

Gastric Duplication Cyst Mimicking Pancreatic Pseudocyst/Hydatid Cyst: A Rare Presentation

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Abstract: Congenital gastrointestinal duplications are rare, and gastric duplication cysts are even rarer. Most cases are seldom diagnosed preoperatively. We present a case of gastric duplication cyst, which in preoperative imaging studies mimicked a hydatid/pseudocyst of the pancreas. The diagnosis was made only intraoperatively and was confirmed by histopathological examination of the completely excised cyst.

Key Words: Congenital, gastric, pancreatic, cyst, surgery

Pankreatik Psödokist/Hidatik Kisti Taklit Eden Gastrik Duplikasyon Kisti: Nadir Bir Olgu

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Amaç: Konjenital gastrointestinal duplikasyon nadiren görülür ama gastrik duplikasyon kisti çok daha nadirdir. Olguların çoğu preoperatif dönemde tesadüfen tanı alır. Biz de operasyon öncesi hazırlık çalışmalarında pankreasın hidatik kist/ psödokistini taklit eden bir gastrik duplikasyon kistini sunuyoruz. Kesin tanı, ancak operasyon sırasında konulabildi ve tamamen çıkarılmış olan kistin histopatolojik incelemesi ile doğrulandı.

Anahtar Sözcükler: Konjenital, gastrik, pankreatik, kist, cerrahi

Introduction

Congenital gastrointestinal duplications are relatively rare anomalies that may occur in relation to any part of the gastrointestinal tract. Duplication of the stomach is rarest of gastrointestinal duplications (1). Gastric duplications are rarely diagnosed preoperatively. On imaging, they may mimic pancreatic pseudocysts, cystic neoplasms of the pancreas or even a hydatid cyst, as in our patient. Symptoms may occur due to gastric outlet obstruction, but symptoms usually tend to be non-specific. Surgery offers complete cure.

Case Report

A 25-year-old-male presented with repeated episodes of abdominal pain of three months duration. It was a dull ache, had no relation to food intake and was not associated with vomiting. Examination of the abdomen was normal with no palpable mass. Investigations revealed normal serum amylase and lipase levels. Upper gastrointestinal (UGI) endoscopy revealed a smooth bulge on the posterior wall of the stomach. Abdominal ultrasonography (USG) revealed a cystic lesion in relation to the tail of the pancreas. Contrast enhanced computed tomography (CT) of the abdomen revealed a non-enhancing hypodense multiloculated cystic lesion, measuring about 5.3x4.3 cm with mural calcification and septa, noted in the lesser sac, with obliteration of fat planes between the lesion and the pancreas (Figure 1). Hence, a differential diagnosis of pancreatic pseudocyst and hydatid cyst was made. CT-guided aspiration of the cystic lesion and analysis of cyst fluid revealed high levels of amylase and lipase with normal levels of carcinoembryonic antigen (CEA) and carbohydrate antigen (CA) 19-9. Tests of echinococcal serology were negative. The patient was subjected to exploratory

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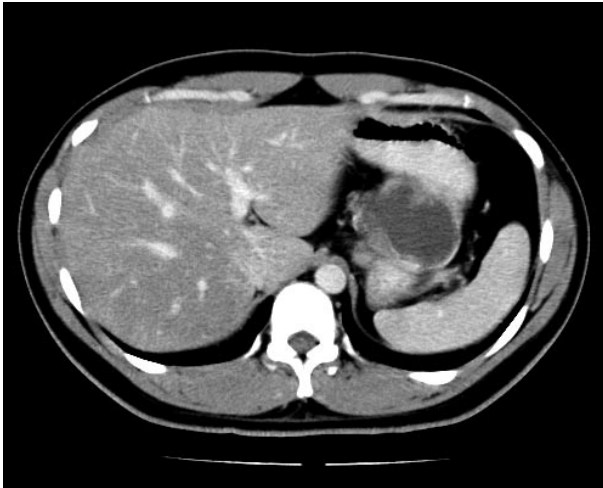


Figure 1. CT scan showing a calcified cystic lesion in relation to the posterior wall of the stomach and the pancreas.

laparotomy. Exploration of lesser sac revealed a cyst with a calcified wall blending with the posterior gastric wall in the region of the body. Pancreas was free and normal. The cyst was excised with a wedge of the posterior gastric wall (Figure 2). Postoperative recovery was uneventful. Final histopathology report revealed gastric duplication cyst (Figure 3).

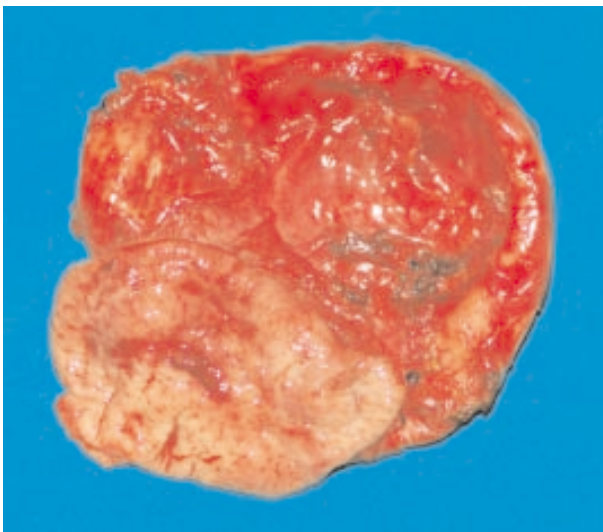


Figure 2. Excised specimen with normal gastric mucosa and collapsed cyst.

Discussion

Reginald Fitz in 1884 used the word 'duplication' to describe what he thought were the remnants of the omphalomesenteric duct (2). Subsequently, terms such as

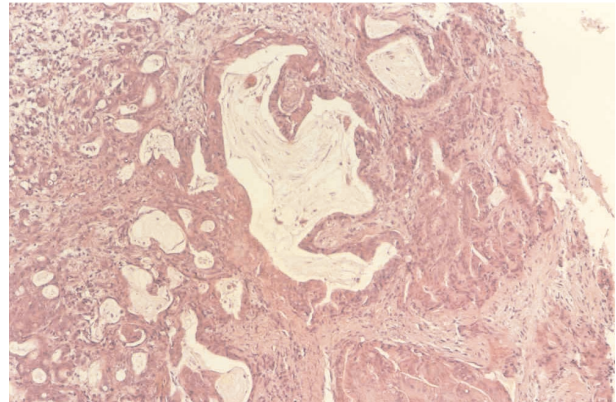


Figure 3. Photomicrograph showing columnar epithelium and mucous glands suggestive of gastric mucosa (HE, X20).

enterogenous cyst, ileum duplex, giant diverticula and unusual Meckel's diverticulum were used to describe the congenital cystic anomalies of the gastrointestinal tract. In 1952, Gross and Holcomb (3) suggested that the term duplication should be used for all such anomalies, irrespective of their site, morphology or embryologic derivations in order to simplify the nomenclature. In 1984, Wieczorek et al. (4) reviewed the English literature and reported 109 cases of gastric duplications.

Gastric duplication cysts occur more commonly among females, the most common presenting complaint being abdominal pain resulting from partial or total obstruction of the gastric lumen. Other clinical presentations include abdominal mass or gastrointestinal bleeding. Gastric duplication cyst may commonly simulate pseudocyst of pancreas (5) or cystic neoplasm of pancreas (6). A case of gastric duplication cyst simulating leiomyoma has also been reported (7).

Gastric duplication may be tubular or cystic. The tubular type communicates with the lumen of the stomach while the cystic type is non-communicating. The cystic gastric duplication is usually lined by alimentary tract epithelium and surrounded by smooth muscle, which is continuous with the normal musculature of the stomach. A common muscular layer between the duplication and the stomach is the rule. All these features were present in our patient. Calcification of the gastric duplication cyst has not been reported and this case is the first of its kind to the best of our knowledge.

Although the cause of gastric duplication remains unknown, theories proposed include defective vacuolization and fusion of longitudinal folds and anomalies of the fetal neuroenteric canal.

Abdominal USG, endoscopic USG and CT scans are the best investigations for gastric duplication cysts. USG usually demonstrates a cystic mass lying close to the greater curvature of the stomach. The presence of an echogenic inner rim and hypoechoic outer muscle layers is highly suggestive of duplication. On CT scan, gastric duplication cysts appear to be well delineated, located along the greater curvature with a cystic or tubular configuration. However, CT scan, at times, may fail to differentiate a gastric duplication cyst from pseudocyst or cystic neoplasm of the pancreas, as in our patient. If a gastric duplication is suspected preoperatively, which is a very rare event, a technetium-99m imaging will identify duplications containing gastric mucosa.

Cyst fluid analysis may be of help in differentiating gastric duplication cyst from other cystic lesions. The fluid in the pseudocyst of the pancreas is rich in amylase

(8). The fluid in the serous cystic neoplasm of the pancreas has variable amylase, CA19-9 and CEA levels. Fluid in the mucinous cystic neoplasms of the pancreas has variable amylase levels but high CA19-9 and CEA levels (8). There are reports of gastric duplication cysts with high CA19-9 and CEA levels (9); however, no information regarding amylase levels in gastric duplication cysts is available in the literature.

A definite risk of malignant transformation of gastric duplication cyst has been described (10,11). Hence, surgical removal of gastric duplication cyst has been considered as a 'gold standard'. Non-communicating gastric duplication cyst is treated by complete resection. Successful laparoscopic resection of gastric duplication cyst has been reported (12). Communicating gastric duplication cyst requires no treatment when both gastric lumina are patent.

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