

# PANCREATIC PSEUDOCYSTS: Clinical Features and Management

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## INTRODUCTION

PANCREATIC PSEUDOCYSTS, a uncommon but not a rare condition, is a important complication of pancreatitis. At a recent clinical gastroenterology conference (Winship, 1977), it was concluded that the pseudocyst is "a serious condition with great morbidity, which constitutes a threat to life." Early recognition and careful management is essential if the serious complications of this condition are to be avoided.

We review the clinical features and management of six patients with pancreatic pseudocysts requiring surgical drainage, that we have seen in the past two years in the Medical and Surgical Units of the National University at the General Hospital, Kuala Lumpur.

## RESULTS

Six cases of pancreatic pseudocysts occurred between 1976 and 1978 amongst the admissions into the surgical and medical units of the National University at General Hospital, Kuala Lumpur. All patients were males; two were Malays, two were Punjabis, one was a South Indian and one was a Chinese. Their average age was 30.7 years (range of 20 to 41 years).

### Etiology of pancreatitis and pseudocyst:

Abdominal trauma accounted for two patients (in one patient one week prior to admission and in another, four weeks prior to admission). One patient gave a definite history of heavy alcohol ingestion prior to onset of epigastric pain; one patient had proven gall-bladder disease with calculi. There was no etiology established in two patients (both Malays)

### Clinical Features:

The relevant clinical features in our six patients are summarised in Table I. Abdominal pain occurred in all; five were epigastric in location and one was left hypochondrial. The duration of pain prior to admission ranged from three days to eight weeks. In three patients the pain was described as very severe and was associated with vomiting and nausea. Fever (average of 38°C) was evident only in one of our patients. One patient had diarrhoea associated with epigastric pain and was admitted to the medical ward with the initial diagnosis of gastro-enteritis. A definite epigastric mass was palpable in three patients; in one patient, a vague epigastric mass was felt; the patient with the left hypochondrial pain had a mass in the epigastrium extending into the left hypochondrium. Only one patient complained on admission of progressive distension of upper abdomen. None of our patients were jaundiced at admission and there was no clinical evidence of ascites.

Table I  
Clinical Features of Patients with Pancreatic Pseudocysts

Clinical Features	No. of patients with pseudocysts.
Epigastric pain	5
Left hypochondrial pain	1
Nausea and vomiting	3
Fever	1
Diarrhoea	1
Palpable abdominal mass	5
Leucocytosis	2
Elevated serum amylase levels	6

The haemoglobin ranged from 9.8 gm percent to 14.2 gm percent. The white cell count averaged 8,600 cells per ml. (range of 7,000 to 10,800). Only 2 patients had leucocytosis (counts more than 10,000 cells per ml.). The serum amylase levels

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were increased in all patients — the range being 300 to 2000 Somogyi unit/100 ml. (average being 914 Somogyi units/100 ml.). Of these, only two patients had values less than 800 Somogyi units/100 ml.

Five of the six patients had barium meal studies performed and all five had evidence of a large well defined smooth edged mass in the region of the pancreas causing displacement of the stomach, transverse colon and small bowel. The plain abdominal x-rays and the chest x-rays were not helpful in establishing the diagnosis.

### Complications

No complication of pancreatic pseudocyst occurred in our series.

### Management

All six patients were surgically treated. Five patients had drainage via a cystogastrostomy and one patient had a cysto-jejunosotomy and a Roux-en-Y procedure performed. There were no significant complications to the procedures. The follow-up period of these six patients has ranged from 6 months to 18 months and there has been no recurrence of the pseudocyst.

### Size of pseudocyst:

The amount of fluid aspirated was measured in four patients in our series, and the average was 3.3 litres with a range of 1.7 litres to 4.5 litres.

### DISCUSSION

The true incidence of pancreatic pseudocysts is difficult to estimate as some are too small to produce symptoms or enough symptoms to result in surgical exploration — and these are omitted in estimates of incidence. It is hoped that with the availability of newer radiographic (Eaton, 1973) and scanning techniques (Leopold and Asher, 1976), more information can be gathered about the true incidence. The occurrence of six cases over a period of two years compares well with the experience of Owens and Hamit (1977) who saw 19 patients with 21 pseudocysts in an American Hospital over six years.

Caravati *et al.*, (1966) records a peak age incidence of 30 to 50 years. Our patients were younger with an average age of 30.7 years.

In the West, alcohol abuse is the most common cause (Owens and Hamit, 1977) and up to 10 per cent of patients with alcoholic pancreatitis may develop a pseudocyst (Caravati *et al.*, 1966). Only one of our six patients had a history of alcohol abuse. The true incidence of traumatic pseudocysts has been increasing and two of our six patients had traumatic pancreatic pseudocysts. Owens and Hamit (1977) noted two patients out of 19 with proven biliary tract disease; we had one such patient.

The clinical features noted in our patients were fairly typical of pseudocysts. Clinical symptoms of abdominal pain, usually epigastric, nausea and vomiting, weight loss and some fever are most commonly noted, with diarrhoea and jaundice observed less frequently (Winship, 1977). One of our patients had fever; one had diarrhoea but none had jaundice. Although fever and leucocytosis are more common with pancreatic abscesses than with pseudocysts, they do occur with uncomplicated pseudocysts. In five of our six patients, the abdominal mass was palpable; experience elsewhere record palpable mass only in half the patients with the pseudocysts (Winship, 1977). Although all our patients had elevated serum amylase, only 50 per cent of patients with pseudocysts show elevated serum amylase or lipase (Winship, 1977).

The radiographic techniques used in the diagnosis of pancreatic pseudocysts include chest radiograph (Komaki, 1974), supine radiograph of the abdomen, barium meal and hypotonic duodenography (Eaton, 1973). In our six patients, the chest x-rays and the plain abdomen x-rays were not useful; the barium meals were helpful in the diagnosis. Direct radiological and scanning techniques becoming useful are ultrasonography (Leopold, 1976), selective coeliac and superior mesenteric and subselective pancreatic angiography (Reuter, 1972). The use of isotopic pancreatic scanning has been disappointing and the role of computerized axial tomography (a new and promising technique) has not been fully established in the diagnosis of pancreatic disease. None of these techniques were employed in our six patients as the clinical diagnosis was clear.

Our present knowledge of the natural history of pancreatic pseudocyst is incomplete. There is evidence to show that some pseudocysts do resolve

spontaneously (Bradley, 1975). Conservative medical management may have a place in some selected patients with uncomplicated pseudocysts. This involves close serial observation for several weeks or until resolution occurs. The serial observation should include clinical means (e.g. size of abdominal mass), serial ultrasonography (as it is inexpensive and non-invasive) and serial creatinine-amylase clearance ratio determination (Vagerier, 1969). Surgical intervention earlier than 6 weeks of onset of acute pancreatitis has a mortality of 60 per cent; intervention after 6 weeks has a mortality of 9 per cent (Carilli, 1967). Surgical intervention however is indicated for enlarging cysts, symptomatic cysts, persistent cysts and complicated cysts. In all our 6 patients surgical drainage was only performed after 6 weeks of the acute episode.

Although we had no complication, the important ones include the pseudocyst as a space occupying lesion, conversion to an abscess, haemorrhage into the pseudocysts or from the pseudocyst, perforation or rupture, jaundice and intestinal obstruction.

All our six patients with pancreatic pseudocysts had internal drainage of the cysts performed; five has cysto-gastrostomy, and one, a cysto-jejunosotomy and a Roux-en-Y procedure. Although external drainage was satisfactory, Owens and Hamit (1977) felt that the preferred treatment for pancreatic pseudocysts was internal drainage particularly cystogastrostomy. In the surgical treatment of pseudocysts the device of operation depends on the location of the pseudocysts and the condition of the patient. A biopsy is often indicated to rule out cystadenocarcinoma, as five of the patients from the Mayo Clinic with cancer and pancreatitis developed a pancreatic pseudocyst (Gambill, 1971).

In conclusion we feel that it would be safe to observe (with serial evaluation) an uncomplicated acute pancreatic pseudocyst for 3 to 5 weeks. If the pseudocysts does not resolve by then, surgical treatment is the rational therapy.

## SUMMARY

The clinical features and management of six patients with pancreatic pseudocysts occurring between 1976 and 1978 in the Medical and Surgical units of University Kebangsaan is reviewed. Epigastric pain, nausea and vomiting, a palpable abdominal mass and elevated serum amylase levels were common findings in the six patients. None of the patients had any serious complications of pseudocysts. All had surgical intervention and internal drainage of the pseudocysts; five had cystogastrostomy and one had cysto-jejunosotomy and a Roux-en-Y procedure performed. The clinical features and management of pancreatic pseudocyst is briefly reviewed.

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