



“CLINICAL STUDY AND MANAGEMENT OF PSEUDOCYST OF PANCREAS”

Dr.Janga Jayaram

M.S., Assistant Professor of General Surgery, Kurnool Medical College / GGH, Kurnool - Corresponding Author

Dr.S.Sabira

M.S., Assistant Professor of General Surgery, Kurnool Medical College / GGH, Kurnool

ABSTRACT Pseudocyst is a common complication of pancreatitis. Accurate diagnosis and timely management are important. . The current study aims to review the various diagnostic and therapeutic procedures available for intervention and the relative efficacy of different management strategies for pseudocysts.

30 patients with signs and symptoms of pseudocyst of pancreas admitted in Government General Hospital, Kurnool during October 2014 to October 2016 were studied.

Early diagnosis with the aid of USG / CECT abdomen and timely management - internal drainage for mature cysts, external drainage for complicated cysts results in good prognosis.

KEYWORDS : Pseudocyst, internal drainage, external drainage

INTRODUCTION

Pancreatic pseudocyst is a localized 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.¹

Asymptomatic pseudocysts regardless of size and duration can be safely observed, provided they are carefully monitored and are not increasing in size. Intervention is mandatory only in the presence of symptoms, complications, or increase in size or there is any doubt of malignancy.

AIMS & OBJECTIVES

- To analyze the risk factors, natural history, complications, and relative frequency of pseudocyst of pancreas in relation to age and sex.
- To establish an accurate diagnosis by relevant investigations, and to evaluate the changing trends /relative efficacy of various modes of management like conservative, percutaneous drainage and surgery.

PATIENTS AND METHODS :

Place of study: Government General Hospital, Kurnool

Study Design: Prospective study

Study period: 2 years, October 2014 to October 2016

Total number of patients studied: 30

All the patients with suspected pseudocyst of pancreas were investigated, offered individualized treatment and followed up.

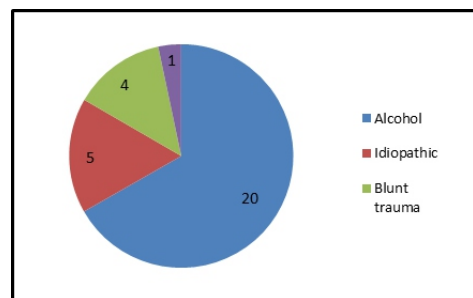
Data related to the objectives of the study were collected. Collected data were analysed by comparing with various standard studies.

RESULTS:

In our study of 30 patients, pseudocyst was common in 31-50 years age group (50%) with a mean age of 37 years. M: F ratio was 5:1. This is probably due to alcohol abuse which is more common in males in this age group.

- The most common etiological factor was alcohol, which was present in 66.6%. This was followed by idiopathic group (16.6%), blunt trauma (13.3%), and biliary disease being causative in 3.33%.

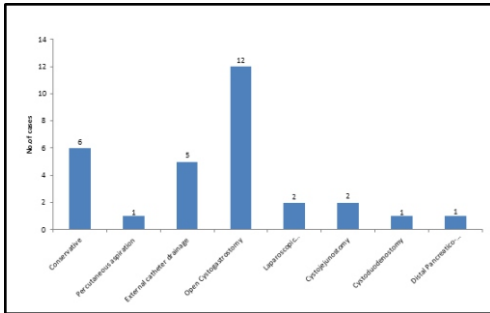
Graph 1 : Risk factors



- Abdominal pain and tenderness are the most common presenting sign and symptom (in 100%).
- Incidence of palpable mass per abdomen was 80% (24), but with usage of USG and CECT-scan pseudocyst was detected in all the patients.
- Uncommon presentations were ascites (6.6%), jaundice (3.3%) and hematemesis/melena (3.3%).
- Fever was present in 4 patients (13.3%), most of whom had an infected pseudocyst.
- USG was the best primary investigating modality for the diagnosis of pseudocyst and was able to detect pseudocyst in all the patients, though the extent and complications were best clarified by CECT scan of the abdomen. Upper GI endoscopy and Barium meal were done in 56.6% (17) and 16.6% (5) of the cases respectively, to know the degree of compression on the stomach.
- Infection was a common complication present in 13.3% of patients^{2,3} followed by ascites (6.6%), obstruction, rupture and hemorrhage in 3.33% of cases each. The patients with infection and ascites were mostly managed by external catheter drainage.
- Surgery was the mainstay of treatment in majority of the patients - with cystogastrostomy being the most commonly performed procedure in 14 patients (46.66%) – 12 patients underwent Open Cystogastrostomy and 2 patients with appropriately located pseudocysts in the lesser sac arising from the body of pancreas and indenting the posterior gastric wall were offered Laparoscopic anterior trans-gastric Cystogastrostomy
- Conservative management was successful in 6 (20%) patients.
- External catheter drainage was needed in 5 (16.66%) patients, especially those with infected pseudocysts / ascites and in 1 patient who had ruptured pseudocyst with gross ascites - An ERCP demonstrated duct disruption and the patient underwent pancreatic duct stent placement with subsequent resolution of ascites.
- Percutaneous USG guided aspiration sufficed in 1 (3.33%) patient

with a small collection in the sub-hepatic pouch.

- The other surgical procedures performed were: Roux-en-Y Cystojejunostomy in 2 (6.66%) patients, Cystoduodenostomy was done in 1 (3.33%) patient.
- 1 patient who presented with massive hematemesis and found to have splenic artery pseudoaneurysm with hemorrhagic pseudocyst in the tail of the pancreas on CECT underwent Distal Pancreatic-splenectomy.⁴ The patient succumbed to death on 1st post operative day due to hemodynamic instability and profound shock.
- In all the surgical cases, the pseudocyst fluid was rich in amylase and the cyst wall biopsy was negative for malignancy.



Follow up : The patients were followed up for a period of 3 – 6 months. Two patients developed recurrence but refused readmission / further treatment. 3 cases were lost to follow up.



Fig 1. Pseudocyst fluid being aspirated through posterior wall of stomach

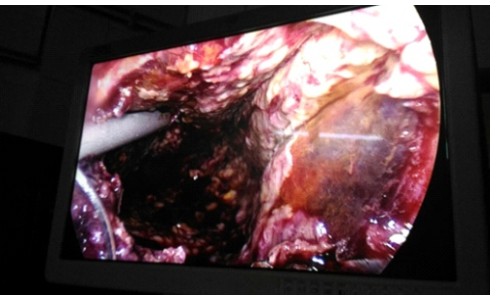


Fig 2. Laparoscopic anterior trans-gastric cysto-gastrostomy

DISCUSSION

Most of the results of our study were in agreement when compared

with two standard studies by Tuula kiviluoto et al⁵ (1989) and V. Usatoff et al (2000).⁶

Despite the many alternatives and less invasive approaches, it is important to emphasize that the most effective and reliable means of treating a pseudocyst is internal drainage by an open surgical approach. Treatment commonly employed in our study was : internal drainage in 53.3%.

This is compared with study group of Tuula kiviluoto et al (1989) and V.Usatoff et al (2000).

Treatment	Present study	Tuula kiviluoto et al	V.Usatoff et al
Internal drainage	60%	18%	3%
External drainage	16.6%	38%	40%
Pancreatic resection	3.3%	3%	50%

Laparoscopic procedures

Laparoscopic intraluminal cystogastrostomy was first described by Gagner and Way et al.

At GEM Hospital, India, in 2007, Chinnusamy Palanivelu et al evaluated 108 cases with pseudocyst managed laparoscopically.⁷

Laparoscopic pseudocyst surgery is minimally invasive, provides detailed information about pseudocyst location and the relationship with adjacent organs, and enables effective drainage.

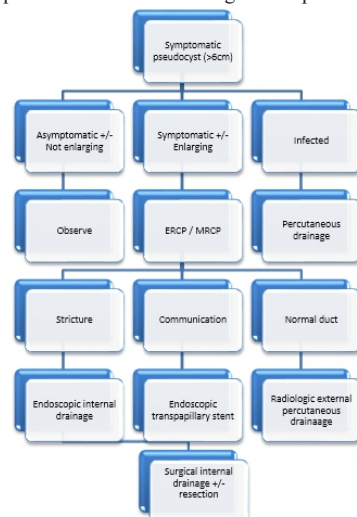
The morbidity is low, cyst wall biopsy is achievable and cholecystectomy can be added to the procedure in the presence of biliary pancreatitis.

In our study, 2 patients with appropriately located pseudocysts in the lesser sac arising from the body of pancreas and indenting the posterior gastric wall were offered Laparoscopic anterior trans-gastric cystogastrostomy (mean operating time = 110 min; mean hospital stay = 6 days) and the outcomes were excellent. Laparoscopic surgery for internal drainage of pseudocyst of pancreas is a safe procedure and offers all the benefits of minimally invasive surgery, but needs expert skills.

Endoscopic drainage procedures can be accomplished by trans-mural or trans-papillary route, but are associated with a higher complication rate (20%) and are limited to specialised centres.⁸ Endoscopic drainage procedures for pseudocysts could not be performed in our study setup due to lack of necessary equipment and expertise.

CONCLUSION:

- Pseudocyst of pancreas represents a common problem in patients with acute and chronic pancreatitis.
- The treatment of choice for pancreatic pseudocysts depends on a number of factors, including size, number, and location of pseudocysts; whether the main pancreatic duct is obstructed or communicates with the pseudocyst; and whether there are complications of the pseudocyst. The most important factor dictating the mode of treatment is local expertise.⁹
- It is necessary to develop a rational treatment algorithm that is appropriate for the clinical setting and the patient.



Algorithm for investigation and treatment of pancreatic pseudocysts. ERCP, Endoscopic retrograde cholangiopancreatography; MRCP, Magnetic resonance cholangiopancreatography.

REFERENCES

1. Ernest L, Rosato, Christopher J, Sonnenday, Keith D, Lillmoe, Carles J, Yeo. Pseudocyst and other complications of pancreatitis. In : Shackelford's surgery of alimentary tract. Carles J Yeo, Danies T. Dempsey, Andrews Khein, et al., ed. 7th Ed., Saunders Elsevier. 2013; p.1144-1167.
2. Rau BM, Beger HG. Surgical management of pseudocysts after acute pancreatitis. In: Beger HG, Matsuno S, Cameron JL, Rau BM, Sunamura M, Schulick RD, eds. Diseases of the Pancreas. Springer Berlin Heidelberg;2008:259-270.
3. Barthet M, Lamblin G, Gasmi M, Vitton V, Desjeux A, Grimaud JC. Clinical usefulness of a treatment algorithm for pancreatic pseudocysts. *Gastrointest Endosc*. 2008;67:245-252.
4. Balachandra S, Sriwardena AK: Systematic appraisal of the management of the major vascular complications of pancreatitis. *Am J Surg* 2005;190:489.
5. Tuula Kiviluoto, MD; Leena Kivisaari, MD; Eero Kivilaakso, MD et al - Pseudocysts in Chronic Pancreatitis : Surgical Results in 102 Consecutive Patients. *Arch Surg*. 1989;124(2):240-243.
6. Usatoff V, Brancatisano R, and Williams RCN. Operative treatment of pseudocysts in patients with chronic pancreatitis. *Br J Surg* 2000;87:1494- 1499.
7. Palanivelu C, et al. Management of pancreatic pseudocyst in the era of laparoscopic surgery—Experience from a tertiary centre. *Surg Endosc* 2007.
8. Varadarajulu S, Noone T, Tutuian R: Predictors of outcome in pancreatic duct disruption managed by endoscopic transpapillary stent placement. *Gastroint Endosc* 2005; 61:568.
9. Andersson B, Andren-Sandberg A, Andersson R. Survey of the management of pancreatic pseudocysts in Sweden. *Scand J Gastroenterol*. 2009;44:1252-58.