

## Original Article

# Clinical Profile of Acute Pancreatitis

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## ABSTRACT

**Background and objectives:** Acute pancreatitis is a disorder that has a wide-ranging presentation, etiology, multifactorial pathogenesis and clinical consequences from mild self-limiting to severe life threatening. The aim of this study is to evaluate demographic characteristics, etiology, clinical presentation and its management.

**Materials and methods:** This retrospective study was carried out in Department of Surgery of National Medical College and Teaching Hospital. A total of 45 patients with diagnosis as acute pancreatitis over period of March 2020 to February 2022 were included in this study. History and detailed clinical examination was performed as per the working proforma which included. Chi square test were used for correlation analysis. Data analysis was done using SPSS (Statistical Package for social sciences), version 25.

**Results:** Most of acute pancreatitis were seen in 20-39 years of age group with mean age of 39.7 years. 66.6% patients were female. Gall stone was the most common cause (71.1% patients) of pancreatitis. Abdominal pain was the most common mode of presentation, and tenderness

the most common sign. Most of the patients were managed conservatively. Median hospital stay was 9 days.

**Conclusion:** Acute pancreatitis is a common cause of acute abdomen in patients presenting to the emergency department. Gall stone is the most common cause of acute pancreatitis. Clinical diagnosis along with biochemical and radiological findings are required for diagnosis. The management is mainly conservative.

**Keywords:** Acute Pancreatitis, Clinical Presentation, Gall Stone, Abdominal Pain

## INTRODUCTION

Acute pancreatitis is defined as an acute condition presenting with abdominal pain and is usually associated with raised pancreatic enzyme levels in blood or urine as a result of pancreatic inflammation. Mortality and morbidity approximately 300,000 cases occur in United States each year, 10 to 20% leading to deaths [1]. Pathophysiology of acute pancreatitis is multifactorial. Various studies suggest that the ultimate severity of the resulting pancreatitis may be determined by the events that occur subsequent to acinar cell injury. The most common etiology associated with acute pancreatitis are gall stones which accounts for 40% of cases and Alcohol abuse which accounts for 35% of cases [1].

Patient with acute pancreatitis presents with abdominal pain and vomiting. Clinical examination reveals tachycardia, hypotension and upper abdominal tenderness. Patient also present with ecchymosis in the umbilical or in flanks called Cullen's Sign, Grey Turner's sign

respectively [2]. Detail history with clinical examination are relevant investigation are needed for diagnosis. CECT abdomen is use for grading and assets severity [3].

There are different scoring systems such as Ransons criteria, Modified Glasgow, APACHE II, BISAP [4]. Early management of acute pancreatitis is necessary to reduce systemic infection, multi organ dysfunction and mortality. Conservative management is preferred initially.

### **MATERIAL AND METHODS**

The retrospective study was carried out in Department of Surgery, National Medical College and Teaching Hospital, Birgunj over period of 2 years from March 2020 to Feb 2022. Approval was taken by Institutional review committee F-NMC/575/078-079.

A total 45 patient with acute pancreatitis were included in this study. Those patient with chronic pancreatitis, acute on chronic pancreatitis, pancreatic injury were excluded from this study.

After detailed clinical history, a throughout clinical examinations was done. Complete hemogram, Serum electrolyte, Renal Function Test, serum lipase, serum amylase, liver function test were sent to the laboratory. Chest x-ray and ultrasonography of abdomen was done. CECT abdomen were done when needed.

Patient were initially managed with intravenous administration of fluid, analgesics, antibiotic and supportive care. Nasogastric tube and Foley catheter were placed. Patient were admitted in intensive critical unit as required. Most of the complication was managed conservatively.

Data such as age, sex, clinical symptoms and signs, investigations, complications,

treatment modality, duration of hospital stay were recorded as per proforma.

Data were collected and statically analyzed parameter were presented as mean  $\pm$  standard deviation. Categorical Value were mentioned in numbers and percentage. SPSS 25.0 was used for statistical analysis.

### **RESULTS**

Table 1 to 7 presents the result of the study. In this his study, the youngest patient was 18 years old and the eldest was 80 years old. The highest incidence was noted in the age group of 20-39 years (57.77%), followed by 40-59(36.66%). In our study a female predominance is seen in out 66.6% of the patients. In our study biliary stone was the main etiological factor accounting for 71.1% of the cases while 26.6% of patients had alcoholic pancreatitis.

In our study 100% of the patients presented with pain abdomen, 73.3% with vomiting, 44.44% with abdominal distension, 24.44% with fever and 8.88% with jaundice. 100% of the patients had tenderness. 17.77% of patient presented with abdominal mass. USG Abdomen was diagnostic in 86.6% of the patients in our study.

Among the 45 patients studied 38 had mild pancreatitis and 7 had severe pancreatitis. Twelve patients developed complications. Most of the case were managed conservatively in the intensive Care Unit (ICU). One patient had unilateral pleural effusion for which intercostal drainage was done. One patient with necrotizing pancreatitis and another with pseudocyst was referred to hepatobillary center for further management. In our study 1 (2.22%) patient died due to sever sepsis and multi-organ failure secondary to acute pancreatitis. Median hospital stay was 9 days.

**Table 1: Age and gender wise distribution of cases**

| Age Group | Female (n=30) |       | Male (n=15) |       | Total (n=45) |       |
|-----------|---------------|-------|-------------|-------|--------------|-------|
|           | No.           | %     | No.         | %     | No.          | %     |
| Below 20  | 01            | 3.33  | 00          | 00    | 01           | 2.22  |
| 20-39     | 14            | 46.66 | 12          | 80    | 26           | 57.77 |
| 40-59     | 10            | 33.33 | 2           | 13.33 | 12           | 26.66 |
| 60-80     | 05            | 16.66 | 01          | 6.66  | 06           | 13.33 |

**Table : Symptoms and Signs**

| Symptoms and Signs   | No. of patients | Percent (%) |
|----------------------|-----------------|-------------|
| Pain abdomen         | 45              | 100         |
| Vomiting             | 33              | 73.33       |
| Abdominal distention | 20              | 44.44       |
| Fever                | 11              | 24.44       |
| Jaundice             | 04              | 8.88        |
| Tenderness           | 45              | 100         |
| Guarding             | 30              | 66.66       |
| Mass abdomen         | 8               | 17.77       |

**Table 3: Etiological factors**

| Etiology     | No. of patients | Percentage (%) |
|--------------|-----------------|----------------|
| Biliary      | 32              | 71.1           |
| Alcoholism   | 12              | 26.6           |
| Drug induced | 1               | 2.22           |

**Table 4: USG Examination**

| USG            | No. of patients | Percentage (%) |
|----------------|-----------------|----------------|
| Diagnostic     | 39              | 86.66          |
| Non-Diagnostic | 6               | 13.33          |

**Table 5: Severity of acute pancreatitis**

| Severity                  | No. of patients | Percentage (%) |
|---------------------------|-----------------|----------------|
| Mild acute pancreatitis   | 38              | 84.44          |
| Severe acute pancreatitis | 7               | 15.55          |

**Table 6: Complications of acute pancreatitis**

| Complications            | No. of patients | Percentage (%) |
|--------------------------|-----------------|----------------|
| Necrotising pancreatitis | 2               | 4.44           |
| Pseudocyst               | 1               | 2.22           |
| ARDS                     | 3               | 6.5            |
| AKI                      | 2               | 4.44           |
| Pleural effusion         | 3               | 6.5            |
| Death                    | 1               | 2.22           |

**Table 7: Hospital stay**

|               | Median | Range |
|---------------|--------|-------|
| Hospital stay | 9      | 5-27  |

Acute pancreatitis is a common cause of acute abdomen in patients presenting to the emergency department. There is female predominance in acute pancreatitis with gall stone being the most common cause. Clinical examination along with biochemical and radiological findings are required for diagnosis

The management is mainly conservative, with surgery reserved for patients with biliary pancreatitis and for those who develop complications secondary to acute disease.

## DISCUSSION

Worldwide acute pancreatitis is a relatively common disease with incidence of 5-80 per 1,00,000 population. Early diagnosis and treatment is required to reduce morbidity and mortality [5].

In this study the mean age of patient was 39.1 years. The maximum age was 80 years and minimum age was 18 years which is comparable to studies done by Kashid A et al [6], Negi N et al [7] and Rao S V et al [8], most cases of Acute Pancreatitis was seen in 20-39 year of age group (57.77%) , which was similar to study conducted by Das SK et al [9], Kurrey LK [10], Negi N et al [7] and Borse HK et al [11].

Our study demonstrates that there is high incidence among females (66.6%) compared to males (33.3%) Gandikota VP [12], Pezelli et al [13], Zarnescu et al [14] demonstrated a higher incidence of pancreatitis among females 75%, 64% and 55% respectively.

In this study, the incidence of gall stones was 71.1% whereas the incidence of alcohol induced pancreatitis was 26.6 % which is similar to Kashid et al [6], where the incidence of gall stones was found to be 36.4 % and that of alcohol 29.1 %, In the study done by Buchler MW et al [15], incidence of gall stones as 45 %. Other studies by Pezelli et al [13], Zarnescu et al [14], Alkareemy EA et al [16] also shows that the incidence is more in biliary pathology.

In this study, the most common presentation was abdominal pain (100%) followed by vomiting (73.3%), abdominal distension (44.4%), fever and jaundice. Similar studies conducted by Kashid A et al [6], Das SK et al [9], Ahmed K et al [17], Kurrey LK et al [10] show that the most common presentation was abdominal pain 92.7%, 100%, 96% and 100% respectively, vomiting (60%,85%,88% and 82%) respectively, abdominal distension (16.36%,12%,40% and 20%) respectively followed by fever and jaundice. In our study 100% of patients had epigastric tenderness, similarly seen in studied conducted by Das SK et al [9], Kurrey LK et al [10], Reddy MS et al [18], Negi N et al [7] (90%,100%,100% and 100%) respectively.

USG was diagnostic in 86.66% of patients in our study and this was comparable to the study by Ammori et al [19], Kashid A et al [6], Rao S V et al [8], that showed USG was diagnosed in 86%, 66,6% and 86.6% respectively.

This study shows that 84.44% of the total patients had mild pancreatitis, and 15.55% of

the total patients had severe pancreatitis. Our mortality rate of 2.22% was lower than that was seen in studies conducted by Buchler MW et al [15] (5.5%), Kashid A et al [6] (4.4%). In our study three (6.5%) patient with pleural effusion; similarly Rao S V et al [8], Reddy MS et al [18], shows 1.6% and 3.3% patient respectively with pleural effusion. 2 (4.44%) patient with necrotizing pancreatitis and other 1(2.22%) patient who developed pseudocyst similar result was seen in study conducted by Kurrey LK et al [10] shows 16% patient with necrotizing pancreatitis and 4 % patient with pseudocyst. Chauhan Y et al [20] shows 12% with pseudocyst and 46% with necrotizing pancreatitis. Median hospital stay was about 9 day which was similar to Rao SV et al [8].

## CONCLUSION

Acute pancreatitis is a common cause of acute abdomen in patients presenting to the emergency department. There is female predominance in acute pancreatitis with gallstone being the most common cause. Clinical examination along with biochemical and radiological findings are required for diagnosis

The management is mainly conservative, with surgery reserved for patients with biliary pancreatitis and for those who develop complications secondary to acute disease.

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