Case Report

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Giant Pseudocyst of the Pancreas: A Rare Case Report

Surgery Section

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ABSTRACT

A Pancreatic Pseudocyst (PP) is a fluid-filled collection often found near the pancreas. It is characterised by its contained structure and homogeneous fluid composition, with little to no necrotic tissue. Individuals with a history of chronic pancreatitis, and to a lesser extent acute pancreatitis, may exhibit non specific symptoms. To minimise related morbidity and mortality, any potential complications must be identified. The authors present a case of a rare giant PP in a 28-year-old man who presented with abdominal pain and distention, severe backache, fever, frequent vomiting, loss of appetite, weight loss, and firm, sticky stools. Initially measuring 25×19.2×11.2 cm on a Computed Tomography (CT) scan, this PP was unusually large for its type. Due to the patient's condition not being suitable, a direct cystojejunostomy was performed. Three drains were placed: an anastomotic drain near the anastomosis site, a Morrison's drain in the Morrison pouch, and a pelvic drain. Later, a complication arose in the form of a faecal fistula, which was managed conservatively with a suction drain. The patient's only primary complaint was non specific stomach pain, despite the size of the pseudocyst. Therefore, individuals with a history of chronic alcoholism and symptoms such as abdominal pain and distension should be evaluated for PP. A CT scan is recommended to investigate this condition, despite its rarity.

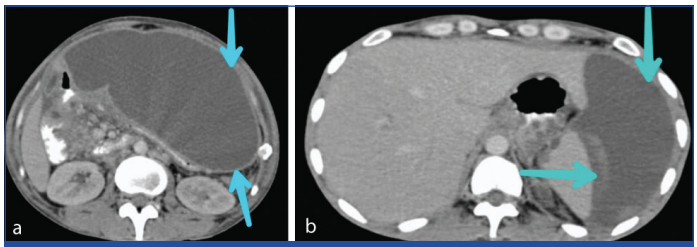
Keywords: Chronic alcoholism, Chronic pancreatitis, Pancreatic pseudocyst

CASE REPORT

A 28-year-old male patient from a remote area of India visited the hospital with complaints of abdominal pain and distention, severe backache, fever, frequent vomiting, loss of appetite, weight loss, and firm, sticky stools for two months. The patient was from a low socio-economic background.

Upon examination, the individual had a slender build with average weight and height. The patient also reported a history of chronic alcoholism, consuming an average of around 28 units of locally produced liquor per day for the past six years, without any co-morbidities.

Abdominal examination revealed a tense, tender mass in the left hypochondrium, with a distended and guarded abdomen. Axial sections of the Computed Tomography (CT) abdomen and pelvis showed a large pseudocyst arising from the tail of the pancreas with a mass effect, resulting in the posterior displacement of the left kidney, medial displacement of the spleen, and adjacent bowel loops [Table/Fig-1a,b]. Initially measuring 25×19.2×11.2 cm, this PP was unusually large for its type. Despite its size, the patient's primary complaint was non specific stomach pain.



[Table/Fig-1a,b]: Axial sections of Computed Tomography (CT) abdomen and pelvis showing a large pseudocyst arising from the tail of the pancreas with mass effect in the form of posterior displacement of left kidney, medial displacement of the spleen and adjacent bowel loops.

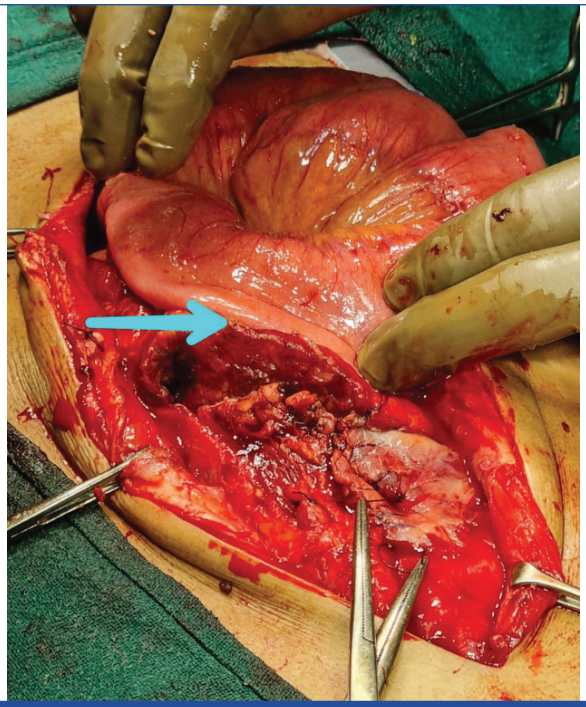
In addition to pancreatitis, the patient developed a peripancreatic collection. As hospitalisation progressed, the peripancreatic collection continued to grow. While the initial pain from pancreatitis subsided, discomfort intensified due to the expanding peripancreatic collection, ultimately forming a pseudocyst.

Due to the increasing peripancreatic collection causing pain, the opinion of a gastroenterologist was sought. Advice was taken from a medical gastroenterologist regarding pancreatic duct stenting and interventional radiology for pigtail drainage. However, due to the rapidly increasing size of the cyst and the patient's low levels of haemoglobin, albumin, and deranged International Normalised Ratio (INR), these procedures were not feasible.

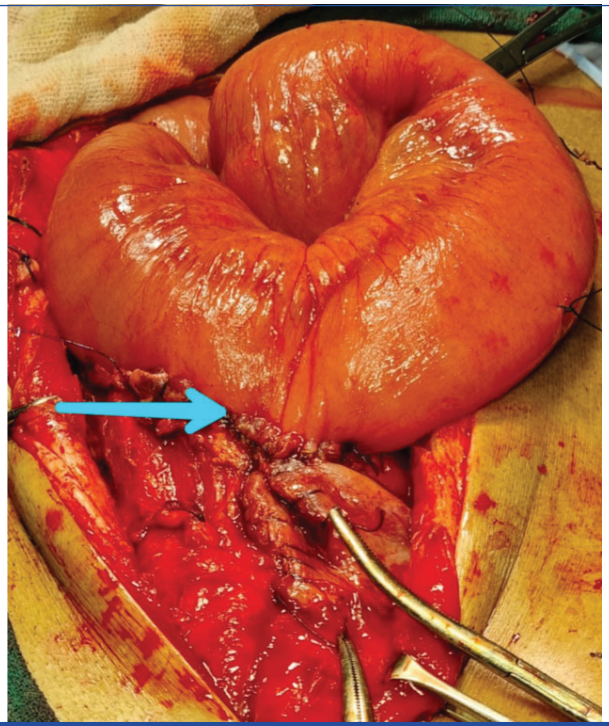
On the 20th day, the patient experienced abdominal distention due to ascites, which later showed signs of peritonitis. In light of the increasing ascites and early signs of peritonitis, the patient underwent surgery with the understanding that the pseudocyst had not matured and had less wall thickening.

The patient was scheduled for drainage of the pseudocyst, and an exploratory laparotomy was performed. Intraoperative haemorrhage was observed, and it was decided to perform cystojejunostomy due to the large cyst. Therefore, cystojejunostomy was planned and performed on the table [Table/Fig-2,3] to save and reduce the morbidity of the patient. Three drains were placed: an anastomotic drain near the anastomosis site, a Morrison's drain in the Morrison pouch, and a pelvic drain. Intraoperatively, a large amount of infected haemorrhaic fluid was found in the abdomen during dissection. The pseudocyst was so thin that it spontaneously opened up. It was stuck to the posterior rectus sheath, so the posterior rectus sheath was dissected along with the cyst. The patient was informed about the high likelihood of fistula formation before the surgery.

Postoperatively, the patient was managed with intravenous antibiotics and analgesics, total parenteral nutrition, injection albumin, and other supportive measures. The patient's recovery was good until the 10th postoperative day. However, upon starting oral intake, a faecal fistula developed. A suction drain had been positioned above the anastomosis due to earlier suspicion of a fistula, but it had not been initially activated. Subsequently, due to concerns about a possible leak, the drain was activated, revealing a controlled faecal fistula. The patient was regularly monitored every two weeks. A low-output fistula developed, producing approximately 25 mL per day. Fortunately, the fistula resolved on its own within 30 days post-operation, and the drainage was removed once the faecal fistula had completely settled to less than 10 mL/day.



[Table/Fig-2]: Cyst cavity and wall of stomach.



[Table/Fig-3]: Intraoperative picture of cystojejunostomy which was performed.

DISCUSSION

A PP is a distinct fluid accumulation that forms without any concurrent tissue necrosis, often occurring subsequent to an episode of pancreatitis [1]. The development of this condition is often seen in cases of chronic pancreatitis, and to a lesser degree, acute pancreatitis, as well as in those who excessively use alcohol or have gallstones. PPs arise as a result of injury to the pancreatic duct, causing leakage and subsequent accumulation of pancreatic fluid and enzymes inside the parenchyma [2]. The prevalence of pseudocysts is greater among men, mirroring the prevalence of pancreatitis, which exhibits a slight male predominance. The occurrence of pseudocysts in cases of acute pancreatitis varies between 5% and 16%. Pseudocysts have a higher prevalence in the context of chronic pancreatitis, with reported incidence rates ranging from 20% to 40% [3]. The greater risk of injuring the pancreatic ducts with fibrosis, calculi, or protein plug development may be attributed to the extended duration of the course of this phenomenon [3].

In scholarly literature, the phrase "giant" PP is often used to refer to a pseudocyst that has a diameter exceeding 10 cm. Giant PPs are seldom seen, as a review of the existing literature reveals a limited number of recorded instances involving such "giant" pseudocysts [4].

The current case study describes a unique occurrence characterised by the distinctive manifestation of symptoms and the considerable dimensions of the pseudocyst. PPs are a well-recognised complication that may arise from either acute or chronic pancreatitis, with a greater occurrence seen in cases of the latter [5]. The prevalence of pseudocysts in individuals with pancreatitis is shown to be greater among males, and it has been found that over 70% of cases are associated with alcohol usage [6]. In the current instance, there was a documented history of persistent alcoholism over a period of six years.

When there is suspicion of a diagnosis of PP, the most often used imaging modalities are ultrasonography and CT. However, Magnetic Resonance Imaging (MRI) is known to provide higher specificity in this context. The use of Ultrasonography (USG) is constrained by factors such as patient habitus and the anatomical positioning of the pancreas, which is situated posteriorly to the stomach and may contain gas, impeding clear visualisation. CT is widely regarded as the preferred method for both initial evaluation and subsequent monitoring [2].

The presence of a PP may be reliably identified on an abdominal CT scan when seeing a well-defined, fluid-filled structure with a rounded shape and thick walls in close proximity to the pancreas. This characteristic finding is highly indicative of PP, particularly in patients with a medical history of acute or chronic pancreatitis. When encountering acute signs such as ileus, excessive gas shadow, or intestinal obstruction during the assessment of USG, it is advisable to use a CT scan as it offers superior diagnostic capabilities in identifying pseudocysts. The diagnosis may be confirmed with little further examination, as it is highly indicative.

One significant benefit of CT scanning is its ability to accurately identify and provide a comprehensive analysis of anatomical structures and pathological conditions. Furthermore, the evaluation of extra-pancreatic disease and the condition of adjacent organs, such as the gallbladder, liver, common bile duct, stomach, and duodenum, may be accurately determined in addition to the pancreas [7].

The current investigation involves the examination of axial sections of CT of the abdomen and pelvis. These sections reveal the presence of a sizable pseudocyst originating from the tail of the pancreas. This pseudocyst exerts mass effect, causing the left kidney to be displaced posteriorly, the spleen to be displaced medially, and surrounding bowel loops to be affected.

The absence of a universally accepted protocol for the treatment of gigantic PPs may be attributed to the infrequency of this particular medical problem. The majority of pseudocysts tend to dissolve spontaneously when appropriate supportive treatment is provided. The predictive value of pseudocyst size and duration of cyst presence for pseudocyst resolution or problems is limited. However, it is generally observed that bigger cysts have a higher likelihood of becoming symptomatic or leading to complications.

The primary indications for an invasive drainage treatment are the persistence of patient symptoms and the existence of complications, such as infection, gastric outlet or biliary blockage, and bleeding. There are three distinct approaches for the draining of a PP: endoscopic drainage (either transpapillary or transmural), percutaneous catheter drainage, and open surgery [6].

The surgical drainage treatments widely used for PP include cystogastrostomy, cystoduodenostomy, and cystojejunostomy. The selection is contingent upon the anatomical closeness of the peritoneal penetration to the adjacent hollow viscus. Cystojejunostomy is the ideal surgical procedure for cysts that are not in direct contact with the stomach and duodenum. The performance of open and laparoscopic cystojejunostomy, using

a Roux-en-y jejunal loop, is considered a conventional surgical intervention [1].

In the current investigation, the patient was scheduled for the drainage procedure of a pseudocyst. An exploratory laparotomy was performed, and intraoperative bleeding was observed. Consequently, a cystojejunostomy procedure was both planned and executed on the patient's table, as seen in [Table/Fig-2,3], with the objective of preserving the patient's well-being and minimising associated morbidity. The pseudocyst had such minimal thickness that it underwent spontaneous rupture. The pseudocyst adhered to the posterior rectus sheath, necessitating the dissection of the posterior rectus sheath in conjunction with the cyst.

In a separate study conducted by Groskreutz D et al., the patient underwent Endoscopic Retrograde Cholangiopancreatography (ERCP) with the intention of inserting a pancreatic duct stent [2]. However, due to the procedure's failure, drain flushes were used as an alternative treatment for the PP. In their study, Wang GC and Misra S conducted an open cystogastrostomy procedure using a midline incision, resulting in the drainage of a significant volume of 3 L of fluid from the enormous pseudocyst [8]. In a study conducted by Igwe PO et al., three instances of gigantic pseudocyst of the pancreas were documented [9]. In each case, the patients underwent exploratory laparotomy and cystogastrostomy, resulting in favourable outcomes.

In the current scenario, on the tenth day after the operation, the patient began oral intake. Subsequently, the patient developed a faecal fistula. Due to a prior concern of a fistula, a suction drain was placed above the anastomosis, which was not originally billed. Subsequently, when concerns over a potential leak arose, the patient was formally diagnosed with a controlled faecal fistula originating from the suction drain. In response, conservative management strategies were used to address this complication.

Therefore, the diverse array of techniques used in the management of the substantial PP in this particular instance exemplifies the inherent challenges associated with the treatment of such cysts.

CONCLUSION(S)

The development of a large PP is an uncommon but significant outcome of pancreatitis. The unusual aspect was that this PP was found to be huge for its type. Despite its size, the patient's only primary complaint was unspecific stomach pain. Hence, a patient with a history of chronic alcoholism and presenting with abdominal pain and distension should be suspected of having a PP, and a CT should be recommended to rule it out, even though it is a rare entity.

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