



The Study of Clinical Presentation, Management and Outcome Analysis of Pseudocyst of Pancreas

KEYWORDS

pseudocyst; presentation; management; outcome.

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ABSTRACT *Background / Objectives: The aim of this study was to study the presentation and management of pseudocyst of pancreas and its outcome. The study of 30 cases with pancreatic pseudocyst was carried out from January 2013 to November 2014 at our institute.*

METHODS— *Patients with diagnosed pancreatic pseudocyst were included in the study. Biochemical investigations, radiological investigations and management and outcomes of patients with pseudocyst were studied.*

RESULTS - *Of the 30 patients, 27 were male (90%) and 3 were female (10%). Most of the patients were in the age group of 28 to 37 years comprising about 36.7%. Pain in abdomen accounting for about 83% followed by lump in abdomen was the common clinical presentation. Aetiology for pseudocyst in this study was alcohol 66.67% followed by gallstones. 23.3% of the subjects had co morbidity viz diabetes mellitus and hypertension. The commonest location of the pseudocyst was body of pancreas (63.3%), followed by pseudocyst in tail and body (26.67%). About 86.67% of the cysts were single and 13.33% patients had multiple pseudocyst. In our study maximum cyst diameter was 26cm and the minimum was 3 cm. 50 % patients were managed conservatively and 50 % patient needed intervention in the form of pigtailing, open cystogastrostomy and remaining underwent ERCP and Pancreatic duct stenting. There was complete resolution of the pancreatic pseudocyst in 89.3% of the cases, while 7.1 % of the cases there was no resolution and in 3.6% of cases there was recurrence of pseudocyst. Mortality rate of 6.7% was seen in our study.*

CONCLUSION: *Pancreatic pseudocyst was predominantly seen in male population in the age group of 28- 37 years. Pain in abdomen was the most common presenting complaint, followed by lump in abdominal lump in our study. Alcoholic Pancreatitis was the most common etiologic factor for pancreatic pseudocyst. Most common location for pancreatic pseudocyst was the body of pancreas (60%), followed by body with tail of pancreas and least pseudocysts were seen in the head of pancreas. 50% of the patients were treated conservatively and rest 50% required some form of intervention.*

INTRODUCTION

Pseudocyst presents as a cystic cavity bound to the pancreas by inflammatory tissue, wall of which lacks an epithelial lining, and contains pancreatic juice or amylase-rich fluid.^[1,2] In 1961, Sarles et al.^[3] proposed a classification depending on whether they were associated with acute or chronic pancreatitis. Pseudocysts which were seen in the setting of acute pancreatitis were called necrotic pseudocysts, as they resulted from pancreatic necrosis and extravasation of pancreatic juice. Pseudocysts seen in patients in the setting of chronic pancreatitis were called retention pseudocysts. Today according to revised Atlanta classification fluid collections, of less than 4 weeks duration were called as peripancreatic fluid collections and collections persisting for more than 4 weeks are called as pseudocyst.^[4]

Pseudocysts typically arise following an attack of acute pancreati-

tis, but can develop in chronic pancreatitis or after pancreatic trauma. Formation of a pseudocyst requires 4 weeks or more from the onset of acute pancreatitis. Acute pseudocyst formation can be viewed as the maturation of an acute inflammatory process, with collection of pancreatic secretions and the products of inflammatory response with or without rupture of a pancreatic duct.

The various complications that can occur are infection, rupture, bleeding, enlargement, splenic complication. Treatments consist of either open surgical management or radiological intervention, endoscopic intervention or minimally access surgery.

We studied patients with pseudocyst of pancreas between a period of January 2013 to November 2014 at our centre.

MATERIALS AND METHODS:

Patients with diagnosed pancreatic pseudocyst were enrolled in the study after an informed written consent. A thorough history was taken and a detailed clinical examination was carried out. All the patients were subjected to the biochemical investigations including total and differential WBC counts, serum amylase, blood sugars, serum blood urea nitrogen, serum creatinine, serum electrolytes, serum calcium, and liver function tests. Radiological investigations like plain x-ray abdomen AP view, x-ray chest PA view and B-mode ultrasonography (USG) of the abdomen, CT scan of the abdomen were done in all patients. On USG the location, number, size wall thickness, presence of gall stones, free fluid in abdomen. CT scan were done to add to more value to information obtained by ultrasonography with regards to location, number, size wall thickness, presence of gall stones, contents if the pseudocyst, unilocular or multilocular, pancreatic duct details and relation to adjacent viscera to decide further line of management. Patients with large symptomatic and well-formed cyst wall underwent some form of intervention. Pseudocysts with pancreatic duct communication underwent PD stenting and subsequent intervention. Follow up period of 3 months.

RESULTS:

Most of the patients were in the 28 to 37 years age group which comprising about 36.7% of cases. In our series, 90% of the patients were males and 10% were females.

Pain in abdomen (83.3%) was the commonest complaint, followed by a lump in abdomen in 16.7% of the cases. Alcohol was the aetiological factor in 66.67% of the patients followed by gall stones in 13.3% and traumatic pseudocyst in 13.3%. 6.6% patients had both alcohol and gall stones as etiological factors. Co morbidities were present in 23.3% cases. Most of the pseudocysts were located in the body of pancreas (63.33%) followed by the body and tail (26.67%) and in head region (10%).86.67% of the pseudocysts were single and in 13.33% of the cases there were multiple pseudocysts. In our study 50% of the patients were managed conservatively and rest needed some form of intervention.

Table 1:

Gender	27 male (90%)		3 female (10%)		
Age No of patients	18 TO 27	28 TO 37	38 TO 47	48 TO 57	58 TO 67
	1 (3.33%)	11 (36.7)	8 (26.7)	6 (20%)	4 (13.3%)
Presenting complaints	Pain in abdomen (25 patients) 83%		Lump in abdomen (3 patients) 17%		
Aetiology	Alcohol (66.7%)	Gall stones (13.3%)	Trauma (13.3%)	Alcohol + Gallstones (6.7%)	
Comorbid condition	Diabetes (10%)	Hypertension (10%)	Diabetes + Hypertension (3.33%)	None (76.7%)	
Distribution of pseudocysts	Body (63%)		Body and Tail (27%)	Head (10%)	
Number of Pseudocyst	Single (86.7%)		Multiple (13.3%)		
Management	Treated conservatively (50%)		Interventional (50%)		

Chest X ray was normal in 66.7% patients 23.3% patients

had unilateral pleural effusion and 10.0% had bilateral pleural effusion .

Of the 50% patients who underwent intervention 46.67% of them were pigtailed image guided. In 20% an open cystogastrostomy was done and in the rest 33.33% cases an ERCP with PD stenting was performed. (Fig 1 about here)

There was complete resolution of the pancreatic pseudocyst in 89.3% of the cases, while 7.1% of the cases there was no resolution and in 3.6% cases there was recurrence of pseudocyst complication in the form of left side pancretico-pleural fistula which was managed by intercostal tube drainage for pancretico-pleural fistula and pig tailing of pseudocyst was seen in one patient. (Fig 2 about here)

One patient had vascular complication in the form of splenic artery pseudoaneurysm with arterio-venous fistula between splenic artery and splenic vein which was managed by coiling of pseudo aneurysm.

In our study group 93.3% survived with a mortality of 6.7%. Mortality was seen in patients having co morbidities like diabetes and hypertension and had bilateral pleural effusion.

DISCUSSION:

Pancreatic pseudocyst is a common complication of pancreatitis. The age group varies from 25 years to 62 years with mean age of 41.3 years. Most patients in our study group were between the age group of 28-37 years (Table1). Male preponderance was seen in our group. Male: female ratio was 9:1; the possible reason could be higher rate of alcohol consumption.

The most common presenting complain was pain in abdomen, 83%, followed by lump in abdominal lump. (Table.1) According to Habashi S et al, pancreatic pseudocyst should be suspected in patients who has persistent abdominal pain, anorexia, or abdominal mass after a case of pancreatitis.^[5] In the study by Mohammed H Al Jawher, pain in abdomen was the complaint in 90% of the patients.^[6]

Alcoholic Pancreatitis was the most common etiologic factor for pancreatic pseudocyst accounting for 66.67% followed by gall stones which was seen in 13.33% cases and with alcohol with gall stones was noted in 6.67%. Traumatic pancreatic pseudocyst formed 13.37% of the cases. (Table 1) According to Pitchumoni et al alcohol-related pancreatitis accounts for 59-78% of all pseudocysts. ^[7] In a study by Usatoff V et al patients with chronic pancreatic pseudocysts had established chronic pancreatitis as a result of alcoholism in 71% of cases. Other causes noted were recurrent attacks of acute pancreatitis (5%), cholelithiasis (4%) or unknown causes (20%). ^[8]

In our study, 10% of the patients had diabetes mellitus and 10% patients had hypertension. 3.3% of the patients had both diabetes and hypertension as associated medical conditions. Overall 23.3% patients had associated co morbidities. . (Table 1)

In our study group 23.3% patients had unilateral pleural effusion and 10% patients had a bilateral pleural effusion on x ray chest.

Most common location for pancreatic pseudocyst was the body of pancreas (60%) followed by body and tail of pan-

creas and then the head of pancreas. (Table 1) Sanfey in a study of 97 cases of pancreatic pseudocyst found near equal distribution of the pseudocysts in the head and body with only 7% appearing in the tail.^[9] According to the study conducted by Bourliere M, Sarles H most of the extra pancreatic pseudocysts originate from the body or tail of the gland.^[10]

In our study, 86.67% of the pseudocysts were single and 13.33% were multiple. (Table 1) which was supported by a study of Frey and Goulet et al where the frequency of multiple pseudocysts was 11% in a study of 131 cases 14% of 91 patients studied respectively.^[11, 12]

The maximum dimension of the pancreatic pseudocyst in our study was 26cm and the minimum was 3 cm with an average diameter was 11.4 cm. 50% of the patients were managed conservatively and 50% required some form of intervention. Of the patients who underwent intervention, 46.67% were percutaneously drained, 20% had an open cystogastrostomy and 33.33% were drained ERCP guided. (Fig 1) 89.3% pseudocysts resolved completely, 7.1% did not resolve while a 3.6% recurred after treatment. (Fig2) Recurrent attack of pancreatitis, PD communication with pseudocyst is the probable cause for non-resolution and recurrence

Amongst the patients in the study 93.3% survived and 6.7% expired. One patient was in the age group 28 to 37 years without any co morbidities and other in 58 to 67 years age group had both diabetes and hypertensive. Both cases alcohol was the etiological factor. The maximum diameter of pseudocyst was 13 and 12 cm respectively and was located in the body region.

Recurrence was seen one case with pancreatic pseudocyst with gall stone disease. In our study there was no statistically significant association between the location of the pseudocyst and the outcome. (P value = 0.284). According to Maringhini A et al the pseudocysts located in the tail of pancreas were less likely to show spontaneous resolution.^[13]

There was no significant association between the maximum dimension of the pseudocyst and the outcome. (P value- 0.6282) Size was a major factor predicting pseudocyst resolution in the Aranha et al.series.^[14] The mean diameter of cystic lesions which resolved was 4±1 cm as compared to a diameter of 9±1 cm in those cysts that did not resolve, which was a significant difference.

CONCLUSION:

Pancreatic pseudocyst is seen predominantly in male population within the age group of 28 to 37 years. Pain in abdomen is the most common presenting complaint, followed by lump in abdominal lump. Alcoholic Pancreatitis is the most common etiologic factor for pancreatic pseudocyst followed by gall stone and a small subset of patients had dual aetiology of gall stone with alcohol in our series. Traumatic pancreatic pseudocyst accounted for 13.37% of the cases. Pseudocysts are mostly solitary in comparison to multiple and are seen mainly in the body area. Large pseudocyst and cysts with communication with pancreatic duct need some form of intervention. Small and thin walled pseudocysts resolve spontaneously.

Fig.1: Interventions for pseudocyst.

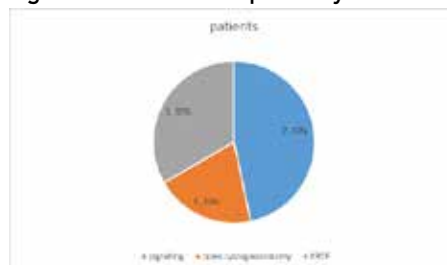
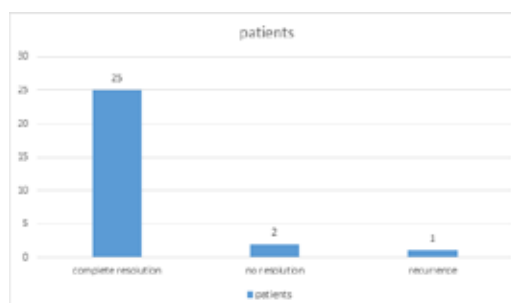


Fig.2: Outcome of cases of pseudocyst.



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