

# Management of Acute Pancreatitis: An Experience at Mayo Hospital, Lahore

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This is a retrospective as well as prospective study of 46 patients with acute pancreatitis who were managed in North Surgical Unit of Mayo Hospital, Lahore. This study was carried out with special emphasis on need of surgical treatment and its outcome. No age group or sex was found immune to this disease. It was more common in 3<sup>rd</sup> to 4<sup>th</sup> decade of life and female sex. The commonest etiology is gall stones (54%) followed by alcohol (8%) and idiopathic (15%). Pain epigastrium is a constant symptom. Judicious use of serum amylase urinary amylase and ultrasonography can help in early diagnosis of the acute pancreatitis. Complications are best diagnosed on CT scan. Majority of patients were treated successfully by conservative measures (44%) but developed complications which carried high morbidity and mortality. Surgical treatment of associated gall stones has prevented recurrent attacks of acute pancreatitis. Hence cholecystectomy for associated gall stones is recommended during same admission for mild to moderate pancreatitis after resolution of symptoms.

**Key words:** Acute pancreatitis, cholecystectomy, surgical intervention

Acute pancreatitis is the most poorly understood common ailment of acute digestive disease with serious consequences. Specific therapy to date has dreading the surgeons and outcome of treatment remains as dismal as ever before. Diagnostic delays and an unpredictable natural history often lead to belated ineffective intervention. Therapy in acute pancreatitis is primarily conservative with surgical intervention for the management of associated gall stones and complications like pancreatic necrosis, abscess and pseudocyst formation<sup>1</sup>.

This study was carried out to analyze our own experience and to evolve therapeutic strategies of this disease.

## Material and methods

This study was carried out in North Surgical Unit of Mayo Hospital, Lahore. Patients were diagnosed on clinical grounds, confirmed by biochemical tests (serum amylase, urinary amylase) and ultrasonography. Serum lipase and CT scan were carried out to confirm diagnosis where serum amylase and urinary amylase were normal. Four patients underwent exploratory laparotomies where diagnosis was in doubt.

The conservative management of the patients included, nothing per oral, nasogastric aspiration fluid and electrolyte replacement, analgesia, I/V antibiotics and total parenteral nutrition. Patients with organ failure were managed accordingly in Intensive Care Unit.

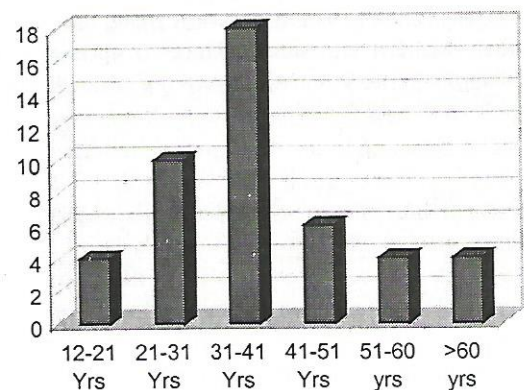
Surgical intervention was carried out to manage complications of acute pancreatitis. Once patients were considered fit to be discharged with gall stones were offered same admission cholecystectomy or interval cholecystectomy depending upon severity of pancreatitis assessed according to Ranson's criteria. Patients

discharged home were regularly followed up in outpatient clinic.

## Results

Forty six patients with acute pancreatitis were admitted and managed during January 1997 to July 2003. Twenty nine females and 17 males were admitted. Most of the patients were in their 3<sup>rd</sup> to 5<sup>th</sup> decades of life as shown below.

Fig. 1. Age incidence



Pain epigastrium was the commonest symptom and generalized abdominal tenderness was the commonest sign rest are shown in Table 1 and 2.

Table 1. Clinical presentation

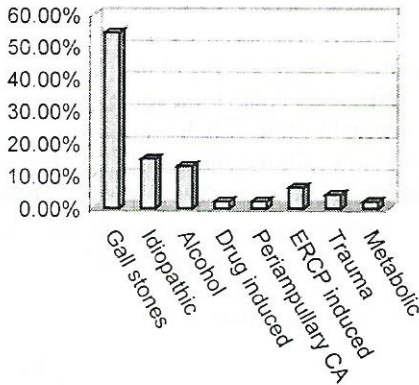
	n=	%age
Pain epigastrium	30	84.78
Pain RHC	05	10.80
Pain periumbilical	02	04.34
Nausea & vomiting	27	58.69
Absolute constipation	21	45.65
Dyspnoea	12	26.16

Table 2. Signs

Signs	n=	%age
Epigastric tenderness	12	26.16
Generalized abdominal tenderness	34	73.80
Phlegmon	05	10.8
Abdominal distention	36	78.48
Shock and ARDS	06	13.08

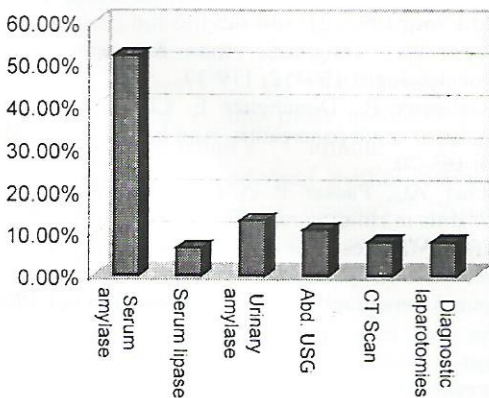
Fig. 2 shows the relative incidence of various etiological factors.

Fig. 2. Etiological factors



Serum amylase was diagnostic in 24 cases. The other diagnostic modalities are shown in Fig. 3.

Fig. 3 Diagnostic modalities



Out of 46 patients 21 underwent surgical procedures, details are given in table 3.

Table 3. Surgical procedures during first admission

Procedures	n=	%age
Cholecystectomy	08	17.39
Cholecystectomy+ choledocholithotomy + T tube drainage	02	4.34
Exp. Laparotomy	11	23.91
Necrosectomy	03	6.52
Open drainage of abscess	04	8.69
Drainage of lesser sac	04	8.69

Twenty five patients were managed conservatively. Follow up details of patients underwent conservative management are given in Table 4.

Table 4. Follow up of patients managed conservatively

Follow up	n=	%age
Patient lost during follow up	04	16
Patient received operative treatment	13	52
Patient not requiring any intervention	03	12
Mortality	05	20

Thirteen patients underwent surgical intervention during second admission as shown in Table 5.

Table 5 Surgical procedures during second admission

Procedures	n=	%age
Cholecystectomy	06	17.39
Exploratory laparotomy + Cholecystectomy + open drainage of abscess	02	4.34
Cystogastrostomy	04	8.68
Aspiration of abscess	01	2.17%

Table 6 shows the details of management of patients with gall stone pancreatitis.

Table 6. Management of patients with gall stone pancreatitis

Management	n=	%age
Cholecystectomy within same admission	06	24
Cholecystectomy after 6-8 weeks	06	24
Readmission with complications/recurrent attack while awaiting for cholecystectomy	04	16
Cholecystectomy+choledochotomy + T tube drainage	02	08
Refused surgery	01	04
Lost to follow up	02	08
Deaths	04	16

Severity of pancreatitis in accordance to Ranson's criterion is shown in Table 7.

The morbidity and mortality was very high as are indicated in Table 8 and 9.

Table 7. Severity of pancreatitis (Ranson's criteria)

Severity	Expected	n=	Series	%age
Mild	Upto 18%	12	01	8.33
Moderate	Upto 50%	21	04	19.04
Severe	Upto 90%	13	06	46.15

Table 8. Complications

Complications	n=	%age
Pancreatic necrosis	03	6.52
Pancreatic abscess	05	10.86
Pseudocyst	06	13.04
Sepsis & ARDS	06	13.04
MOF	07	15.21

Table 9. Mortality

Mortality	n=	%age
Patient with conservative management	05	10.80
Patient who underwent laparotomy	06	13.08

## Discussion

The increased incidence of pancreatitis, coupled with new treatment options poses a challenge for surgeons.

No age and gender is immune to this disease. In our study this disease was more prevalent in female as cholelithiasis is more common among females. Patients as young as 20s presented with a acute pancreatitis secondary to alcohol consumption<sup>2</sup> or idiopathic cause. In contrast, biliary pancreatitis usually occurs in older adults<sup>3</sup>.

The spectrum of severity of acute pancreatitis is reflected on physical examination. Between 50 and 90 percent of patients have signs of abdominal distension, epigastric pain and left upper quadrant tenderness<sup>2,4</sup>. Other signs are fever, tachycardia, restlessness and dehydration on presentation. These are also observed in our study<sup>4,5</sup>.

Serum amylase levels in patients with pancreatitis vary depending on the severity of the disease. The advantages of amylase testing are that it is quickly performed easily obtained and inexpensive<sup>6</sup>. About 52% of patients were diagnosed due to hyperamylasaemia in our series followed by serum lipase and urinary amylase. Determination of serum pancreatic enzymes remains the gold standard for the diagnosis of acute pancreatitis<sup>7</sup>.

Pancreatic ultrasonography is non invasive, relatively inexpensive and may be performed at bedside but still has its own limitations<sup>8,9</sup>. The contrast enhanced CT scan not only provides the best imaging of pancreas and surrounding structures but is also helpful in assessing pancreatitis related complications<sup>10</sup>.

Despite of all these investigations in our armamentarium few cases are still diagnosed on laparotomy<sup>11</sup>.

Majority of patients do respond to conservative management with aggressive resuscitation. In spite of multidisciplinary approach severe disease carries very high morbidity and mortality<sup>1,12</sup>.

The main emphasis of our study was to develop protocol for the management of acute gall stone pancreatitis. As in literature recurrence of acute pancreatitis in patients with gall stone has been reported in 29-63% of cases if the patient is discharged from the hospital without additional treatment. This is in accordance with results in our study. The rationale for cholecystectomy and clearance of the main bile duct in these patients is to prevent potentially avoidable recurrent biliary pancreatitis. The timing of cholecystectomy depends on the clinical situation of the patient. In mild gall stone associated acute pancreatitis cholecystectomy should be undertaken once the inflammatory process has subsided and with sufficient clinical recovery to make the procedure technically easier and safer for the patient during same admission<sup>13</sup>.

Endoscopic sphincterotomy is an alternative to cholecystectomy in those who are not fit to undergo surgery, in order to lower risk of recurrence of biliary pancreatitis. There is however, a theoretical risk of introducing infection into sterile pancreatic necrosis.

If necrosis is identified on CT Scan and aspirates are positive for bacteria percutaneous fine needle aspiration should undergo surgical debridement. The necessity of intervention in patients with sterile necrosis is unclear. If debridement is undertaken, it should be delayed as long as possible because survival improves with time<sup>14</sup>.

## Conclusion

Acute pancreatitis is dreadful condition. Early diagnosis can alter its outcome. Gallstone pancreatitis is the commonest etiological factor. Cholecystectomy should be performed during same admission in patients with mild to moderate pancreatitis after resolution of signs and symptoms.

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