Original Article

A Study on the Clinical Spectrum and Management of Pseudopancreatic Cyst in a Tertiary Care Hospital

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Abstract

Background : Pancreatic pseudocyst is a localized collection of pancreatic secretions surrounded by fibrous tissue, commonly arising after acute or chronic pancreatitis, trauma, or ductal obstruction. It often presents with abdominal pain, lump, or gastrointestinal symptoms. Advances in imaging and drainage techniques have improved diagnosis and management outcomes.

Materials and Methods : This prospective hospital-based study was conducted in the Department of General Surgery, Assam Medical College and Hospital, from January to August 2022. Twenty-five patients diagnosed clinically and radiologically with pancreatic pseudocyst were enrolled. Data on demographics, clinical presentation, etiology, imaging findings, management, and outcomes were collected and analyzed using SPSS v20. Patients were followed up for four months.

Results : Most patients were males (88%) with a mean age of 44.8 years. Alcohol was the predominant etiological factor (72%), and pain abdomen was the universal symptom (100%). Imaging with ultrasonography and CECT abdomen aided diagnosis. Internal drainage was the most common management (40%), followed by external drainage (32%) and conservative treatment (28%). Infection (24%) was the main complication. Recurrence was highest after conservative management.

Discussion : Pancreatic pseudocyst commonly affects middle-aged males with alcohol-induced pancreatitis. Early diagnosis and individualized treatment—particularly internal drainage—offer excellent outcomes and minimal recurrence.

Key words : Pseudocyst, Roux-en-y Cystojejunostomy, Cystogastrostomy, External Drainage, Internal Drainage.

Hidden by its retroperitoneal location, the pancreas has in the past been a somewhat mysterious organ. It is one of the most unforgiving organs in the human body, hence most surgeons avoid palpating it until absolutely essential. The development of non-invasive imaging techniques have led to a much better understanding of pancreatic diseases and pathologies[1].

Pseudo-pancreatic cyst, commonly known as pseudocyst of pancreas or pancreatic pseudocyst, is a localised 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[2].

Pseudo pancreatic cyst was originally described by Morgagni in 1761. The first drainage procedure was undertaken by Gussenbauer in 1883, who marsupialized a pseudocyst to provide external drainage. Transgastric pseudocystogastrostomy was described in 1921 by Rudolf Jedlicka & Koning in 1946 first performed roux-en-y cystojejunostomy[3].

Editor's Comment :

- Pancreatic pseudocyst commonly arises after acute or chronic pancreatitis, particularly in middle-aged males with a history of alcohol use.
- Diagnosis requires strong clinical suspicion supported by imaging like CECT for confirmation and treatment planning.
- Internal drainage offers the best outcomes with minimal recurrence, while prevention through alcohol-reduction awareness and early intervention reduces disease burden.

Investigations to define extent and characteristics of pseudocyst include USG abdomen, CECT abdomen, and MRI abdomen. ERCP is indicated to differentiate mechanical bile duct obstruction due to pseudocyst from stricture of bile duct. Angiography is indicated to detect vascular obstruction[2].

Treatment options include conservative management, external drainage (open or percutaneous, internal drainage (open, laparoscopic, endoscopic), pancreatic resection[2].

Aims and Objectives

To find out the spectrum of clinical presentations and the various modes of management of pseudopancreatic cyst.

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Materials and Methods

Place of Study : Department of General Surgery, Assam Medical College and Hospital.

Duration of Study : January, 2022 to August, 2022.

Type of Study : Hospital based prospective study.

Study Population : All patients diagnosed with clinically with pancreatic pseudocyst and confirmed by radiological investigation were included in study.

Sample size : 25

Selection of Case : All patients who fulfilled the inclusion criteria & exclusion criteria were enrolled after pancreatic pseudocyst was diagnosed clinically and confirmed by radiological investigation. Demographic data was collected including the age and sex of the patient, as well as etiology of pancreatitis. All patients were further evaluated, necessary investigation were done. They were offered individualized treatment and were followed for 4 months.

Inclusion Criteria :

(a) Patients aged 18 years and above. (b) All patients diagnosed with clinically with pancreatic pseudocyst and confirmed radiological investigations were included in study.

Exclusion Criteria :

(a) Acute fluid collections in acute pancreatitis. (b) All the true cyst of pancreas. (c) Neoplastic cystic swelling of pancreas. (d) Hydatid cyst of pancreas. (e) Congenital cysts of pancreas. (f) Patients who did not give consent to participate in study.

Statistical Analysis :

All relevant data was collected, sorted, categorised and analyzed with standard statistical tools using SPSS (Statistical Package for the Social Sciences) software (Version 20, SPSS Inc, Chicago, IL, USA).

Results

In our study, total of 25 cases were taken who attended our institute OPD and emergency Department during the study period.

In our study population, pseudocyst was common in age 31-50 years of age group (68%) with mean age of 44.8 years with most of the patients were male (88%) with M:F ratio was 7:1, which is may be due to increased alcohol intake seen in males.

Most of patients suffered from pain abdomen (100%) followed by lump abdomen (80%) in our study with abdominal distension was seen in 18 patients (72%) along with nausea and vomiting in 11 patients (44%).

Weight loss and fever was seen in 9 patients each (36%) and least common symptom was jaundice seen in 2 patients (8%).

Most of the patients in our study belonged to socioeconomic class 5 (56%) followed by class 4 and 3 (28% and 16%) respectively.

The most common causative factor in our study was alcohol (72%), followed by biliary disease (16%), trauma (8%) and idiopathic (4%) and most of the patients had acute pancreatitis (58%), followed by chronic pancreatitis (32%) and acute on chronic pancreatitis (10%).

Alcohol intake was maximum seen in male (91%) while only 66% in female.

Ultrasound was the first imaging modality in our study for confirmation of the diagnosis and done successfully in almost all cases. CECT was subsequently done for better delineation of anatomy, location and characteristic of pseudocyst. Upper Gastro-intestinal (UGI) endoscopy was done to assess the degree of compression of stomach.

In our study, most common complication in pseudocyst was infection (24%) followed by ascites (4%).

Most of the patients were managed by internal drainage (40%), followed by external drainage (32%) and conservatively (28%). Of those patients who underwent internal drainage, most of them had cystogastrostomy (90%), cystojejunostomy (10%) sometimes (Tables 1& 2, Figs 1 & 2).

Discussion

In our present study, mean age was 44.8 years with male preponderance (88%) which was comparable to study done by V Usatoff, *et al*[4] and Zdanyte E, *et al*[5]. Pain is the most common symptom seen in all patients (100%) with similar findings by V Usatoff, *et al*[4] and Zdanyte E, *et al*[5], followed by lump in abdomen (80%) also suggested by V Usatoff, *et al*[4].

Most of the patients belonged to low socio-economic status working as daily wages workers having moderate to severe alcohol addiction.

In most patients causative factor of pseudocyst due to pancreatitis was alcohol intake followed by biliary disease, trauma and idiopathic. Similar findings were

Table 1 — *Findings of Clinical Examination*

Parameters		Frequency
Site	Epigastrium	22
	Others (extending away from epigastrium)	3
Size	< 6 cm	3
	6-10 cm	8
	> 10 cm	14
Consistency	Cystic	25
	Others	0

Table 2 — *Findings of Radiological Examination*

Parameters		Frequency
Number	1	22
	> 1	3
Location	Head & Neck	8
	Body & Tail	17
Size	< 6 cm	3
	6-10 cm	8
	> 10 cm	14
Wall Thickness	< 6 mm	8
	6-10 mm	10
	> 10 mm	7

Fig 1 — CT Scan of Pseudocyst (red arrow)

noted by D B Adams, *et al*[6] in his study. Thus most of the patients had episode of acute pancreatitis (58%) followed by chronic pancreatitis (32%). Similar findings were noted by RW Parks, *et al*[7].

In our study, patients were examined clinically and radiologically with both having comparable findings thus clinical acumen is paramount in pseudocyst diagnosis with radiological investigation like CECT abdomen confirms and supports the diagnosis and management.

Most common complication was infection (24%), which is higher compared to V Usatoff, *et al*[4] (8%), possibly due to poor nutrition, negligence, heavy alcohol consumption as well as delayed contact to health centre.

Most patients underwent internal drainage (40%), followed by external drainage (32%) and conservative (28%) comparable to Cheruvu, *et al*[8].

On follow up of patients afterwards, recurrence rate in conservative management was 28.57% (Kim ko, *et al*[9]- 22.1%), external drainage 12.5% (Cheruvu, *et al*[8] - 16.67%) and internal drainage 0% (R W Parks, *et al*[7] - 0% & V Usatoff, *et al*[4] - 3%).

Conclusion

Pseudocyst is a common complication of both acute and chronic pancreatitis. As alcohol is one the most common precipitating factor, its use, if decreased by counselling or social awareness, can decrease its prevalence. Its management depends on various factors like patients factors and characteristic of pseudocyst as well expertise present in the treating hospital.

Various treatment modality is available for its management like internal drainage or external drainage or if needed by conservative route. Thus, it is necessary to have an algorithm for the clinical setting and of such patients for prompt diagnosis and managements.

Fig 2 — Intra-operative view of Cystogastrostomy

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