



CLINICAL PROFILE AND MANAGEMENT OF ACUTE PANCREATITIS: A DESCRIPTIVE OBSERVATIONAL STUDY

General Surgery

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ABSTRACT

Objective: To analyze the clinical profile, etiology, severity, complications, and management outcomes of acute pancreatitis in a tertiary care setting. **Methods:** A prospective observational study was conducted at a tertiary care government teaching hospital from April 2022 to October 2023. Seventy-two patients with 77 episodes of acute pancreatitis were included. Diagnosis was based on clinical presentation, serum amylase/lipase levels (>3 times normal), and radiological confirmation. Patients were classified as mild or severe pancreatitis based on organ failure and local complications. **Results:** The mean age was 36.1 ± 4.8 years with male predominance (90.9%, M:F=10:1). Alcohol was the predominant etiology (85.7%), followed by idiopathic (10.3%) and biliary causes (2.59%). All patients presented with abdominal pain, with nausea/vomiting in 87%. Serum amylase was diagnostic in 68.83% and ultrasonography in 77.92% of cases. Mild pancreatitis occurred in 72.8% and severe in 27.2%. Complications included pleural effusion (20.7%), organ failure (12.9%), ascites (11.6%), pancreatic necrosis (5.19%), and pseudocyst (3.89%). Conservative management was successful in most cases. One patient underwent open cholecystectomy, one open necrosectomy, and two cystogastrostomies. Mortality rate was 3.89% with mean hospital stay of 8.5 days (mild: 5.23 days, severe: 11.42 days). **Conclusion:** Alcohol is the leading cause of acute pancreatitis in this region, affecting predominantly young males. Most cases are mild and managed conservatively with favorable outcomes. Early diagnosis and tailored management based on severity can reduce complications and mortality.

KEYWORDS

Acute pancreatitis, clinical profile, management, alcohol-induced pancreatitis, complications

INTRODUCTION

Acute pancreatitis represents a significant clinical challenge with variable presentation and outcomes worldwide. The estimated incidence ranges from 5-50/100,000 annually, with biliary disease and alcohol accounting for over 80% of cases¹. The spectrum varies from mild self-limiting disease to severe necrotizing pancreatitis with multiorgan failure and mortality rates of 2-10%².

Regional variations in etiology and presentation exist, with alcohol predominating in some populations and biliary causes in others. In Western countries, gallstones account for 45% and alcohol for 35% of cases³, while studies from Finland report alcohol as the etiology in approximately 70% of patients⁴.

This study aims to analyze the clinical profile, etiological factors, severity patterns, complications, and management outcomes of acute pancreatitis in a tertiary care center in Western India, contributing to regional epidemiological data and management strategies.

AIMS:

To Study Clinical Profile And Management Of Acute Pancreatitis presenting to Department of General Surgery in a tertiary care hospital.

OBJECTIVES

1. To study the age and sex prevalence of acute pancreatitis
2. To study the various etiological factors of acute pancreatitis.
3. To study the conservative and surgical outcomes of acute pancreatitis

METHOD OF STUDY

Study Design: Descriptive observational study.

Study Setting: Department of General Surgery, Tertiary Care Government Teaching Hospital.

Study Duration: 18 months (April 28, 2022 to October 28, 2023).

Participants: 72 patients with 77 episodes of acute pancreatitis.

Inclusion Criteria: Patients ≥ 18 years, diagnosed with acute pancreatitis based on ≥ 2 of:

1. Epigastric pain radiating to back.
2. Serum amylase/lipase >3 times upper limit.
3. Radiological confirmation (USG/CECT/MRI).

Exclusion Criteria: Age <18 years, chronic pancreatitis, pancreatic malignancy.

Data Collection:

- Detailed history, clinical examination, and investigations (serum amylase, USG abdomen, CECT when needed).
- Severity classified as mild (no/organ failure <48 hours) or severe (organ failure >48 hours and/or local complications).
- Management documented: conservative (fluids, analgesia, nutrition) vs. surgical (cholecystectomy, necrosectomy, drainage procedures).
- Outcomes: complications, hospital stay, recurrence, mortality.

Statistical Analysis:

- Data entered in Excel.
- Descriptive statistics (percentages, mean $\pm$ SD).
- Chi-square test for categorical comparisons.

RESULTS

Demographic Characteristics

The study included 77 episodes in 72 patients (5 recurrences). The mean age was 36.1 ± 4.8 years (range: 18-73 years), with highest incidence in the 31-40 year group (37.66%). Male predominance was marked (90.9%, M:F=10:1).

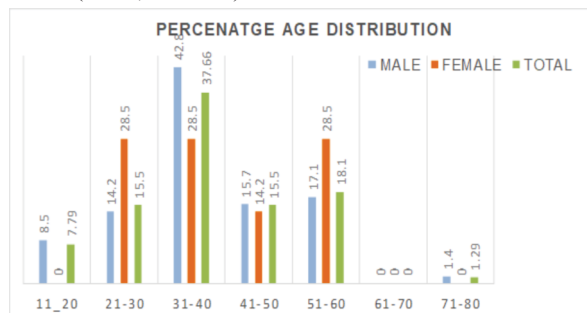


Figure1: Depicts the Age Distribution of Study Population

Clinical Presentation

All patients (100%) presented with abdominal pain, predominantly epigastric radiating to back. Nausea/vomiting occurred in 87%, abdominal distension in 27.27%, fever in 14.28%, and jaundice in 3.89%. Tenderness was universal (100%), with shock in 12.9%, ascites in 11.6%, and palpable mass in 2.59%.

Table 2: Clinical Presentation Of Patients

Symptoms	No. of patients	Percentage (%)
Pain abdomen	77	100
Nausea/Vomiting	67	87.0
Abdominal distention	21	27.27
Fever	11	14.28
Jaundice	03	03.89
Signs	No. of patients	Percentage (%)
Tenderness	77	100
Shock	10	12.9
Ascites	9	11.6
Mass Abdomen	2	2.59

Etiological Factors

Alcohol was the predominant cause (85.7%), followed by idiopathic (10.3%), biliary (2.59%), and ERCP-induced (1.3%).

Table 3: Etiological Distribution

Etiology	No. of patients	Percentage (%)
Alcoholism	66	85.7
Idiopathic	8	10.3
Biliary	2	2.59
ERCP Induced	1	1.3

Investigations

Serum amylase was elevated (>240 IU/L) in 68.83% of cases. Other abnormalities included hyperglycemia (16.8%), elevated BUN (15.5%), hypocalcemia (15.5%), leukocytosis (10.3%), and elevated AST (1.2%). Ultrasonography was diagnostic in 77.92% of patients.

Table 4: Laboratory Investigations

Investigations	Elevated	Percentage (%)
S.Amylase (>240 IU/L)	53	68.83
RBS (>180 mg/dl)	13	16.8
BUN (>45 mg/dl)	12	15.5
S.Calcium (< 8 mg/dl)	12	15.5
WBC Count (>15,000 cells/mm ³)	8	10.3
AST (>200 IU/L)	1	1.2

Severity And Complications

Mild pancreatitis occurred in 72.8% and severe in 27.2% of cases. Complications included pleural effusion (20.7%), organ failure (12.9%), ascites (11.6%), acute fluid collection (5.19%), pancreatic necrosis (5.19%), pseudocyst (3.89%), venous thrombosis (2.59%), pseudoaneurysm (2.59%), and GI bleeding (1.29%).

Table 5: Complications Of Acute Pancreatitis

Complications	No. of patients	Percentage (%)
Pleural effusion	16	20.7
Organ failure	10	12.9
Ascites	9	11.6
Acute fluid collection	4	5.19
Pancreatic necrosis	4	5.19
Pseudocyst	3	3.89
Venous thrombosis	2	2.59
Pseudoaneurysm	2	2.59
GI bleeding	1	1.29

MANAGEMENT AND OUTCOMES

Conservative management was successful in most patients. Surgical interventions included: open cholecystectomy (1 patient, 1.89%), open necrosectomy (1 patient, 1.29%), and cystogastrostomy (2 patients, 2.59%). One patient with hemorrhagic pancreatitis underwent exploratory laparotomy. Five patients (6.49%) had recurrence during the study period.

Mean hospital stay was 8.5 days overall (mild: 5.23 days, severe: 11.42 days). Mortality rate was 3.89% (3 patients), with causes including gastrointestinal bleeding and organ failure.

DISCUSSION

This study highlights the distinct epidemiological pattern of acute pancreatitis in Western India, with alcohol as the predominant etiology (85.7%) affecting predominantly young males (mean age 36.1 years). This contrasts with studies from other regions where biliary causes predominate^{5,6}. The male predominance (M:F=10:1) is more marked than in other studies^{7,8}, reflecting regional alcohol consumption patterns.

Clinical presentation was consistent with classical descriptions: all patients had abdominal pain, with nausea/vomiting in 87%. The sensitivity of serum amylase (68.83%) was lower than some reports⁹, possibly due to delayed presentation or alcohol-induced pancreatitis where amylase elevations may be less pronounced. Ultrasonography diagnostic accuracy (77.92%) compares favorably with literature¹⁰.

The proportion of severe pancreatitis (27.2%) was lower than in other studies^{5,7}, possibly reflecting referral patterns or earlier presentation. Complications aligned with expected patterns, though ascites (11.6%) was more frequent than typically reported.

Management was predominantly conservative, with surgical intervention reserved for specific complications. The low intervention rate reflects both the predominance of mild cases and successful conservative management. Mortality (3.89%) was comparable to or lower than other series^{5,7}, suggesting effective management protocols.

Limitations

This single-center study with 72 patients may not be generalizable to all settings. The follow-up period of 3 months limits assessment of long-term outcomes. Resource constraints affected availability of some diagnostic modalities.

CONCLUSION

Alcohol is the predominant cause of acute pancreatitis in this region, affecting young males disproportionately. Most cases are mild and respond well to conservative management. Early diagnosis using clinical assessment supported by serum amylase and ultrasonography, coupled with severity-appropriate management, yields favorable outcomes. These findings underscore the need for targeted alcohol cessation programs and region-specific management protocols.

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