritoneal

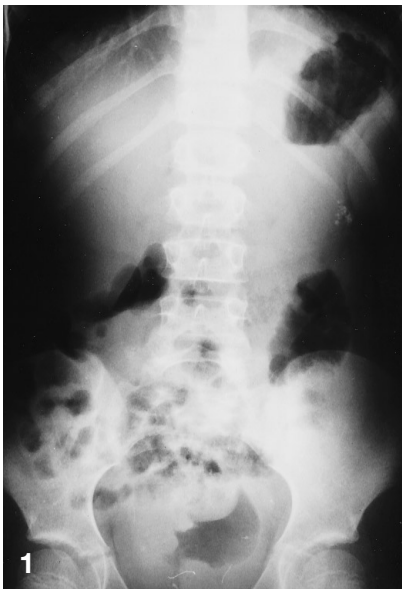


Fig. 1 Abdominal plain film. Small, nodular calcifications in the left upper abdomen

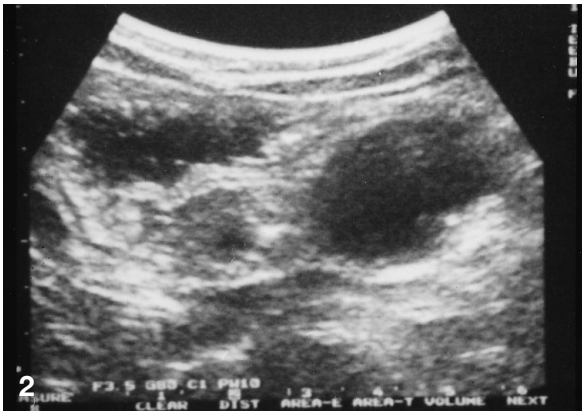
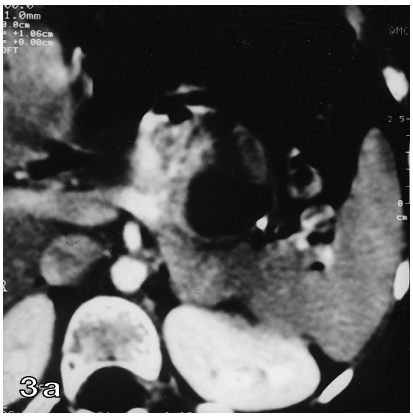


Fig. 2 US transverse scan. Round, hypoechoic mass with a thick wall close to the tail of the pancreas



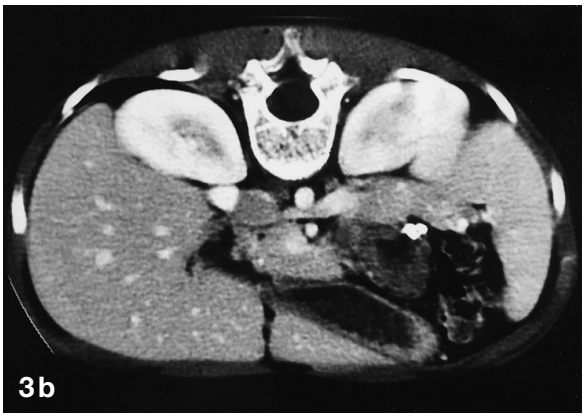


Fig. 3a,b CT scan after i. v. contrast medium injection. **a** Cystic lesion with parietal calcifications; **b** in the prone position the lesion remains in contact with the pancreas

cavity. This is rare. Gross et al. [2] described one asymptomatic case.

In this patient, it was difficult to localise the origin of the lesion. The differential diagnosis was a pancreatic papillary cystadenoma, a rare tumour in childhood. Most occur in young girls [4]. They usually have mixed solid and cystic components and are well encapsulated. They may be located anywhere in the pancreas. Another differential diagnosis that was considered was a pseudocyst of the pancreas, but there was no history of trauma or infection.

The parietal wall of the duplication was thicker than the colon. Usually, the wall of an enteric duplication is as thick as the adjacent bowel. This is helpful in differentiating it from a mesenteric cyst, which is thin-walled and flabby [2]. In this case, the abnormal thickness of the wall of the lesion was due to hypertrophy of the muscular layers.

Calcification in a duplication may be intraluminal or intraparietal [5]. Intraluminal calcifications are due to the stagnation of liquid in the lumen. When the duplication is tubular, a stenosis may be responsible for faecalith formation. When the duplication is cystic, the presence of calcification implies a communication with the lumen of the normal bowel. Intraparietal calcifications are rare and they are related to parietal necrosis secondary to distension. The distension is due to accumulation of mucus produced by the glandular mucosa. This is the cause of the thin and linear calcification which is due to deposition in the different layers [5]. In this case, the CT scan showed that they were intrapari-

Table 1 Location of colonic duplications in the series of Bower [1] (78 cases) and Gross [3] (68 cases)

	Caecum	Transverse colon	Sigmoid	Rectum
Bower	5	2	3	4
Gross	3	1	2	7

etal and nodular. The surgeons did not find them; they noted only calcified granulations in relation to the perforation.

Duplications may be associated with other congenital abnormalities [1--3], such as vertebral or urogenital malformations. Tubular duplications of the entire colon are the types most commonly found associated with double bladders, double urethras, or double genitalia. In this case, there was no associated abnormality.

In conclusion, when confronted with a cystic, well-circumscribed lesion close to the pancreas, a colonic duplication should be considered in the differential diagnosis.

References

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