*Case Report*

# Pancreatic Pseudocyst - A Diagnostic Dilemma

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**Abstract:**
*A pseudocyst is a collection of amylase-rich fluid without definitive lining epithelium. It is more common in course of chronic than acute pancreatitis. Formation of pseudocyst requires four or more weeks from the onset of acute pancreatitis. Most common presenting features are abdominal pain, bloating, vomiting, loss of appetite, weight loss, diarrhea, fever, a tender mass in abdomen and jaundice. Pseudocyst may be complicated by infection, rupture, pressure effects on biliary or bowel site, pain, erosion into a vessel and recurrence. Ultrasound (US), CT scan, Endoluminal ultrasound (EUS), MRCP, FNAC, carcinoembryonic antigen (CEA) level can diagnose a pseudocyst, and some of them also have therapeutic roles. The principle of indication for treating pancreatic pseudocysts are to improve symptoms and to prevent complications. Treatment options include conservative approach, open surgery, radiological intervention, endoscopic and laparoscopic technique. Each patient requires an individual, multidisciplinary approach, thereby obtaining optimal treatment outcome. A male baby was admitted in the department of surgery of Central medical college, Cumilla, Bangladesh with epigastric lump of diagnostic uncertainty. During laparotomy, a pancreatic pseudocyst was revealed and the patient had got recovery by cystogastrostomy.*

**Keywords:** Pseudocyst, Pancreatitis Complication

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**Introduction:**
A pseudocyst is defined as a peripancreatic fluid collection contained by a wall of fibrous granulation tissue that does not have an epithelial lining[1]. Pseudocyst typically arise following an attack of acute pancreatitis, but can develop in chronic pancreatitis or after pancreatic trauma[2,3]. Acute pseudocyst follow an established acute attack of pancreatitis and chronic pseudocyst are usually asymptomatic and often, no recent attack of acute pancreatitis[4,5].

The most useful classification of pseudocysts is that proposed by D'Egidio. Type-1 are acute post-necrotic pseudocysts that occur after an episode of acute pancreatitis and are associated with normal duct anatomy and rarely communicate with the pancreatic duct. Type-2 postnecrotic pseudocysts that occur after an episode of acute or chronic pancreatitis and have a diseased but not strictured pancreatic duct, there is often a communication between the duct and the pseudocyst. Type-3 is also called retention cyst, occur in chronic pancreatitis, and are uniformly associated with a duct stricture and a communication between the duct and the pseudocyst[1].

Following acute pancreatitis, pseudocyst are located most often in close proximity to the pancreas, especially in the lesser sac but also may be found in the pelvis, scrotum, mediastinum, and thorax[1]. Regardless of the type, pain is the most common finding; fever, weight loss, tenderness, a palpable mass are present. Jaundice is present if intra-pancreatic segment of the bile duct is obstructed[6].

A pseudocyst is usually identified on ultrasound (US) or a CT scan[1]. CT scan is the diagnostic study of choice, the size and shape of the cyst and its relationship to other viscera can be scanned[4]. Endoluminal ultrasound (EUS) can distinguish a pseudocyst from a cystic neoplasm by delineating internal septation[1]. If there is no access to EUS, then percutaneous FNAC is acceptable (aspiration of fluid and insertion of drain)[2]. The aspirated fluid should be sent for measurement of carcino-embryonic antigen (CAE), amylase levels and cytology to exclude malignancy[2]. ERCP has both diagnostic and therapeutic value[1]. Over 90% of patient with pancreatic pseudocyst have some abnormality of pancreatic duct, and most of this can be detected by MRCP[1].

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Complications of pseudocyst includes infection, rupture into gut or peritoneum, pressure effects on biliary or bowel site, pain, erosion into a vessel and recurrence[2]. Treatment of the pseudocyst depends on the thickness and location of the cyst wall, contents of the pseudocyst and the pancreatic duct communication with the cyst[7]. Treatment options include conservative approach, open surgery, radiological intervention, endoscopic and laparoscopic management[1]. Indications of surgery are symptomatic pancreatic pseudocyst, infected cyst (abscess) and enlarging cyst causing pressure effect to other organ[8].

Here we have presented a case of epigastric lump of a male baby with diagnostic uncertainty, but laparotomy confirmed it as a pseudocyst. We have operated by our own facility (open surgical technique) and patient is well in follow up.

**Case report:**

Emon, one & half year old, 11 kg male baby presented with a lump in the epigastrium for 2 months & repeated vomiting for 1 month. He has also H/O severe attack of upper abdominal pain 2 months back while he took conservative treatment in a private hospital. According to statement of the parents the vomitted material was copious, projectile and contain previous undigested food. On examination, the baby was dehydrated, drowsy and disoriented with normal temperature. Local examination revealed the epigastic lump which was 5 to 4 cm in dimention, mildly tender. Carnett's test proved it as an intraperitoneal lump and there was visible peristalsis from left to right. His investigation profile was Hb level-8gm/dl, ESR-10 mm in1st hr, total count of WBC-6000/cu mm of blood, Serum creatinine-0.9 mg/dl, RBS-4.5 mmol/dl, Serum bilirubin-0.88mg/dl, SGPT-22u/l, Serum albumin-3.7 gm/dl, dyselectrolytaemia ($Na^+$ 125, $K^+$ 2.9, $Cl^-$ 104, $HCO_3^{--}$ 24 mmol/L), $Ca^{++}$ 9.8 mg/dl & BT, CT was within normal limit.

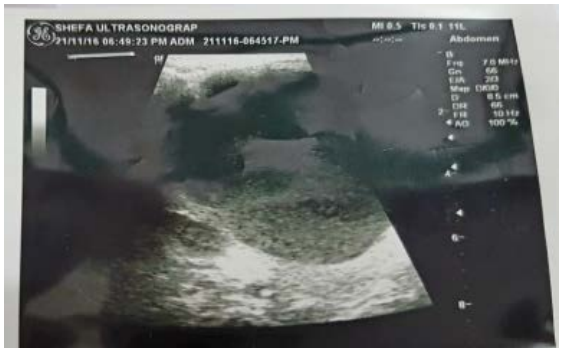


**Figure-1: USG showing Pancreatic Pseudocyst**

USG revealed a cystic mass 5x6 cm in dimention occupying pancreatic head & compressing CBD & pylorus of stomach and comment was Pancreatic pseudocyst.

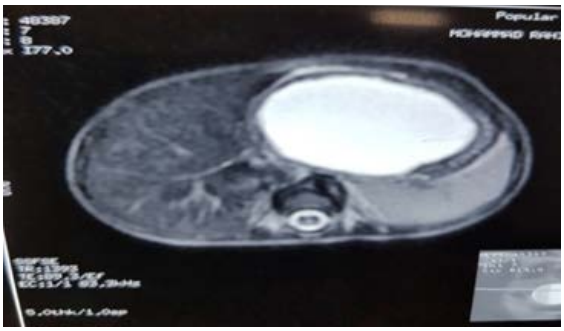

**Figure-2: MRCP showing Cystic lesion**

MRCP showed it as a cystic lump arising from common hepatic duct (7x5x4 cm) and comment was Choledochal cyst. His Chest X-ray was normal.

After preoperative assessment and correction of fluid and electrolytes, the parents were counseled and the baby was admitted for laparotomy under a diagnostic dilemma and informed written consent was taken from the gurdian.

The abdomen was opened by classical supra-umbilical transverse incision under the general anaesthesia. But laparotomy revealed normal CHD and the lump pushing the stomach from behind.

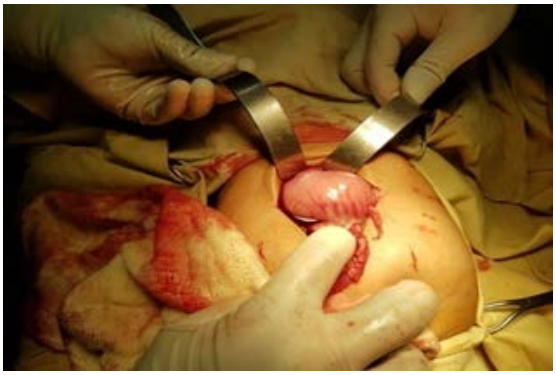

**Figure-3: Pseudocyst protruding stomach wall**

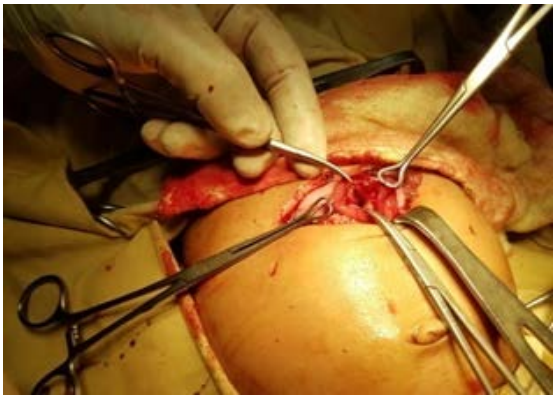

**Figure-4: Opening of anterior and posterior wall of the stomach**

So anterior wall of stomach was opened and after incising the posterior wall cystogastrostomy was performed. Abdomen was closed in layers with two drains (subhepatic and pelvic) kept in situ.

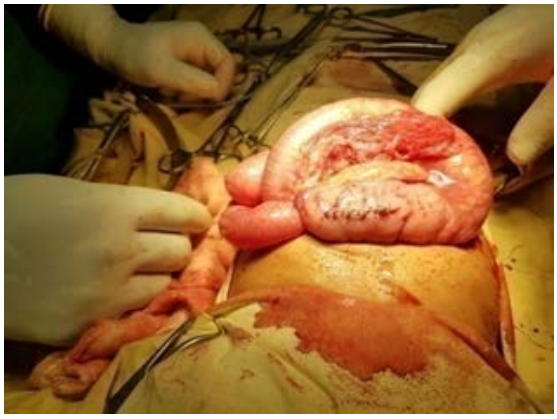

**Figure-5: Closure of posterior and anterior wall of the stomach**

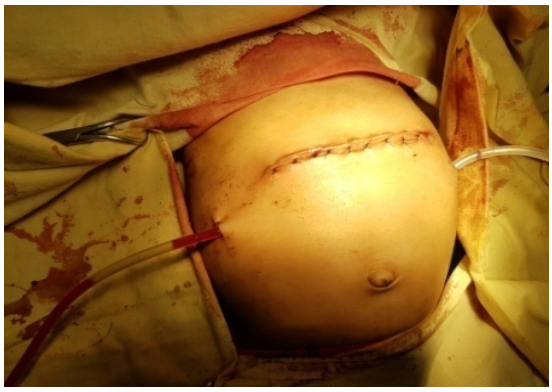

**Figure-6: Closure of abdomen with two drains**

In postoperative period, the patient was NPO for 3 days, 150 ml bood was transfused, prophylactic and therapeutic I/V antibiotic was used during this time and as postoperative analgesic I/M pathedine was used for 5 days. Drain and stitch were removed on 5th and 8th POD respectively. Patient has got uneventful recovery.

**Discussion:**

Pancreatic pseudocysts are a well-known complication of acute or chronic pancreatitis, with a higher incidence in the later. Wade JW showed in 1985 in the 25 years experience with pancreatic pseudocysts that the incidence of pseudocyst formation from acute case was 1.6-4.5% [8], where Barthet M et al. showed 20-40% in chronic cases[9].

In our case, the cyst presented at 2 months after an acute attack of pancreatitis. Formation of pseudocyst require 4 weeks or more from the acute onset of pancreatitis[2]. The baby presented with epigastric lump, vomiting and relactant to take food. Although the symptoms of pseudocysts may be different for different people, some of the most common are abdominal pain and bloating. Other symptoms may include nausea, vomiting, loss of appetite, weight loss, diarrhea, fever, a tender mass in abdomen, jaundice and fluid build up in the abdominal cavity[10].

In sonological view the cyst was seen as a pancreatic pseudocyst, but MRCP make an error due to large cyst occupying the space over the CBD. Diagnosis is accomplished most often by computed tomographic scanning, by endoscopic retrograde cholangiopancreatography, or by ultrasound, and a rapid progress in the improvement of diagnostic tools enables detection with high sensitivity and specificity[11].

Our patient was symptomatic and presented at 2 months of an acute attack. Often pseudocysts get better and go away on their own. If a pseudocyst is small and not causing serious symptoms, a doctor may want to monitor it with periodic CT scans. If the pseudocyst persists, gets larger, or causes pain, it will require surgical treatment[12].

Sometimes pseudocyst undergo spontaneous resolution within six weeks of an acute attack. Complete resolution occur in 8-70% of patients[6]. Different strategies contribute to the treatment of pancreatic pseudocysts as endoscopic transpapillary or transmural drainage, percutaneous catheter drainage, or open surgery. Percutaneous drainage is used for infected pseudocysts. However, its usefulness in chronic pancreatitis-associated pseudocysts is questionable.

Internal drainage and pseudocyst resection are frequently used as surgical approaches with a good overall outcome, but a somewhat higher morbidity and mortality compared with endoscopic intervention[10]. With an experience and expert hand recurrence rate are no more than 15% [2]. For pseudocysts requiring treatment, surgery is usually necessary. During surgery to correct a pseudocyst, the surgeon usually makes a connection between the pseudocyst and a nearby digestive organ. This allows the pseudocyst to drain through that organ. Depending on the location of the pseudocyst within the pancreas, that connection may be with the stomach, small intestine, or duodenum, the upper end of the small intestine.

In our patient, the cyst was protruding the posterior wall of stomach, so cystogastrostomy with supraumbilical transeverse incision was the preferred technique. Rowan P and Powel J et al. also expressed this as a suitable technique[13]. We could not go for other intervention due to lack of facilities. The procedure can be performed with an open incision or with laparoscopic devices inserted through the small incisions[14,15]. Sandberg AA et al. showed in their case series that pancreatic

pseudocyst should be treated by surgical drainage; these operative procedures carry a 10-30% morbidity rate, a 1-5% mortality rate and a 10-20% rate of recurrence[16]. Good results are reported for non-surgical intervention. However, open surgical drainage to the gut remains safe and appropriate treatment, especially after failure of other interventions.

**Conclusion:**

When diagnostic uncertainty arises in any intra-abdominal lump, laparoscopy or laparotomy may accomplished the problem with therapeutic solution. In most cases surgical treatment of pseudocyst is uncomplicated and definitely solves the immediate problem.

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