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Case Report

Pseudo Pancreatic Cyst Causing Portal Hypertension

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ABSTRACT

The Pancreatic pseudocyst is a localized pancreatic fluid collection developing in about 10-15% cases of acute and 20-40% of chronic pancreatitis. The possible Complications of Pancreatic pseudocysts include infection, rupture, bleeding and mass effect. In few rare cases portal hypertension develops from compression or obstruction of the splenic vein or portal vein by the cyst. Only about 50% of pancreatic pseudo cysts require surgery due to the complications.
Here we have a case of 65-year-old female presented with pain abdomen and abdominal swelling accompanied with weight loss and anorexia since 6 months. She was diagnosed to have a large pancreatic pseudocyst with portal hypertension. She was managed by surgery, where in the cyst was drained and subsequently the portal hypertension was relieved after surgery.

Key Words: Pancreatic pseudocyst, portal hypertension, pancreatitis.

INTRODUCTION

Pseudocyst of pancreas is a localized collection of pancreatic secretions lined by granulation or fibrous tissue. They are classically preceded by attacks of pancreatitis in acute or chronic forms. The most common symptoms are abdominal pain, nausea and vomiting though asymptomatic presentation is not uncommon. Clinical, biochemical or/and radiological evidences of pancreatitis are present most of the times, but still a large number of patients may present with features of pancreatic pseudocyst without any documentary evidence of pancreatitis.

The complications of the cyst like infection rupture, bleeding and the pressure symptoms prompt the diagnosis in asymptomatic presentations. Splenic vein obstruction has also been described as a complication of chronic pancreatitis which in turn causes portal hypertension. [1]

Initial imaging studies include ultrasonography and CT scan allowing an estimate of size, location, echogenic city of the contents, if any and presence of portal hypertension. Endoscopic ultrasound is useful in differentiating pseudocyst from other cystic lesions of pancreas and is of paramount significance in cases of transmural endoscopic drainage.

Management of pseudocyst includes various options depending upon the size, symptomatology and presence of complications. Asymptomatic and cysts of small size require no intervention. Asymptomatic large cysts are monitored closely for complications up to six weeks and not intervened until they become symptomatic or any complication develops. The cysts are drained either by open approach, laparoscopically, radiologically or endoscopic guided methods.

CASE REPORT

A female aged about 65 years presented with pain in upper abdomen for 6 months, abdominal swelling since 20 days, loss of weight about 8 kgs in the last 6 months and loss of appetite since 6 months. She also had high grade fever since last 15 days and history of non-projectile vomiting containing gastric juices for 6 days. There was neither history of alcohol intake nor any episode suggesting attacks of acute pancreatitis. Patient was not a known case of diabetes or hypertension. There was no history of prior trauma but the epigastric pain was evolving in a chronic fashion.

On clinical examination, she was found to have distended abdomen with swelling of variable consistency, filling almost entire of abdomen (figure.1)

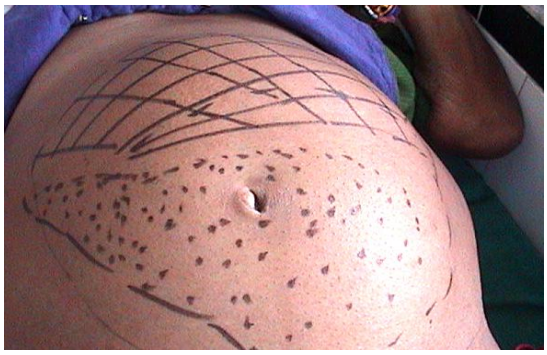

FIGURE.1

Lab evaluation revealed hemoglobin of 10.5gm%, mild leukocytosis with polymorphs and lymphocytes constituting 68% and 32% respectively. Biochemically, blood sugars were 110mg/dl, creatinine being 0.6 and serum amylase levels of 105 U/dl. Serum electrolytes were in normal range.

Her Ultrasonography revealed a 14 X11.5 cms lesion of mixed echogenic city in the region of pancreas extending upto umbilicus inferiorly, Splenomegaly (spleen measuring 14.3Cms approximately). Findings were inferred in favor of pancreatic pseudocyst, retroperitoneal cyst or Lymphoma. A review of ultrasound, a day later added a differential diagnosis of ovarian cyst and pancreatic pseudocyst with chronic pancreatitis. Two cysts were described each measuring 5.4 X 4.8 Cm and 14 X 11.5 Cm. The splenic vein was dilated with a diameter of 20mm, with collaterals (figure.2)

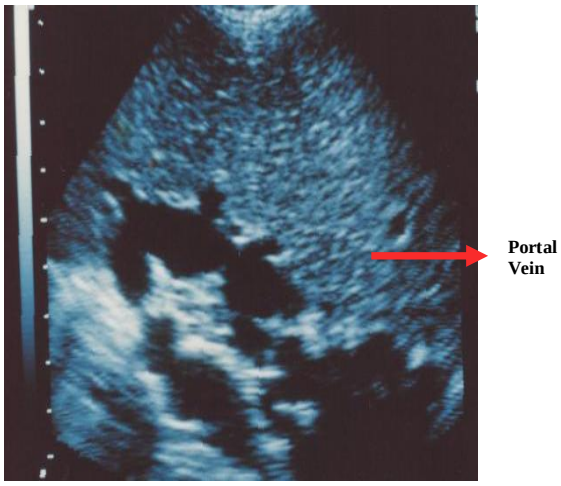

FIGURE.2

CT was advised. CT scan showed dilated splenic vein with a diameter of 20mm and splenomegaly (figure 3, arrowhead showing dilated splenic vein)

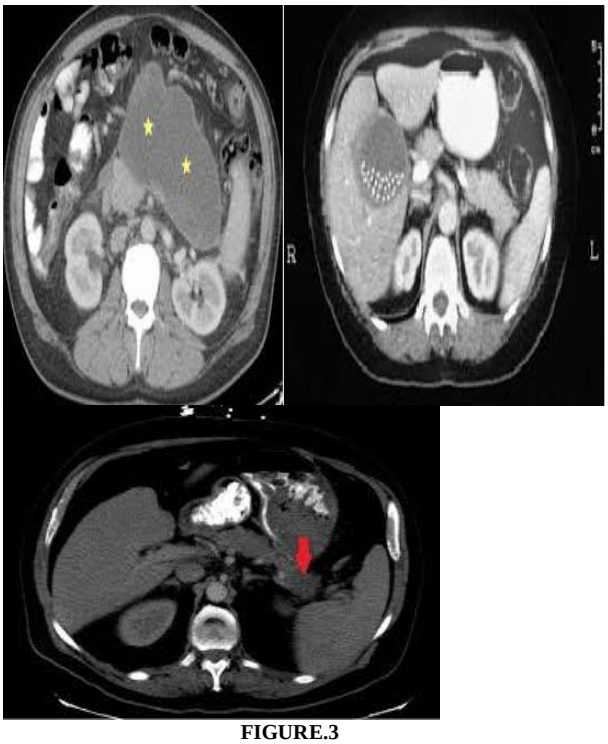

FIGURE.3

Laparotomy was planned and on exploration a voluminous cyst pushing the stomach forwards and medially was identified (figure.4). The stomach had dilated veins

owing to portal hypertension caused by the mass effect of the cyst.

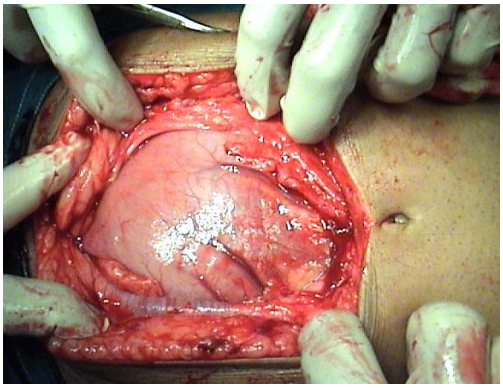

FIGURE.4

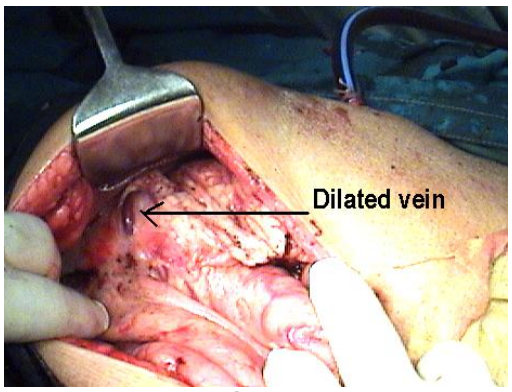

FIGURE.5

Cystostomy was done and about 2.5 liters of bile stained fluid drained. Borders of cyst wall identified and all areas inspected. The cyst was closed over an external drain. There was splenomegaly and dilated veins over stomach (figure.5). Immediate post-operative period was uneventful.

Post-operative Doppler study revealed a splenomegaly with size of about 14 cm and multiple collaterals showing colour filling. There was no evidence of splenic vein thrombosis or portal hypertension. Similarly, portal vein showed normal colour flow& filling pattern and no thrombus. However, pancreas showed multiple calculi.

DISCUSSION

Pancreatic pseudocysts are cystic cavities encased by reactive granulation tissue in or around the pancreas usually occurring after acute or chronic pancreatitis but more commonly after repeated attacks of acute-on-chronic pancreatitis. The incidence of pancreatic pseudocyst is around 1.6 to 4.5%. [2,3] The prevalence is about 6% to 18.5% in acute pancreatitis [4,5] and 20 to 40% in chronic pancreatitis. [6] Trauma also causes pseudo pancreatic cyst in about 3-8% of adult patients [7,8,9] though it is one of the most common cause in children. [10,11] Other causes include intraductal stones or stricture causing obstruction and increased intraductal pressure. The contents range from clear pancreatic fluid to necrotic debris.

Cannon et al first described pseudo pancreatic cyst almost two and half centuries back in 1761 AD. [12] For nearly two centuries no clear consensus could be drawn for the management of pseudocyst. It was in the beginning of twentieth century Eugene Opie first distinguished epithelium lined true pancreatic cysts from pseudocysts, which are surrounded by a wall composed of collagen and granulation tissue. [13] In 1991 D'Egidio and Schein classified pancreatic pseudocyst depending on the underlying etiology of pancreatitis, acute or chronic, the anatomy of pancreatic duct and the presence of communication between the pancreatic duct and the cyst. Among the three types of cysts described, type I or acute post necrotic was preceded by an attack of acute pancreatitis with normal pancreatic duct anatomy while type II, though post necrotic, occurs after an attack of acute or chronic pancreatitis along with diseased pancreatic duct and communication between cyst and pseudo pancreatic cyst. Type III on the other hand is a retention pseudocyst, occurring with chronic pancreatitis and is associated with duct stricture and pseudocyst-duct communication. [13]

Nealson and Walser highlighted the importance of pancreatic duct injury in pancreatic pseudocyst and proposed a classification entirely based on the anatomy of pancreatic duct. [14]

Atlanta classification of 1993 chartered four different disease entities. 1. Acute fluid collection developing after acute pancreatitis with no cyst wall. 2. Acute pancreatic pseudocyst arising after acute pancreatitis or trauma with a cyst wall made up of granulation tissue and extracellular matrix. 3. Chronic pancreatic pseudocyst after chronic pancreatitis with a wall and 4. Pancreatic abscess, pus collections lying adjacent to pancreas these entities can be differentiated from each other by history, nature of wall by imaging studies and needle aspiration if needed. [15]

The main symptoms of pancreatic cystic formations are pain, nausea, vomiting and the presence of an abdominal mass.

Rarely patients with large pseudo pancreatic cysts can be asymptomatic clinically. Asymptomatic cases may surface with development of complications, presenting as fever, icterus and pleural effusion. Rupture of pseudocyst causes secondary peritonitis causing septicemic shock. The possibility of a pseudocyst in a patient who has persistent abdominal pain, anorexia or abdominal mass after a case of pancreatitis should always be suspected. [16]

Diagnosis includes thorough clinical history, biochemical evaluation and imaging studies. A history of acute or chronic pancreatitis or trauma helps in suspecting a pseudocyst. Biochemical investigations, though of limited use, help in arriving at diagnosis. They include serum amylase and lipase levels which are nonspecifically elevated. Liver function tests, triglycerides and serum calcium provide considerable benefit.

Transabdominal ultrasound imaging is an important initial investigation to determine the size, site and contents of cyst. [17] It also helps in detecting portal hypertension, if any apart from assessing other abdominal viscera. CT scan is the investigation of choice with a sensitivity of 82% to 100% and specificity of 98%. [18]

It helps in assessing the wall of the cyst and detects calcifications if any. MRI and MRCP are better imaging modalities in defining the anatomy of pancreatic duct. The use of ERCP for diagnostic purpose is declining with the advent of endoscopic Ultrasound.

More than 50% of cases undergo spontaneous resolution though complications occur in about 5% to 40% of the cases. Complication of pseudocyst includes infection, intracystic hemorrhage, enlargement, and mass effect causing bile duct or bowel obstruction and formation of internal or external fistula. [19] Others include splenic infarction and thrombosis, rupture, biliary complications, gastric outlet obstruction and portal hypertension owing to mass effect causing compression or obstruction of splenic vein.

Though the development of portal hypertension is a very rare entity, surgery is the only modality of treatment available and effectively treats this kind of portal hypertension. [20]

Management of pseudocyst includes both medical and surgical modalities. Most of the pseudocysts respond to medical line of management. Intravenous fluids, Analgesics and anti emetics dominate the medical chart apart from appropriate nutritional support either in the form of low-fat oral diet or parenteral nutrition who cannot tolerate the former. In a study by Vitas and Sarr, Resolution of pseudocyst occurred in 57% of patients in patients managed by conservative approach. [19] Octreotide, a somatostatin analogue, decreases pancreatic secretions and may aid in resolution of cyst and has been tried by few. [21,22]

Pseudocysts of large size and long standing are unlikely to resolve on medical management and are more prone to develop complications, mandating surgical intervention. Severity of symptoms and the development of complications have evolved to be the key factors in deciding the treatment modality and prognosis in management of pseudocysts. [23,24]

Surgical treatment includes drainage procedures, either external or internal which in turn can be either open, laparoscopic or

endoscopic guided. Though the latter two have gained much acceptance than conventional methods, other factors like resources and local expertise are key determinants in developing countries.

CONCLUSION

Portal hypertension is a rare complication of pancreatic pseudocyst, which itself is a complication of acute or chronic pancreatitis. Surgery is the only modality of treatment in such cases. Here in this patient, it was managed surgically by drainage of the cyst which relieved the portal hypertension.

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