

**ORIGINAL RESEARCH**

# Management and outcome of acute pancreatitis at a tertiary care hospital

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**Abstract**

Severe pancreatitis may be observed in 15% to 20% of all cases. Overall mortality is now about 5% and for severe cases 10% to 20%. 40% of the patients go on to develop infection of the necrosis. The reported mortality rate associated with infected pancreatic necrosis is as high as 10%-20%, compared with less than 5% for sterile collections. USG Abdomen was done routinely to confirm the diagnosis, exclude other conditions, for evaluation of the biliary tract and for detecting any complications. Contrast enhanced CT Abdomen was undertaken when the diagnosis was doubtful, when USG was not confirmative and when patient failed to improve beyond 72 hours. In our study out of 13(25.49%) patients Of biliary Pancreatitis 12(23.52%) underwent cholecystectomy. 10 (19.61%) open cholecystectomy, 2(3.92%) laparoscopic cholecystectomy, 2(3.92%) in the same admission and others on follow up. post-op recovery was uneventful and one patient was lost to follow-up. 2(3.92%) patients with Pseudocyst underwent cystogastrostomy as both of them were symptomatic.

**Keywords:** Management, outcome, acute pancreatitis

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**Introduction**

An accurate history and thorough physical examination will often raise clinical suspicion of acute pancreatitis. In more than 90% of patients the predominant features is pain in abdomen. Pain is mostly in the epigastrium, constant, boring or penetrating and may radiate to the back. Pain starts 12-48 hours after a bout of alcohol or after a large meal in case of gall stone pancreatitis. Fever, vomiting, tachycardia, epigastric tenderness, hypoactive or absent bowel sounds, and abdominal distensions are the other features.<sup>1,2</sup>

In about 1 to 3% patients, hemorrhage in peri-pancreatic area can cause bluish discoloration in the left flank (Grey Turner's sign) or around the umbilicus (Cullen's sign). These signs, are due to tracking of blood stained retroperitoneal fluid through tissue planes of abdominal wall to the flank or along the falciform ligament to the umbilical area, and indicate severe episode of acute pancreatitis. Fox sign (discoloration below the inguinal ligament and around base of penis) is the result of caudal tracking of fluid.<sup>6</sup> Jaundice may be present and represents distal common bile duct obstruction by a gall stone or compression by pancreatic edema.<sup>3</sup>

Other manifestations include pleural effusion (mostly left side), ascites, and elevation of left hemidiaphragm with tachypnoea, dyspnoea and cyanosis. Purtscher's retinopathy is a rare complication due to posterior retinal artery block.<sup>4</sup>

The patients may present with sudden loss of vision and cotton wool appearance and exudates on the fundus.

Painless pancreatitis although uncommon is a definite and well recognized entity. It is seen in the settings of peritoneal dialysis, post-operative situations especially renal transplantation, Legionnaire's disease and in some cases may present as subcutaneous fat necrosis (panniculitis).<sup>5</sup>

The ultimate severity of an attack appears to be determined by events that occur within 24 to 48 hours. The severity is ranges from oedema to necrosis of gland. Most episodes of acute pancreatitis (80%) are mild and self-limiting, subsiding spontaneously within 3 to 5 days. Morbidity and mortality rates are less than 1%. In contrast, severe pancreatitis is associated with organ failure or local complications, such as necrosis, abscess formation, or pseudocysts, or both. Severe pancreatitis may be observed in 15% to 20% of all cases. Overall mortality is now about 5% and for

severe cases 10% to 20%. 40% of the patients go on to develop infection of the necrosis. The reported mortality rate associated with infected pancreatic necrosis is as high as 10%-20%, compared with less than 5% for sterile collections.<sup>6</sup>

## Methodology

### Inclusion Criteria

All patients with acute pancreatitis aged above 12 years admitted to general surgery department.

### Exclusion Criteria

1. Patients less than 12 years of age.
2. Patients of chronic pancreatitis or acute on chronic pancreatitis.

### Method of Collection of Data

The diagnosis was considered in patients after a detailed clinical history and examination of the patient was done with two of following three features.

1. Upper abdominal pain of acute onset often radiating to the back consistent with pancreatitis.
2. Serum amylase and/or lipase activity more than 3 times normal.
3. Ultrasound or C.T. scans suggestive of acute pancreatitis.

### After establishing diagnosis, Following sequential steps have been followed

1. Assess the severity of the disease

2. Identify the presence of biliary tract disease, excluding other possible etiologies of the acute pancreatitis.
3. Detect any complications.

Routine investigations like complete hemogram, Blood sugar serum creatinine Blood urea, Serum calcium and Serum amylase, Serum lipase and liver function tests were performed. USG Abdomen was done routinely to confirm the diagnosis, exclude other conditions, for evaluation of the biliary tract and for detecting any complications. Contrast enhanced CT Abdomen was undertaken when the diagnosis was doubtful, when USG was not confirmative and when patient failed to improve beyond 72 hours.

### The patients were classified as having

1. Mild acute pancreatitis if, it is associated with transient organ failure (<48 hours), no local complications and an uneventful recovery.
2. Severe acute pancreatitis if, it is associated with organ failure (>48 hours) and/or local complications, such as necrosis, abscess, or Pseudocyst.

### Results

In our present study alcoholism was the main etiological factor accounting for 66.67% of the cases, 25.49% of patients had biliary pancreatitis and the cause was unknown in 7.84% of patients.

**Table1: Etiological factors**

Etiology	Number (n)	Percentage (%)
Alcoholic	34	66.67
Biliary	13	25.49
Idiopathic	4	7.84
TOTAL	51	100.00

In our study 14 (27.45%) patients developed various complications enumerated below and were classified as severe acute pancreatitis and rest 37 (72.55%)

patients had no complications and/or suffered from transient organ dysfunction and were classified as mild acute pancreatitis.

**Table2: Severity of acute pancreatitis**

Severity	Number(n)	Percentage(%)
Mild Acute Pancreatis	37	72.55
Severe Acute Pancreatis	14	27.45
Total	51	100.00

In our study the total 14(27.54%) patients developed complications 8(15.69%) had acute fluid collections, 6(11.76%) had pseudocyst, 10(19.61%) had pleural

effusion, 4(7.84%) had pancreatic necrosis, 2(3.92%) had GI bleed and 4(7.84%) had organ failure. None had superior mesenteric vein thrombosis.

**Table3: Complications of acute pancreatitis**

Complications	Number (n)	Percentage (%)
Acute Fluid Collection	8	15.69
Pseudocyst	6	11.76
Organ Failure	4	7.84
Pleural Effusion	10	19.61
Pancreatic Necrosis	4	7.84

Venous Thrombosis	0	0
GI Bleeding	2	3.92

All the complications were conservatively managed except for two patients with Pseudocyst underwent cystogastrostomy as both of them were symptomatic. Both patient with GI bleed died among them one also had multiple organ dysfunction.

3 (5.86%) of the total patients had a recurrence during the study period. They were managed conservatively.

In our study out of 13(25.49%) patients Of biliary Pancreatitis 12(23.52%) underwent cholecystectomy. 10 (19.61%) open cholecystectomy, 2(3.92%) laparoscopic cholecystectomy, 2(3.92%) in the same admission and others on follow up. post-op recovery was uneventful and one patient was lost to follow-up. 2(3.92%) patients with Pseudocyst underwent cystogastrostomy as both of them were symptomatic.

**Table4: Showing procedures in our study**

Procedure	No of patients	Percentage
LC (%)	2	3.92
OC (%)	10	19.61
Necrosectomy (%)	0	0
Abscess drainage (%)	0	0
Cystogastrostomy (%)	2	3.92

In Present series overall hospital stay ranges from 4 to 16 days, it was 4 to 11 and 4 to 16 in mild and severe acute pancreatitis respectively. The overall mean

hospital stay was 6.82 days and the mean stay for mild and severe pancreatitis was 5.9 and 10.75 days respectively

**Table5: Hospital stay**

Hospital stay	Overall	Mild pancreatitis	Severe Pancreatitis
Range (days)	4-16	4-11	5-16
Mean (days)	6.82	5.9	10.75

#### Mortality

In our study 2 (3.92%) patients died. One patient died due to gastro intestinal bleeding secondary to acute

pancreatitis, and another one due to multiple organ dysfunction syndrome.

#### Discussion

**Table6: Comparison of complications**

Complications	Kashid A <i>et al</i> <sup>7</sup> (2006)	Choudhuri G <i>et al</i> <sup>8</sup> (2006)	Gloor B <i>et al</i> <sup>9</sup> (2000)	Present Study (2012–13)
Acute Fluid Collection (%)	34.54	40.50	–	15.69
Pseudocyst (%)	0.00	24.90	2.45	11.76
Pleural Effusion (%)	34.54	–	–	19.61
Pancreatic Necrosis (%)	18.18	40.50	42.15	7.84
Venous Thrombosis (%)	0.00	0.00	0.50	0.00
Organ Failure (%)	29.00	40.50	36.28	7.84
GI Bleeding (%)	1.80	3.10	0.00	3.92
Pancreatic Abscess (%)	5.45	0.00	0.50	0.00

In our study 23.54% patients with biliary pancreatitis underwent cholecystectomy, in that 19.61% open cholecystectomy, 3.92% laparoscopic cholecystectomy. 3.92% patients underwent cystogastrostomy for symptomatic pseudocyst others were managed conservatively. Patients in the other studies underwent various

procedures like ERCP with sphincterotomy, open and laparoscopic cholecystectomy, pancreaticojejunostomy for pancreatic fistula, cystojejunostomy for pseudocyst and open drainage for pancreatic abscess, delayed necrosectomy for infected necrosis.

**Table7: Comparison of procedures**

Procedure	Kashid A <i>et al</i> <sup>7</sup> (2006)	B.Glooret <i>et al</i> <sup>9</sup> (2000)	Present study(2012-13)
ERCP+ES (%)	20	28.4	-
LC (%)	14.5	17.2	3.9
OC (%)	1.8	9.3	19.61

Necrosectomy (%)	9.1	13.7	0
Abscess drainage (%)	5.45	0.5	0
Cystogastrostomy (%)	0	2.5	3.9

The duration of stay in mild cases being 5.9 days is comparable to the other studies. The duration of stay in severe cases being 10.75 days was compared to

other studies. 6 (11.76%) patients of severe acute pancreatitis were managed in ICU (4-16 days), 4 (7.84%) patients required ventilatory support.

**Table8: Comparison of duration of hospital stay**

Series	Year	Mean hospital stay	
		Mild disease	Severe disease
Kashid A <i>et al</i> <sup>7</sup>	2006	10	13.5
Choudhuri G <i>et al</i> <sup>8</sup>	2006	6.6	17.32
Gloor B <i>et al</i> <sup>9</sup>	2000	13	44.1
Present series	2012-13	5.9	10.75

The mortality rate in our study standing at 3.92% is comparable to study by Gloor B *et al*, and other studies. It was less compared to study by Thomson,

H.J *et al* may be because of more mild acute pancreatitis cases in our series.

**Table9: Comparison of mortality**

Series	Year	Mortality%
Thomson, H.J <i>et al</i> <sup>10</sup>	1985	9.5
Gloor B <i>et al</i> <sup>9</sup>	2000	4.4
Baig SJ <i>et al</i> <sup>11</sup>	2008	4.4
Gislason H <sup>12</sup> <i>et al</i>	2009	3
Present study	2012-13	3.92

### Conclusion

- Out of 13 (25.49%) patients of biliary Pancreatitis 12 (23.59%) underwent cholecystectomy, 10 (19.61%) open cholecystectomy, 2 (3.92%) laparoscopic cholecystectomy, 2 (3.92%) patients with pseudocyst underwent cystogastrostomy. There were 3 recurrences during the study period.
- The mean hospital stay was 5.9 days for mild and 10.7 days for severe pancreatitis. 6 (11.76%) patients were managed in ICU, 4 (7.84%) patients required ventilatory support, 2 (3.92%) patients died during study period, One patient died due to gastro intestinal bleeding secondary to acute pancreatitis and another one due to multiple organ dysfunction syndrome.

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