

The Clinical Pattern Of Acute Pancreatitis: The Al Kharj Experience

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Citation

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Abstract

The clinical pattern of acute pancreatitis varies in different countries. Gallstones continue to be the leading cause of acute pancreatitis in most series (30 to 60%) including those reported from Saudi Arabia. Here we are presenting 96 patients with acute pancreatitis studied over a 7-year period at King Khalid Hospital, Al Kharj, Saudi Arabia. Our study also showed that acute pancreatitis was predominantly gallstone-associated. The importance of early etiological diagnosis and the need for more objective criteria for assessment of severity at admission is emphasized. Early ERCP followed by cholecystectomy in the same admission gave excellent results.

INTRODUCTION

Acute pancreatitis (AP) is a common cause of acute abdominal pain requiring hospital admission. The estimated annual incidence of acute pancreatitis in the United States is 19.3 per 100000¹. The attack is mild in about 80% of patients who will show marked improvement within 48 hours. In some 20% of patients however it is often severe with high morbidity and mortality². The first 12 hours are extremely important to provide appropriate management which will decrease morbidity and mortality³.

Nearly 80% of cases of AP worldwide are caused by gallstone obstruction and high alcohol intake⁴. Other causes like hypertriglyceridemia and drugs account for the rest. It is necessary to identify the etiology to institute definitive management and prevent further attacks.

Many reports from different centers in Saudi Arabia^{5,6,7} and other countries in the Gulf region^{8,9} detailing the pattern of the disease and their experience in the management have helped to define the magnitude of the problem and to evaluate the strategies for improving quality of care. The present study was designed to recognize the clinical picture of acute pancreatitis in the Al Kharj City in the Central Region of Saudi Arabia and to evaluate etiology, outcome of early ERCP and surgical management.

MATERIALS AND METHODS

Ninety-six (96) consecutive cases of AP admitted and treated at King Khalid Hospital, Al Kharj, Saudi Arabia in seven

years from January 1993 to December 1999 (corresponding to 1413 to 1419 H) were included. Demographic data of age, sex and nationality were

determined. The clinical presentation associated medical conditions, laboratory and radiological investigations, severity, management and outcome were studied and the etiology was determined by reviewing the medical records of all cases documented to have AP during the period of study. The attack was categorized as severe if three or more of the parameters were present during the first 48 hours of admission as described by Ranson et al.¹⁰. Patients with Ranson's score >3 and those with serious co-morbidity were admitted to ICU and monitored.

All patients had full blood count and blood chemistry including serum amylase estimation done and biliary pancreatitis was diagnosed when biliary stones were demonstrated by ultrasonography which was performed within 24 hours of admission. CT scan was performed in 10 patients.

All patients were treated conservatively initially with intravenous fluids and nil orally. Eventually, forty-two patients (43.7%) were treated conservatively and 54 (56.3%) surgically. Forty-eight patients (50% of the total and 88% of those treated surgically) underwent cholecystectomy.

RESULTS

Over the 7 years' study period, 96 patients were admitted and

treated for acute pancreatitis. Forty patients were male (42%) and 56 female (58%). The age ranged from 19 to 85 with a mean age of 43 ± 17.2 years. Seventy-five patients (78%) were Saudis and 21 (22%) non Saudis. Thirty-five patients (36%) had one or more co-morbidities like type 2 diabetes mellitus, hypertension, ischemic heart disease, chronic obstructive airway disease or chronic liver disease.

The mean serum amylase values on admission were 2389.7 ± 780.86 units per liter. The mean Ranson's criteria were 2 ± 1.08 . Ranson's score of 3 or more was found in 33 (34.3%) patients and was 2 or less in 63 (65.7%) patients.

Abdominal ultrasonography revealed calculi in the gall bladder of 39 (40.7%) patients; choledocholithiasis in 18 (18.75%) patients; pancreatic enlargement in 87 (90.6%); pancreatic pseudocyst in 5 (5.2%) patients; dilated common bile duct >7 mm in 21 (21.9%) patients; and ascites in 14 (14.6%).

The etiology of acute pancreatitis in our series is shown in Table 1 and Figure 1.

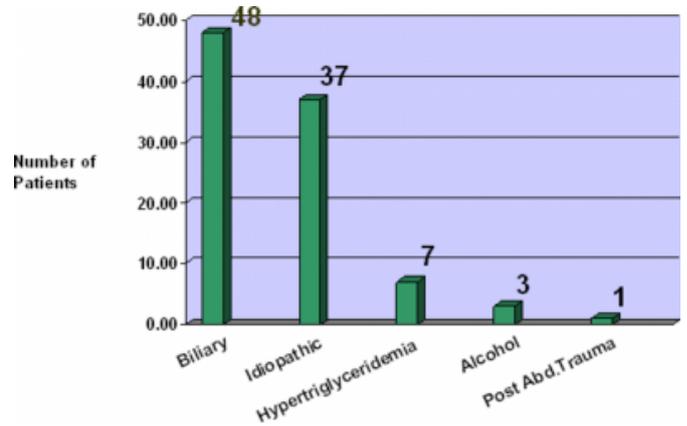
Figure 1

Table 1: Etiology of acute pancreatitis – Al Kharj Hospital, Kingdom of Saudi Arabia

| Etiology | Number of patients | Percentage |
|-----------------------|--------------------|------------|
| Biliary (gallstones) | 48 | 50.0% |
| Idiopathic | 37 | 38.54% |
| Hypertriglyceridemia | 07 | 7.29% |
| Alcohol | 03 | 3.13% |
| Post Abdominal Trauma | 01 | 1.04% |
| Total | 96 | 100.00% |

Figure 2

Figure 1: Etiology of Acute Pancreatitis – Al Kharj Hospital, Kingdom of Saudi Arabia



ERCP was performed in 50 (52.1%) patients and revealed common bile duct stones in 25 (26%) patients. The stones were extracted after endoscopic sphincterotomy. In 5 patients the CBD was dilated more than 7mm but showed no stones or other

abnormality. In 20 (20.8%) patients ERCP was normal. ERCP was not associated with any morbidity and mortality.

The management options are broadly shown in Table 2 and Figure 2.

Figure 3

Table 2: Management options in patients with acute pancreatitis

| Management Option | Number of Patients | Percentage of Total |
|-------------------|--------------------|---------------------|
| Cholecystectomy | 54 | 56.3% |
| Conservative | 42 | 43.7% |
| Total | 96 | 100% |

Figure 4

Figure 2: Management options in patients with acute pancreatitis



Fifty-four (56.3% of the total) patients were treated surgically, 48 patients (50% of the total and 88% of those treated surgically) underwent cholecystectomy at an average

of 6 days from admission (range 3-9 days). The remaining 6 patients had procedures done as shown in Table 3 and Figure 3.

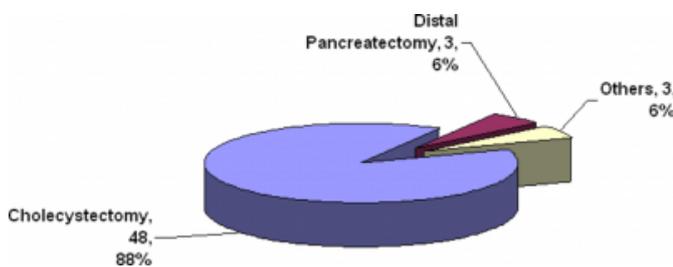
Figure 5

Table 3: Surgical Management of 54 Patients with Acute Pancreatitis

| Type of Surgery | Number of Patients | Percentage |
|-----------------------------------------------------------------------------|--------------------|------------|
| Cholecystectomy | 48 | 88 % |
| Distal Pancreatectomy | 03 | 6 % |
| Laparotomy + Drainage | 01 | 2 % |
| Pancreatic Necrosectomy | 01 | 2 % |
| Necrosectomy, Left Hemicolectomy, Splenectomy and Gastric Devascularization | 01 | 2 % |
| Total | 54 | 100 % |

Figure 6

Figure 3: Surgical Management of 54 Patients with Acute Pancreatitis (Number and Percentage)



None of the patients who underwent laparoscopic cholecystectomy required conversion. None of the cholecystectomy patients had any postoperative complications.

One patient had had cholecystectomy previously and did not require any further procedure after the clearance of CBD stones by ERCP. In two patients aged 70 and 76 years with co-morbidity factors, cholecystectomy was not performed. A 36-year-old man with hyperlipidemia underwent pancreatic necrosectomy, left hemicolectomy and splenectomy. He developed splenic vein thrombosis and bleeding esophageal varices and underwent gastric devascularization as well. He improved although he developed ileus, ARDS and pleural effusion. One pregnant woman was treated conservatively without any complications.

Complications occurred in 15 patients (15.6%) of the total

and 45.5% of patients belonging to the severe group classified according to Ranson's criteria. Five patients developed pancreatic pseudocysts, 4 patients developed chest complications, 3 of whom had pleural effusions and ARDS and 1 developed left basal pneumonia. Two patients developed relapsing pancreatitis, 1 patient had pancreatic fistula, 2 patients developed diabetes mellitus and 1 patient had acute nephritic syndrome with complete recovery. There was no death.

DISCUSSION

In any patient presenting to the emergency room with severe upper abdominal pain, acute pancreatitis has to be considered in the differential diagnosis according to the clinical features. One report from Saudi Arabia estimated the incidence as 0.23% of all abdominal pain presenting to the emergency¹¹ in all age groups. The pattern of acute pancreatitis has been variably reported from different parts of the world. In the Kingdom of Saudi Arabia gallstones seem to be the predominant cause. In a recent report from Jizan, Saudi Arabia, the etiology was gallstone disease in 42% of patients¹². In our patients biliary pancreatitis was the commonest cause, found in 48 (50%) out of 96 patients.

Another major cause was idiopathic origin (38.5%). These findings agree with other series from Saudi Arabia^{5,6,7,12}, other Gulf countries^{8,9} and Western countries⁴.

The high population of “idiopathic pancreatitis” found in some series is thought by Abu Eashy⁷ to be due to oversight of some causes including even cholelithiasis and choledocholithiasis. The incidence of pancreatitis due to hypertriglyceridemia is reported as 1.3 to 3.8%¹³. Seven (7.3%) patients in our series had hypertriglyceridemia; in all of them the serum triglycerides level was > 11.3 mmol/l (1000 mg/dL). This is explained by the association of uncontrolled diabetes and hyperlipidemia in these cases.

Alcohol consumption is prohibited in Saudi Arabia for religious reasons and alcohol induced acute pancreatitis was significantly low in our patients accounting for 3.1% of the total. In Western countries alcohol is the second most common cause of acute pancreatitis and the commonest cause of recurrent pancreatitis^{2,3,4}.

Eighty per cent of the patients with acute pancreatitis had mild disease with complete recovery. Ranson's criteria were used to assign a prognostic score to identify patients with severe pancreatitis in our series, but the application of Ranson's score did not correlate well with severe course of

the disease. The score was 3 or more in 34.3% and <2 in 65.7%. In other words 65.7% of our patients had mild disease and 34.3% had severe disease. These figures are similar to the findings reported by Abu Eashy from Abha₇ (44%) and Al Qasabi from Riyadh₁₄ (39.5%). The former found that only 22 % of his patients classified as severe developed complications while the latter had 36% of his severe group developing complications and death or both. In our series, 42% of the patients who were classified as severe, developed complications but none died. It is important to identify patients with acute pancreatitis who have an increased risk of dying. Many indices of severity including Ranson's, Glasgow scores₁₅, APACHE II₁₆ have been used to assess severity. Multiple factor scoring systems (Ranson, Glasgow, Apache II) are difficult to use, show poor predictive powers and have not been uniformly accepted by clinicians. Ranson's criteria are not fully utilizable until 48 hours and Apache II score is cumbersome. Ranson's criteria have been aptly described as a "single snap shot in a whole-length feature film". However, misclassification using Ranson's criteria may result in over-treatment rather than under-treatment which is not harmful to the patient but may increase the cost of care. Recently, risk factors that adversely affect survival in acute pancreatitis have been defined better and are easy to use in clinical practice₁₃.

Mentula et al.₁₇ showed that organ failure in acute pancreatitis can be predicted with high accuracy at hospital admission using a combination of plasma interleukine 10 and serum calcium measurements.

It is recommended that all patients with AP should undergo ultrasound within 24 hours of admission and if it confirms gallstones and severe pancreatitis, ERCP should be considered within 48 hours_{3,4,18,19,20}. All reference studies confirm reduction in morbidity and mortality with early duct clearance. In our study, ERCP was performed in 52.9% of cases and we were able to clear CBD stones in all 25 cases where there was choledocholithiasis with significant clinical improvement in all of them. Urgent cholecystectomy was performed on 54 patients in the same admission after clinical and biochemical resolution of the attack. Postoperative course was uneventful in all the patients who underwent surgery. We strongly recommend early ERCP and urgent cholecystectomy within 3-9 days of admission for better outcome. This experience is similar to other reports from the Kingdom of Saudi Arabia_{5,6,7,21}.

CONCLUSION

A retrospective study of 96 patients with acute pancreatitis is presented. Gallstones were the leading cause. Early confirmation of etiology and ERCP within 48 hours with CBD stones clearance followed by urgent cholecystectomy within 3-9 days gave excellent outcome. The need for a more accurate system for assessment of severity of the disease at admission is emphasized.

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