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An isolated intestinal duplication cyst masquerading as a mucinous cystic neoplasm of the pancreas
A case report and review of the literature

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ABSTRACT

INTRODUCTION: Enteric duplication cysts presenting in adulthood are rare. Isolated enteric duplication cysts, which lack a connection to the GI tract or the adjacent mesenteric vasculature, have only been cited in six previous case reports.
CASE PRESENTATION: A 48-year-old female presented with a four-year history of intermittent nausea, vomiting and abdominal pain. Computed tomography (CT) scan of the abdomen revealed a 7 cm multi-lobular, calcified, cystic lesion intimately involved with the pancreas. Endoscopic ultrasound (EUS)-guided fine-needle aspiration (FNA) was non-diagnostic; however, the cyst fluid Carcinoembryonic Antigen (CEA) level was significantly elevated leading to a presumed diagnosis of a mucinous cystic neoplasm (MCN) of the pancreas. Intraoperatively, the cystic mass was identified and notably did not have any true attachments to the neighboring pancreas, gastrointestinal tract or vasculature. Final pathology demonstrated an isolated small bowel duplication cyst.
DISCUSSION: In this case a patient presented with a clinical picture consistent with an MCN of the pancreas. However, intraoperatively and on final pathology the mass was found to be an isolated enteric duplication cyst. This represents only the seventh such case report in an adult.
CONCLUSION: Although rare, isolated enteric duplication cysts can be considered in a patient presenting with chronic abdominal pain and an abdominal mass on imaging. In this case we demonstrate that an isolated enteric duplication cyst can clinically mimic an MCN of the pancreas.

1. Introduction

Intestinal duplications cysts are rare congenital anomalies that can occur throughout the gastrointestinal tract, but are most commonly found in the small intestine. Although usually detected in infancy and childhood, duplication cysts can occasionally be found in adulthood. Duplication cysts typically have some connection to the gastrointestinal tract (GI) as well as the local blood supply to that region. However, in rare cases the cysts can be completed isolated from the GI tract and in these cases often have a separate vascular pedicle. Here we report a case of an isolated intestinal duplication cyst surrounding the pancreas that was initially suggestive of a pancreatic mucinous cystic neoplasm (MCN). This work has been reported in line with the SCARE criteria [1].

2. Case presentation

A 48-year-old female patient presented with intermittent nausea, vomiting and abdominal pain. She reported that these symptoms had persisted over the past four years. Clinical examination did not demonstrate any reproducible abdominal pain. Her past medical and surgical history was unremarkable. Family and social history were also non-contributory.

After evaluation, she underwent a contrast-enhanced computed tomography (CT) scan, which revealed a 7.3 × 6.7 cm multi-lobular, calcified, cystic lesion intimately involved with the pancreas (Fig. 1). Magnetic resonance imaging (MRI) was subsequently performed to better characterize the mass, which again showed a multi-lobulated cystic lesion with peripheral calcifications involving the body and tail of the pancreas (Fig. 2).

The decision was made to perform an endoscopic ultrasound (EUS) with fine-needle aspiration (FNA) to obtain a tissue diagnosis. EUS demonstrated a 6.3 cm, partially calcified multi-loculated,

Abbreviations: CT, computed tomography; EUS, endoscopic ultrasound; FNA, fine-needle aspiration; MCN, mucinous cystic neoplasm; MRI, magnetic resonance imaging; CEA, carcinoembryonic antigen; GI, gastrointestinal.

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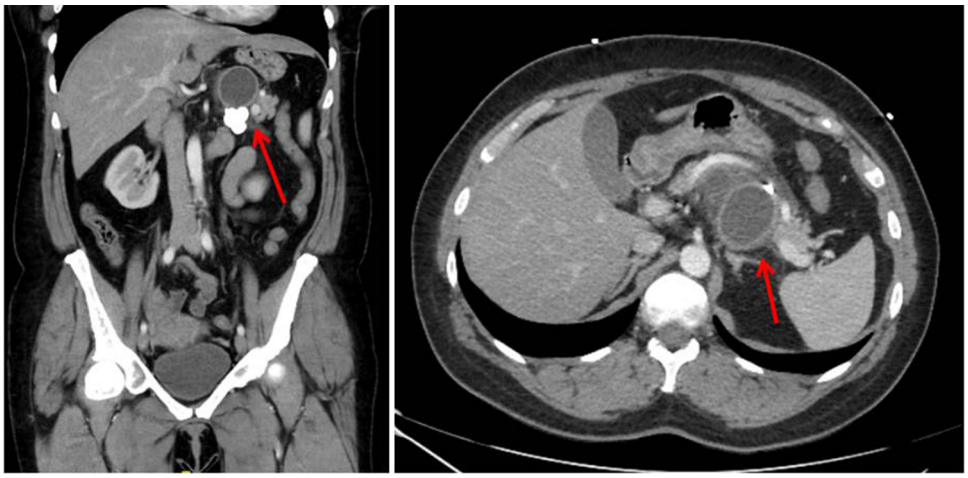

Fig. 1. CT demonstrates a 7.3 × 6.7 cm cystic lesion (red arrow).

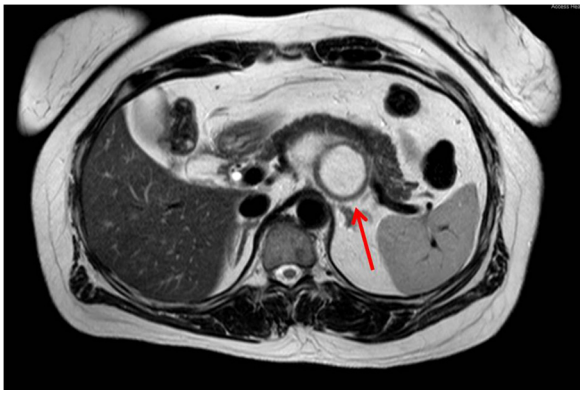

Fig 2. MRI demonstrates a multi-lobulated cystic lesion.

cystic lesion in the body of the pancreas with thick irregular walls and without any clear communication to the main pancreatic duct. FNA was non-diagnostic and demonstrated histiocytes in a granular background. The cyst fluid was aspirated and sent for Carcinoembryonic Antigen (CEA) and amylase. Her cyst CEA level was significantly elevated at 10,758 ng/mL and cyst amylase was 558 units/L. A presumed diagnosis of a mucinous cystic neoplasm (MCN) was made. After an extensive discussion in clinic the patient agreed to undergo an exploratory laparotomy with planned resection of the mass.

The patient was taken to the operating room by a surgical oncologist who primarily specialized in pancreatic resections and had been in practice for over 10 years. Upon laparotomy, the gastrocolic ligament was divided and the lesser sac was entered to expose the body and tail of the pancreas. We subsequently identified a portion of the cystic structure just posterior to the pancreas and situated directly beneath the splenic artery. On further dissection, the cystic structure was clearly separate from the pancreas and was relatively shelled out without requiring resection of any adjacent structures. We did not identify a dominant feeding vessel to the cyst.

The patient had an uneventful post-operative course. She was discharged home on post-operative day 5. Final pathology of the cyst demonstrated a small bowel duplication cyst with cystic and calcified components (Fig. 3). During the patient's initial post-operative visit she was counseled that we identified an enteric duplication cyst without any evidence of malignancy. On subsequent follow-up the patient reported resolution of her abdominal symptoms.

3. Discussion

Intestinal duplication cysts are rare, seen in approximately 1/100,000 births [2,3]. These enteric cysts can occur throughout the gastrointestinal tract and have a predilection for the jejunum and ileum (47–70%), but can also be found in the colon (20%), esophagus (17%), stomach (8%) and duodenum (2–12%) [4]. These cysts are predominantly found on the mesenteric side of the bowel [5].

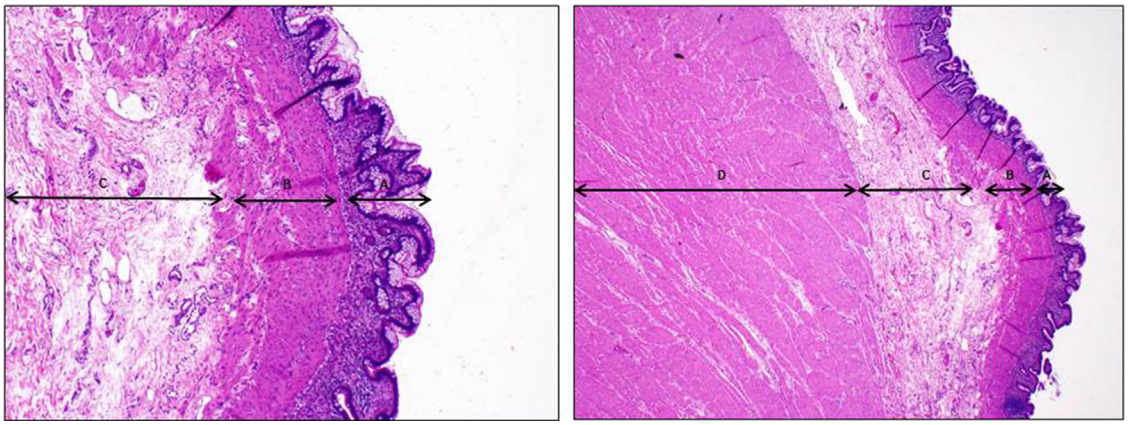

Fig. 3. Duplication cyst most compatible with jejunum.