



E-ISSN: 2708-1508  
P-ISSN: 2708-1494  
IJCRS 2020; 2(1): 06-08  
[www.casereportsofsurgery.com](http://www.casereportsofsurgery.com)  
Received: 05-11-2019  
Accepted: 07-12-2019

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## Evaluation of different methods of management in pseudocysts of pancreas

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### Abstract

**Background:** Pancreatic pseudocysts are the most common cystic lesions of the pancreas. Surgical drainage remains the principal method of treating pseudocysts; its pre-eminence has recently been challenged. The introduction of innovative procedures both by the interventional radiologists and therapeutic endoscopists offer the (attractive) ability to drain pancreatic fluid collections non-operatively.

**Aim:** To study the various treatment modalities and overall morbidity and mortality of pancreatic pseudocysts.

**Methodology:** It was a prospective observational study. A study of 20 cases of pseudocysts of pancreas, who were subjected to various procedures, has been carried out between September 2010 to August 2012 at Deccan College of Medical Sciences, Hyderabad.

**Results:** It is predominantly a disease of the elderly men with male to female incidence ratio 4:1. The commonest cause of pseudocysts of the pancreas in this study is chronic pancreatitis with prevalence of 60%. The commonest presentation is upper abdominal pain with upper abdominal mass. Serum amylase levels are not much of value either in diagnosis or in follow-up treatment. The commonest site is lesser sac and common cause in this situation being chronic pancreatitis. In all the cases it was confirmed that the cysts wall is deficient of epithelium by HPE. Cystogastrostomy was the commonest procedure done and the results were very good. Infection was the commonest complication. Mortality was nil.

**Conclusion:** To conclude the in the present study, it was observed that the commonest cause was chronic pancreatitis and the commonest procedure done with good post-operative results was cystogastrostomy.

**Keywords:** Pancreas, pseudocysts, cystojejunostomy, external drainage, mortality

### Introduction

Pancreatic pseudocysts are the most common cystic lesions of the pancreas. They are distinguished from other types of pancreatic cysts by their lack of epithelial lining; Pseudocysts are localized collections of pancreatic juice occurring as a result of pancreatic inflammation or trauma [1-3].

Pancreatic pseudocysts were once thought to be an unusual complication of pancreatitis. With the development of improved imaging techniques, such as ultrasound and CT, they are being recognized in over 10% of cases of pancreatitis. They may rise as a complication of pancreatitis or as a result of trauma to the pancreas [4, 5, 6].

Although surgical drainage remains the principal method of treating pseudocysts; its pre-eminence has recently been challenged. The introduction of innovative procedures both by the interventional radiologists and therapeutic endoscopists offer the (attractive) ability to drain pancreatic fluid collections non-operatively.

These new and innovative therapies compete with the traditional operative treatment of pancreatic pseudocysts. But despite these technical advances, several recent reports by surgeons have challenged the previous accepted surgical dogma that established pancreatic pseudocysts require operative treatment. Current management strategies are therefore controversial [7, 9, 10].

### Aim of the study

1. To study the various treatment modalities for pancreatic pseudocysts and their effectiveness.
2. To study the overall morbidity and mortality of this conditions at Deccan College of Medical Sciences and possibly compare with documented literature.

## Materials and Methods

20 CASES OF PANCREATIC pseudocysts were subjected to various investigative procedures and various surgical procedures and were studied to analyse the various treatment modalities for pseudo pancreatic cysts.

- All the patients included in this study were proven to have pancreatic pseudocysts before treatment was undertaken.
- All the cases were subjected to various investigations to confirm the diagnosis pre-operatively.
- Sophisticated and costly investigations like CT scan/ERCP were done in few cases only.
- At the time of surgery, the presence of cysts was confirmed by needle aspiration.
- All the patients were followed post operatively for atleast six months clinically, and by serum amylase levels and ultrasound of the abdomen.

## Exclusion Criteria

- All the true cysts of pancreas
- Neoplastic cystic swelling of pancreas
- Hydatid cysts of pancreas
- Congenital cysts of pancreas.

## Results and Data Analysis

**Table 1:** Serum amylase (In somogyi units)

Serum amylase	No. of patients (N=20)
0-200	4
201-400	6
401-600	6
601-800	3
801-1000	1

**Table 2:** Sex of the patients

Sex	No. of patients	%
Male	16	80%
Female	04	20%

In the present study, total no. of males were 16 and females were 4. Male: female ratio 4:1

**Table 3:** Age group distribution in years

Age (Yrs)	No. Of patients
0-10	0
11-20	3
21-30	3
31-40	4
41-50	6
51-60	4

In the present study common age group is 41-50.

**Table 4:** Site Incidence

Site	Number	%
Lesser sac	8	40%
Head	2	10%
Body	4	20%
Body & Tail	6	30%

In the present study, the common site is lesser sac (40%) and followed by body and tail of pancreas (30%).

## Age distribution

Among the 20 patients studied, the commonest age group was found to be 41-50 yrs. The mean age group was found to be 39 yrs. The results of the other two studies were also near the same age. This may be due to the reason that alcohol consumption is more in this age group.

**Table 5:** Incidence of etiology

Etiology	No. of patients	%
Chronic pancreatitis	12	60%
Acute Pancreatitis	8	40%

In the present study, we found major chronic pancreatitis.

**Table 6:** Treatment Modality

Treatment modality	No. of patients	%
Conservative	1	5%
Percutaneous drainage-(PD)	2	10%
External Drainage (ED) Surgical	3	14%
Cystogastrostomy-(CGY)	8	37%
Cystojejunostomy-(CJY)	4	24%
Pancreatectomy (PANC)	2	10%

The method of choice for treatment was cystogastrostomy.

## Discussion

The total patients studied in this study is 20. The patients were attending the surgery outpatients department of Deccan College of Medical Science & Hospital, Hyderabad.

## Incidence of etiology

In the present study shown that chronic pancreatitis (60%) was found to be the most commonest cause of pseudocysts pancreas. There were no cases of post traumatic pseudocysts in this study. Nealon *et al.* [2] reported data collected from Wyne State University Hospital, Detroit.

Etiology	No. of Patients	%
Chronic pancreatitis	121	54%
Acute pancreatitis	62	28%
Trauma	25	12%
Idiopathic	13	6%

In the above study, a total of 221 patients were studied. The commonest etiology was found similar to the current study i.e. Chronic pancreatitis (54%) whereas second commonest was acute pancreatitis. 12% of cases were reported due to trauma which included blunt, penetrating and operative trauma. 6% of cases were to be idiopathic.

## Sex Incidence

In this study it was observed to be more common in males (80%) than females. This has been compared with other study

Sex	Nealon <i>et al.</i> [2]	Andren-Sandberg [8]
Male	79.41%	75
Female	20.58%	25

Both the studies have almost similar findings showing male preponderance as is seen in the current study. This is mostly due to the fact that alcohol consumption is more common in males than females.

	Nealon <i>et al.</i> [2]	Andren-Sandberg <i>et al.</i> [8]	Current study
Mean age group	44	39	39

### Presentation

The most common mode of presentation in the current study was pain abdomen and mass per abdomen

Clinical feature	Nealon <i>et al.</i> [2]	Andren-Sandberg <i>et al.</i> [8]	Current study
Pain abdomen	67.67%	100%	100%
Mass per abdomen	32.35%	70%	100%

### Complications

In the current study only one patient presented with wound infection. No other complication was observed in this study.

Complication	Andren-Sandberg <i>et al.</i> [8]	Current study
Infection	8.03%	5%
Ascitis	1.7%	0%

### Treatment

The commonest treatment modality employed in the current study was cystogastrostomy (37%) followed by cystojejunostomy (24%). External drainage was done in 14% cases.

Treatment	Nealon <i>et al.</i> [2]	Andren-Sandberg <i>et al.</i> [8]	Present study
Internal drainage	18%	3%	61%
External drainage	38%	40%	14%
Pancreatic resection	3%	50%	10%

In the present study, conservative management was done in 5% of cases and percutaneous drainage was done in 10% of patients. Internal drainage was the predominant modality of treatment used.

In the study done by Nealon *et al.* [2] external drainage (38%) was the commonly used modality followed by internal drainage.

In the study conducted by Andren-Sandberg *et al.* [8] Pancreatic resection was more commonly done. Internal drainage was done in only 3% of cases whereas external drainage was done in 40% of cases.

### Conclusion

To conclude the in the present study, it was observed that the commonest cause was chronic pancreatitis and the commonest procedure done with good post-operative results was cystogastrostomy. The second commonest procedure done was cystojejunostomy. The post-operative complications include wound infection in one patient. Therefore according to this study cystogastrostomy was found to be the best treatment modality among others.

### Acknowledgment

The authors would like than to department of General Surgery for providing all the facilities to carry out this work

### Conflict of Interest: None

### Financial Support: Nil

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