SHORT REPORT

Gastric duplication cyst mimicking a pancreatic pseudocyst in a patient with chronic pancreatitis

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Introduction

Duplication cysts are rare congenital abnormalities that may affect any portion of the alimentary tract. Those of gastric origin are uncommon and usually present in infancy with signs of gastric outlet obstruction. We report details of a case of a gastric duplication cyst presenting in an adult that mimicked a pancreatic pseudocyst leading to diagnostic delay and illustrates the importance of fully investigating, and determining the aetiology of all cases of acute pancreatitis.

Case report

A 33-year-old male was admitted as an emergency with an acute exacerbation of longstanding epigastric pain that radiated towards his left shoulder. There was associated nausea and vomiting and a significant weight loss of 14.6 kg over the preceding 8 months. In this time he had required multiple admissions with identical symptoms. During his index presentation he was noted to have an elevated amylase (1621 IU/l) consistent with a diagnosis of acute pancreatitis and the first episode of pain was noted shortly after modest alcohol intake. However, despite total abstinence he continued to experience identical symptoms. A computed tomography (CT) scan performed shortly after his first admission had demonstrated a cystic swelling in relation to the head of the pancreas and a further small cyst in the pancreatic tail, findings believed to represent pancreatic pseudocysts, and there was mild pancreatic ductal dilatation. There was no other significant medical history and his medications consisted only of regular analgesics and antiemetics.

On examination he appeared cachectic and dehydrated, and weighed only 35.3 kg giving a BMI of only 15 kg/m². Palpation of the abdomen revealed tenderness in the epigastrium and there was evidence of a gastric succussion splash. The serum amylase was 248 IU/l and there was hypoalbuminaemia consistent with malnutrition. A repeat CT scan of the abdomen demonstrated a distended stomach with waisting at the level of the antrum caused by a cystic structure lying in close relation to the pancreatic head and
encircling the pylorus, in keeping with a pancreatic pseudocyst (Fig. 1). A water soluble contrast meal confirmed the obstruction lesion.

Following resuscitation, a laparotomy was performed and the cystic lesion was in fact found to be originating from the wall of the greater curve of the stomach. The stomach wall was incised, and the cyst excised in continuity with a margin of normal gastric mucosa, and sent for histological examination. The histology showed normal gastric mucosa with marked fibrosis and a large amount of granulation tissue within the underlying submucosa. The cyst was lined by pyloric-type gastric mucosa and on the external surface of the cyst was the normal muscular wall of the stomach. These features are consistent with a duplication cyst.

Postoperative recovery was uncomplicated and he was discharged on postoperative day 14. At 6 months follow-up he remains well and his weight has increased to 48 kg (BMI 20 kg/m²).

**Discussion**

Duplication cysts may occur anywhere in the alimentary tract from the mouth to the anus although gastric duplications represent only 4% of cases, most commonly affecting the distal greater curvature. Duplication cysts more commonly occur in females, regardless of age of presentation, with a ratio ranging from two to eight females for every male affected. The vast majority (around 67%) present within the first year of life, and in this paediatric population, an abdominal mass, symptoms of gastrointestinal obstruction or anaemia are the commonest presentations. In adults, abdominal pain, bloating and nausea are the predominant symptoms and a presentation mimicking a pancreatic pseudocyst with recurrent attacks of pancreatitis is rare although it has been reported. Most of these patients experiencing pancreatitis have had aberrant pancreatic tissue present and in many cases a duplicated pancreatic ductal system although this was not the case in our patient. There is only one documented case that we could identify, like ours, where the duplication cyst mimicked a pseudocyst.

In 1959 Rowling summarized the essential feature of a gastric duplication cyst including: the cyst wall is contiguous with the stomach; it is surrounded by a coat of shared smooth muscle; a common blood supply is present; and it is lined with alimentary tract epithelium. There is an association with congenital abnormalities in between 35 and 50% of cases of gastric duplication, with alimentary duplications, oesophageal diverticula and spinal cord abnormalities being the most common abnormalities seen.

The diagnosis is often not entirely certain at the time of surgery, as the radiological features may mimic pancreatic tumours and even at laparotomy, the macroscopic appearance may not be dissimilar to that of a gastrointestinal stromal tumour (GIST) or gastric carcinoma leading to precautionary gastrectomies having been performed. Complications arising from untreated cysts include: torsion, haemorrhage, pancreatitis and fistula formation. The identification of a carcinoma arising directly from a duplication cyst has been reported in five cases in the literature suggesting that all cysts should be excised.

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**References**