

Original Research Article

Clinical study and management of pseudocyst of pancreas

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Received: 26 January 2017

Accepted: 23 February 2017

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ABSTRACT

Background: Pancreatic pseudocysts can occur as a complication of acute or chronic pancreatitis. Understanding of pseudocysts has changed with times due to advancement in radiology and introduction of new treatment modalities. This study was done to access clinical features etiology and various managements for pseudocyst in a tertiary care hospital.

Methods: It is a prospective study of 40 adult patients admitted in Victoria and Bowring and Lady Curzon Hospital, attached to Bangalore Medical College and Research Institute, Karnataka, India from January 2015 to December 2016.

Results: Pseudocysts are more common in males. The commonest etiology associated was alcohol. Ultrasound was the basic radiological investigation done in all patients followed by CECT abdomen. Complications associated with pseudocyst were Gastric outlet obstruction and ascites. Internal drainage was done in most of the patients. Post drainage complications included infection which was managed by antibiotics and endoscopic drainage in case of recollection. Pain was most important post-operative complication. Endoscopic drainage is being preferred as it is less invasive, has a high long term success rate, has shorter duration of hospital stay and more patient comfort.

Conclusions: Pseudocyst of pancreas is most commonly seen in males probably because of alcoholism. Clinical presentation can be varied, with pain abdomen being the most common complaint followed by, nausea vomiting. Initial management consists of supportive care and if the symptoms persist and complications develop surgical drainage was the most common management modality. Newer modalities of treatments like endoscopic intervention have an added advantage of lesser pain, shorter duration of hospital stay and recurrence.

Keywords: CECT, Cystogastrostomy, Cystojejunostomy Endoscopic drainage, Pancreatitis, Pseudocyst pancreas

INTRODUCTION

Pancreatic pseudocysts can occur as a complication of acute or chronic pancreatitis.¹ Diagnosis is most often accomplished by USG abdomen and CECT abdomen.²

Most of them resolve spontaneously with supportive care. However, outcome is dependent on size and duration,

with larger cysts prone for complications. Understanding of pseudocysts has changed with times due to advancement in radiology and introduction of new treatment modalities.³

The two main indications for some type of invasive drainage procedure are persistent patient symptoms or the presence of complications. Endoscopic (trans papillary or

transmural) drainage, percutaneous catheter drainage, surgery are drainage modalities available.⁴



Figure 1: Ultrasonographic image of pseudocyst.

Although there are no prospective controlled studies that have compared directly these approaches. But in general, endoscopic drainage is becoming the preferred approach because it is less invasive than surgery, avoids the need for external drain, and has a high long-term success rate.¹

Hence a multidisciplinary team comprising of therapeutic endoscopist, interventional radiologist and pancreatic surgeon should be involved in all cases.⁵ In this study we would be throwing light on the, clinical features etiology and various managements for pseudocyst in a tertiary care hospital.

METHODS

It is a prospective study of 40 adult patients admitted in Victoria and Bowring and Lady Curzon Hospital, attached to Bangalore Medical College and Research Institute, Bangalore, India from January 2015 to December 2016.

After admission, data for study was collected by history, clinical findings, relevant diagnostic investigations performed over patient.

Inclusion criteria

- Patients diagnosed with pseudo cyst of pancreas, using ultrasound abdomen/ contrast enhanced computerized tomography scan abdomen.
- Patient giving valid informed consent.

Exclusion criteria

- Patients less than 17 years of age, diagnosed with pseudocyst of pancreas.
- Patients diagnosed as cystic neoplasms of pancreas.

All patients with acute pseudocyst were managed conservatively by symptomatic treatment and followed

up to see regression or maturation of cyst. All mature cysts were treated by the most appropriate drainage procedure.



Figure 2: Pseudocyst of pancreas.

Percutaneous drainage was done under radiological guidance. Endoscopic drainage and surgical drainage (cysto gastrostomy and roux-en-y cystojejunostomy) were done in selected cases. After discharge patients were followed up for a period of 6 months to 1½ years. Details were then charted in the study proforma and the data was analyzed with respect to various aims and objectives of the study.

RESULTS

It was a prospective study of 40 adult patients admitted in Victoria and Bowring and Lady Curzon hospital, attached to Bangalore Medical College and Research Institute, Bangalore, India.

Age

In this study 32.5% of patients belong to age group between 21-30 and 25% between 31-40 age group with a mean age of 39±13 years. Only 20% of cases are seen beyond the age of 50 years.

Table 1: Age distribution.

Age in years	Number of patients	Percentage
21-30	13	32.5
31-40	10	25
41-50	9	22.5
51-60	4	10
61-70	4	10
Total	40	100

Sex

In our study of 40 patients, 90% were males and 10% were females indicating that the diseases more common in males in the ratio of male:female 9:1.

Table 2: Sex distribution.

Gender	Number of patients	Percentage
Male	36	90
Female	4	10
Total	40	100.0

Etiology

The commonest etiology associated with pseudocyst was alcohol, which was seen in 75% of patients followed by biliary tract disease seen in 15% of patients Table 3.

Table 3: Etiology.

Etiology	Number of patients	%
Alcohol	30	75
Biliary tract disease	6	15
Trauma	1	2.5
Hyperlipidemia	2	5.0
Idiopathic	1	2.5
Operative trauma	0	0
Total	40	100.0

Clinical features

Pseudocysts presents as pain abdomen in 85% of patients followed by mass per abdomen in 60%. Nausea/ vomiting was seen in 40% of patients. In 85% of patients there was epigastric tenderness followed by mass abdomen seen in 60% of patients.

Table 4: Clinical features.

Clinical features	Number of patients	Percentage
Pain abdomen	34	85
Nausea/Vomiting	16	40
Mass abdomen	24	60
Anorexia	9	22.5
Fever	4	10
Weight loss	4	10
Jaundice	5	12.5

Serological investigation

Elevated amylase was seen in 57.5% of patients, and lipase in 80% of patients. Elevated drain amylase/lipase was seen in all 22 patients who underwent either endoscopic or open surgery.

Table 5: Serology.

Investigations	Elevated	Percentage
Serum amylase	23	57.5
Serum lipase	32	80
Drain amylase/lipase	22	55

Co morbidities

58% of the patients have co-morbid conditions which contributes to longer hospital stay. 25% of patients in this study had hypertension.

Table 6: Co-morbid conditions.

Co-morbid conditions	Number of patients	%
Absent	17	42.5
Present	23	57.5
LD	2	5
DM	9	22.5
HTN	10	25
IHD	2	5

Complications

Gastric outlet obstruction was seen in 10% of patients followed by ascites seen in 7.5% of patients. There was no rupture or haemorrhage seen in this study.

Table 7: Complications.

Complications features	Number of patients	%
Infections	2	5
Ascites	3	7.5
Obstruction	4	10
Rupture	0	0
Haemorrhage	0	0

Management

13 patients were managed conservatively, followed by open cystogastrostomy in 12. 7 patients underwent endoscopic cystogastrostomy. Open cysto jejunostomy was done on 3 patients and laproscopic cystogastrostomy in 1 patient.

Table 8: Management.

Type of management	Number	Percentage
Conservative	13	32.5
Percutaneous drainage	2	5
Endoscopic cystogastrostomy	7	17.5
Endoscopic cystoduodenostomy	0	0
Endoscopic trans papillary drainage	2	5
Open cystogastrostomy	12	30
Open cystojejunostomy	3	7.5
External drainage	0	0
Laparoscopic cystogastrostomy	1	2.5

Post-operative complication

Most common post-operative complication was wound infection seen in 15% of patients followed by recollection in 3 patients. All the patients were managed conservatively with antibiotics.

Table 9: Post-operative complication.

Complication	Number	%
Infection	6	15
Recollection	3	7.5
Bleeding	1	2.5

Hospital stay

In this study 52.5% of patients stayed in the hospital for a period of 1-2 weeks, The mean duration of hospital stay was 13.45 ± 6 days. It was noted that the patient having other co-morbidities and those who had complications post procedure had a longer duration of stay. The below table depicts the hospital stay with respect to different modalities of management.

Table 10: Hospital stay.

Total hospital stay in week (s)	Number of patients	%
1	3	7.5
1 - 2	21	52.5
2 - 3	11	27.5
>3	5	12.5

DISCUSSION

In this study, majority belonged to 21-30 years of age accounting for 32.5% followed by 31-40 years of age. Mean age was 39 ± 13 years. Thus, pseudocyst of pancreas is more common in young and middle age, probably due to increased consumption of alcohol in this age group. From the above data, pseudocyst is higher in males than females, owing to the increased consumption of alcohol. In our study, 75% of patients had history of consumption of alcohol, while 15% were diagnosed with biliary tract disease. Per Walt et al 70% of patients had history of consumption of alcohol thus making it an important etiology for pseudocyst of pancreas.⁷ In present study 85% patients presented with abdominal pain, followed by mass abdomen in 60% of patients. 40% of patients had nausea and vomiting. Thus it is clear that pain abdomen and nausea/vomiting are commonest symptoms which brings the patient to hospital.

Most common complication in present study was gastric outlet obstruction seen in 10% of patients followed by ascites and infection in 7.5% and 5% of patients respectively. Thus a pseudocyst can present with a varied range of complications mainly based on its size location and duration. Based on present radiological imaging

acute pancreatitis was seen in 22.5% of patients and chronic in 40% of patients. Rosso et al showed that in acute pancreatitis pseudocysts arise in 10-20%, and in about 20-40% in chronic pancreatitis.⁸ Internal drainage was the most common performed procedure in our study. In our series total of 22.5% of patients underwent endoscopic drainage, of whom 77.8% underwent transmural drainage. Baron et al performed endoscopic drainage in 64 patients in which 84.3% underwent transmural drainage.^{9,10}

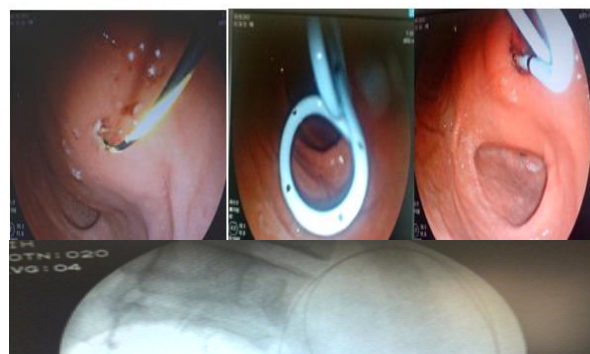


Figure 3: Endoscopic drainage of pseudocyst and fluoroscopic picture showing the guide wire curled inside cyst cavity.

Studies have concluded that the final management option depends on the availability of resources and local expertise. 37.5% of patients in present study underwent internal drainage as compared to 22.5% of patients who were managed endoscopically.¹¹ All the patients were followed up for a period of 6 months to 1½ years post discharge. Those who were managed conservatively had complete resolution of the cyst at the end of study period. Endoscopically managed patients were followed up with USG abdomen every month and double pig tail were removed in 5 patients.¹²

CONCLUSION

Summarizing the findings of the study, details furnished here are in accordance with the statistics of the study. Pseudocysts are more common in males than females. Most of the patients belonged to the age group of 21-30 years followed by those aged between 31-40 years. The commonest etiology associated with pseudocyst was alcohol, followed by biliary tract disease. Pain abdomen followed by mass abdomen was the most common clinical feature. Complications associated with pseudocyst were Gastric outlet obstruction and ascites. Elevated amylase was seen in 23 patients (57.5%), and lipase in 32 (80%) of patients. Elevated drain amylase/lipase was seen in patients who underwent either endoscopic or open surgery. Ultrasound was the basic radiological investigation done in all patients followed by CECT abdomen in where USG was not useful in diagnosis. It can be concluded that initially a conservative approach must be followed. If at all intervention is

needed But in general endoscopic drainage is being preferred as it is less invasive, has a high long term success rate, has shorter duration of hospital stay and more patient comfort. Wound infections, pain and bleeding are respectively the most important complications noted post intervention.

ACKNOWLEDGEMENTS

Authors would like to thank all the participants of this study and the people who were helping hand in completing this study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Babu GR, Venkatesh S, Jain P, Ramakrishnan K. Clinical study and management of pseudocyst of pancreas. Int Surg J 2017;4:1426-30.