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A RARE CASE OF SPONTANEOUS CYSTOGASTROSTOMY IN A PSEUDOCYST OF PANCREAS

General Surgery

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ABSTRACT

***BACKGROUND*:** Pancreatic pseudocysts (PPs), common sequelae of acute or chronic pancreatitis and trauma, are fluid collections arising in or adjacent to the pancreas enclosed by a wall of fibrous granulation tissue, but lacking a true epithelial lining. It is the most common complication of pancreatitis. Hence, accurate diagnosis and timely management is important. Spontaneous resolution occurs in more than 80% cases. In case of persistence or specific indications, endoscopic intervention and surgical management is considered. Spontaneous rupture is a very rare and serious complication of pseudocyst of pancreas and should be managed carefully whenever encountered as it can cause severe peritonitis and requires emergent surgical exploration.

We describe a case of a 42-year-old, alcoholic male patient who came to casualty with complaints of pain over abdomen since 4 days and was diagnosed with acute on chronic pancreatitis with pseudocyst of pancreas who developed spontaneous rupture of pseudocyst into body of stomach and was managed conservatively.

Spontaneous resolution of pancreatic pseudocyst have been reported with acute gastrointestinal bleed, extension into the biliary tree and pelvicalceal system. Spontaneous rupture of pseudocyst into the body of stomach is very rare that can be managed conservatively, which avoids surgical intervention and hence decrease in mortality rate among these patients.

KEYWORDS

Pseudocyst, Spontaneous rupture, percutaneous drainage, endoscopic intervention, intracystic hemorrhage.

INTRODUCTION:

Pancreatic pseudocyst is a localized collection of pancreatic secretions surrounded by a wall of fibrous or granulation tissue that arises as a result of acute or chronic pancreatitis, pancreatic trauma, or obstruction of the pancreatic duct by a neoplasm [1]. Pseudocysts account for about 75% of cystic lesions of the pancreas [2].

They are distinguished from other peripancreatic fluid collections (cystic neoplasms and congenital, parasitic and extra pancreatic cysts) by their lack of an epithelial lining, high concentration of pancreatic enzymes within the pseudopancretic cyst and formation at least 4 weeks after an episode of pancreatitis or pancreatic trauma [3].

Abdominal pain is the most common symptom in patients with a pseudocyst. Patient may also present with abdominal mass, early satiety, nausea, vomiting, weight loss, jaundice and low grade fever [4,5].

It is presented in the course of 4 to 6 weeks after the acute pancreatitis episode and almost 85% presents spontaneous resolution [6]. In the other 15% of cases the endoscopic or surgical drainage is necessary to avoid significant complications associated like hemorrhage, rupture or splenic vessels thrombosis [7]. Spontaneous rupture of pseudocyst is rare.

In general, spontaneous regression of small asymptomatic PPs may be observed in 30%-60% of acute pancreatitis patients [8]. However, a large number of patients need interventions. Factors determining the route and time of intervention include (1) location, size and persistence of the cyst, (2) maturity of the cyst wall when the patient presents with symptoms, (3) presence or absence of complications, (4) availability of local expertise and experience. Generally, indications for intervention of PPs include > 6 cm in diameter, > 6 weeks in persistence symptoms (including epigastric pain, nausea, vomiting, biliary obstruction, and duodenal obstruction), complications (including infection, hemorrhage, rupture) and matured wall [9,10,11].

Intervention options for treatment include percutaneous, endoscopic, and surgical procedures [12]. We report, in this paper, a rare case of a patient with a pancreatic pseudocyst caused by acute on chronic pancreatitis, who developed *spontaneous cystogastrostomy* into body of stomach and was managed conservatively.

Case Report:

A 42-year-old male patient complaining of epigastric pain since 4 days, not relieved on consumption of analgesic, and vomiting since 2 days; was admitted to our hospital in the emergency room. There was no history of trauma, fever, diarrhoea, constipation, malena and jaundice. Patient consumes three units of alcohol since 15 years and has history of acute pancreatitis 10 months ago, which was managed conservatively.

On physical examination, he was found to be dehydrated with tachycardia and respiratory rate of 24 cycles per minute. On palpation abdomen was tender over epigastrium. The rest of the physical examination was normal. Chest x-ray and ECG were within normal limits.

An ultrasound abdo-pelvis and CT scan was requested, which reported acute on chronic necrotizing pancreatitis with acute necrotic collection in peripancreatic region with modified CT severity index of 6/10 (figure 1). Liver showed cirrhotic changes. Patient was managed conservatively using intravenous antibiotics and analgesics. Patient was hydrated well.

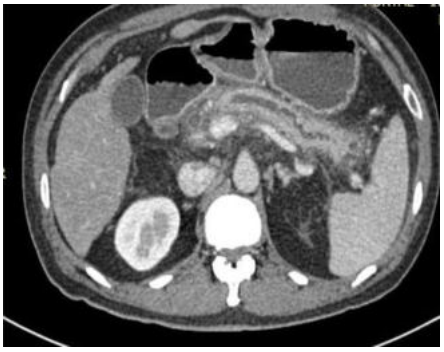

Fig. 1 CECT abdomen showing acute necrotic collection in peripancreatic region and dilated main pancreatic duct

On day 15, patient developed high grade fever with severe pain in the abdomen and postprandial abdominal distension. Patient also complained of continuous vomiting which was not relieved with antiemetics. On examination, patient had tachycardia, epigastric fullness and tenderness over epigastrium on palpation. Urgent CT was requested which showed multiple intercommunicating necrotic intrapancreatic collections and dilated main pancreatic duct. A thin-walled necrotic collection measuring 186 cc of volume was noted in the pancreatic tail with modified CT severity index of 10/10. Ryles tube (RT) was inserted and higher antibiotics were administered for further management.

On day 20, RT aspirate revealed 100 cc brown coloured necrotic collection within 12 hrs and 50 cc in next 12 hours. Next day CT scan was performed which reported a thin walled necrotic collection measuring 56 cc of volume approximately, noted in pancreatic tail. It was seen communicating with the body of stomach through a rent of 1.5cm, suggestive of *spontaneous rupture* of pseudocyst into body of stomach (figure 2 & 3). Further this patient was managed with RT in situ and continuing RT aspirate and intravenous antibiotics. Repeat ultrasound was performed 2 days later to check for residual collection, which revealed 10 cc collection in tail of pancreas.

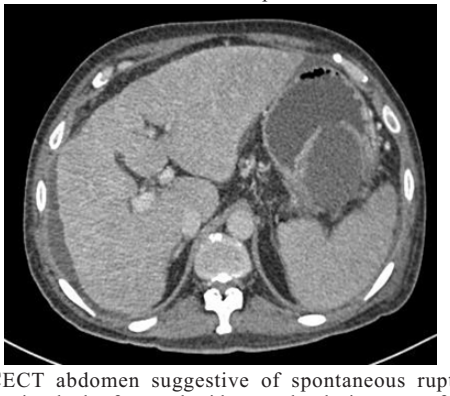

Fig.2 CECT abdomen suggestive of spontaneous rupture of pseudocyst into body of stomach with arrow that depicts a rent of 1.5cm

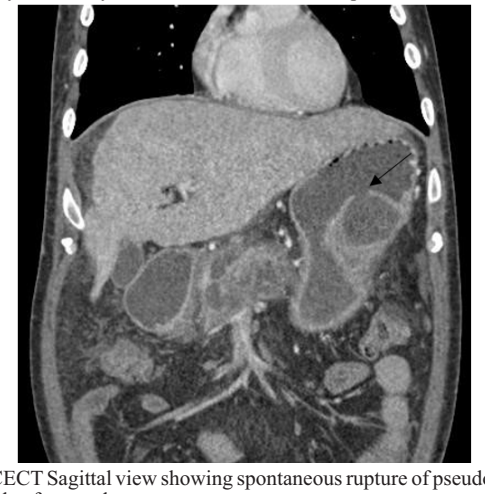

Fig.3 CECT Sagittal view showing spontaneous rupture of pseudocyst into body of stomach

Onday 25, Ryles tube was removed and esophagogastroduodenoscopy was performed, which reported inconclusive due to presence of necrotic fluid in stomach. On examination, patient was vitally stable with no other complaints. He was kept under observation for 3 days and consequently he was started on liquid and then solid diet.

Day 30 patient was discharged and advised to follow up in the out patient department.

DISCUSSION:

Pancreatic pseudocysts occur in 2%-10% of patients after acute pancreatitis and in about 10%30% of patients after chronic pancreatitis [13].

Pseudocyst is formed by the inflammatory response that occurs after extravasated pancreatic secretions are walled off by the surrounding structures The pathway by which pseudocysts are formed often follows a progression which includes diffuse peripancreatic effusion, pancreatic necrosis, liquefaction, phlegmon, acute pseudocyst and finally encapsulation or maturation.

Spontaneous rupture, the least common complication of pseudocyst formation, occurs in less than 3% of patients. Pseudocyst that ruptures anteriorly into the peritoneal cavity or posteriorly into the pleural cavity may lead to the development of pancreatic ascites or pancreatic pleural effusion, respectively [14]. It is a serious complication leading to severe peritonitis and requires emergent surgical exploration. Silent rupture of a pseudocyst or rupture can also occur into the adjacent hollow viscus. Some pseudocysts are presumed to resolve by rupture or fistulization into an adjacent portion of the stomach or of small bowel, similar to endoscopic enteric drainage (*cystogastrostomy*). In these circumstances no further therapy is needed.

The causes of ruptured pancreatic pseudo-cyst may include abdominal trauma, pancreatitis, infection, *intracystic hemorrhage*, and diagnostic puncture of cyst [15]. The patients with ruptured pancreatic pseudocyst were treated with pancreatectomy, pancreatic cyst-digestive tract anastomosis, and percutaneous drainage. Recent development of interventional radiology with metallic coil resulted in good control of hemorrhage from the artery. In particular, angiographic embolization is available on a case of pseudoaneurysm formation. In case of hemorrhagic shock, if hemostasis is obtained by transcatheter arterial embolization in advance of operative procedure, surgery may be performed more safely [16].

In this case, a 42 year old male- a chronic alcoholic, came to emergency room with pain over epigastrium since 4 days. Patient was evaluated and diagnosed with acute on chronic pancreatitis with acute necrotic peripancreatic collection. Patient was hydrated well and managed conservatively. On day 15, patient developed fever and complained of vomiting and post-prandial abdominal distention. CECT was ordered which showed 186 cc of collection in the pancreatic tail. Patient was managed conservatively by Ryle's tube insertion and intravenous antibiotics. On day 20, RT output revealed 100 cc of necrotic collection. On repeat CT scan 56 cc of necrotic collection in pancreatic tail, communicating with body of stomach through a rent of 1.5cm, suggestive of spontaneous rupture of pseudocyst into body of stomach was noted. The *spontaneous rupture* of the pseudocyst into body of stomach caused drainage of necrotic content directly into stomach causing enteric drainage of cystic content with no leak in abdomen or retro-peritoneum. This was further managed conservatively by continuing RT aspiration and intravenous antibiotics. Patient was discharged on day 30 on full diet with advice to follow up after 15 days. On follow up, patient had no fresh complaints.

CONCLUSION:

Mortality in a patient with pancreatic pseudocyst rupture is very high if not diagnosed early and managed appropriately. Spontaneous rupture of pseudocyst into the body of stomach is a very rare occurrence. It can be managed conservatively, avoiding surgical intervention and there by causing a decrease in mortality rate. It is thus necessary to plan an appropriate treatment strategy depending on each patient.

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