International Journal of Advanced Research in Medicine

E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2023; 5(2): 98-100
Received: 23-02-2023
Accepted: 27-03-2023

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Clinical profile of patients with acute pancreatitis

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DOI: https://doi.org/10.22271/27069567.2023.v5.i2b.485

Abstract
Background: Acute pancreatitis is a serious condition that can involve the surrounding tissues and remote organ systems. The mortality rate for severe acute pancreatitis ranges from 2% to 10%, and the condition can be diagnosed based on abdominal pain consistent with acute pancreatitis, elevated serum lipase or amylase activity, and characteristic findings on imaging tests such as contrast-enhanced computed tomography (CECT) scan.
Aims and objectives: The present study aimed to study the clinical profile of acute pancreatitis and complications of acute pancreatitis.
Methodology: The study included 200 participants and was conducted retrospectively over a period of one year. Patients of all ages and genders who were clinically diagnosed with acute pancreatitis, and confirmed through ultrasound or CT scans, were eligible for inclusion. However, cases with incomplete documentation, as well as those with chronic pancreatitis or pancreatic malignancy, were excluded from the study.
Conclusion: Acute pancreatitis is a significant contributor to increased morbidity and mortality in society. The clinical evaluation of patients, along with their radiological findings, has been shown to be closely associated with morbidity and mortality rates.

Keywords: Acute pancreatitis, patient's profile, organ systems

Introduction
Acute pancreatitis is a medical condition characterized by inflammation of the pancreas. The name of the pancreas is derived from two Greek words, "pan" meaning "all" and "kreas" meaning "flesh," which were originally thought to indicate the pancreas' role as a cushion for the stomach. Acute pancreatitis is a serious condition that can involve the surrounding tissues and remote organ systems [1-3]. The mortality rate for severe acute pancreatitis ranges from 2% to 10%, and the condition can be diagnosed based on abdominal pain consistent with acute pancreatitis, elevated serum lipase or amylase activity, and characteristic findings on imaging tests such as contrast-enhanced computed tomography (CECT) scan. The American College of Gastroenterology (ACG) [4] provides acceptable terminology for the classification of acute pancreatitis and its complications, which are broadly classified as mild and severe based on the presence of organ failure, local complications, or pancreatic necrosis. In almost 80% of cases, acute pancreatitis is mild and resolves within 48 hours, while severe acute pancreatitis accounts for the remaining 20% of cases and can result in prolonged hospitalization and complications such as systemic inflammatory response syndrome (SIRS) and multi-organ failure [5-8]. The early hours after the onset of acute pancreatitis are crucial for appropriate management to decrease morbidity and mortality. The causes of acute pancreatitis vary, with gallstones and alcohol intake accounting for approximately 80% of cases worldwide. Hypertriglyceridemia and drugs account for the rest. Identifying the underlying cause is necessary to institute definitive management and prevent further attacks. A retrospective study conducted in the Arab population found that 96% of patients with gallstones were the leading cause [8]. Early confirmation of the etiology of acute pancreatitis through radiological investigations such as endoscopic retrograde cholangiopancreatography (ERCP) and magnetic resonance cholangiopancreatography (MRCP) within 48 hours can improve outcomes. The symptoms of acute pancreatitis vary considerably, and a careful evaluation of information derived from other sources such as laboratory tests and imaging studies is necessary for an accurate diagnosis [9-11]. In mild cases, a conservative approach is indicated with intravenous fluid administration and frequent but non-invasive observation.

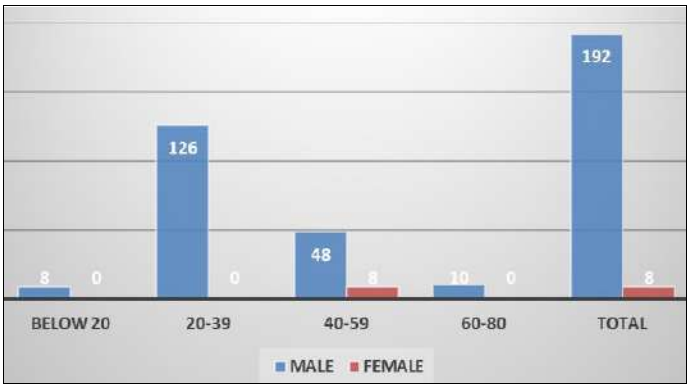
In severe cases, a more aggressive approach is required, with the patient being admitted to a high dependency or intensive care unit for invasive monitoring to ensure haemostasis of cardiovascular, respiratory, and renal systems [12-13]. Overall, acute pancreatitis is a common and serious medical condition that requires prompt and accurate diagnosis to ensure appropriate management and prevent further attacks. This study emphasizes the importance of identifying the acute pancreatitis and the need for early management to improve patient outcomes.

Methodology

The study included 200 participants and was conducted retrospectively over a period of one year. Patients of all ages and genders who were clinically diagnosed with acute pancreatitis, and confirmed through ultrasound or CT scans, were eligible for inclusion. However, cases with incomplete documentation, as well as those with chronic pancreatitis or pancreatic malignancy, were excluded from the study.

The study enrolled patients who were diagnosed with acute pancreatitis based on clinical evidence and elevated levels of serum or urinary amylase. The severity of the disease was classified using Ranson's score [14] and Glasgow scoring system, and patients with chronic pancreatitis and malignancy were excluded. Detailed histories and physical examinations were conducted for each patient, with a focus on age, sex, symptoms, and signs. Relevant past, family, and personal medical histories, including alcohol consumption, were also recorded. Associated medical diseases were noted, and results of hematological, biochemical, and imaging tests were documented. Routine blood tests, WBC count, blood sugar estimation, and routine urine examination were conducted, along with specific investigations like serum lipase estimation. Ultrasonography of the whole abdomen and pelvis was performed in all patients, and CT scans and MRCP were done in selected cases. Conservative measures were initially used to treat all patients.

Results



Graph 1: Age and gender wise distribution of cases

Table 1: Patient distribution based on signs and symptoms

Symptom	N = no of patients	Percentage	Signs	Frequency	Percentage
Abdominal Pain	200	200	Epigastric Tenderness	180	180
Vomitting	170	170	Guarding	100	100
Abdominal Distention	24	24	Jaundice	28	28
Fever	6	6	Shock	4	4
			Paralytic Ileus	6	6

Table 2: Patient distribution according to clinical grade

Clinical Grade	N = No of Patients	Hospital stay in days (Average)	ICU Admission	Organ Failure	Mortality
Acute edematous	166	10+\-2	0	0	0
Acute Necrotizing	6	15+\-2	2	2	0
Acute on chronic	28	8+\-2	0	0	0
Total	200				

Table 3: Patient distribution according to CT grade

CT Grade	N = no of Patients	Hospital Stay in Days (Average)	ICU Admission	Organ Failure	Mortality
Normal	20	7	0	0	0
Grade 1-2	144	10+\-2	0	0	0
Grade 3-5	36	15+\-2	2	2	0
Total	200				

The study found that the majority of patients with acute pancreatitis were in the age group of 20-39 years (63%), followed by those in the age group of 40-59 years (28%). Only 4% of the patients were under 20 years of age and 5% were in the age group of 60-80 years. The patient population consisted of both males and females, with males making up 96% of the cases and females only 4%. The study also found that a history of gallstones and infections was present in 4% of cases, and both of these features were found in male patients. Abdominal pain and vomiting were the most consistent symptoms reported among the patients, with abdominal pain being present in all patients and vomiting in 85%. Among the 200 patients studied, 166 had mild pancreatitis, 6 had severe pancreatitis, and 28 patients had

acute-on-chronic pancreatitis. The study also found that two patients with acute necrotizing pancreatitis required ICU admission and developed organ failure, indicating an adverse outcome. Overall, these findings provide valuable insights into the demographics, symptoms, and outcomes of patients with acute pancreatitis in the study population.

Discussion

This retrospective study was based on hospital records of 200 cases of acute pancreatitis, a condition that presents a major surgical challenge to general surgeons [9, 12, 13]. The disease varies from mild self-limiting inflammation to rapidly deteriorating conditions that pose a serious threat to life [14, 15]. Early and accurate diagnosis of the disease and rapid institution of therapy could reduce morbidity and mortality[16]. If the etiological factor/factors are identified and can be eliminated, further attacks can be prevented. Clinical criteria such as Ranson's criteria, Glasgow scoring system, and radiological scoring system can aid in the diagnosis and appropriate management [17].

The age range of patients in the study was 10 to 70 years, with the peak incidence in the third and fourth decade (63%). Besselink *et al*. [18] found a median age of presentation of 53 years, while in our study, the median age of presentation was 36.5 years. This can be explained by higher alcohol consumption in middle-aged males compared to other age groups. Our findings are consistent with those of Negi *et al*. [19], where 47.15% of patients were in the age group of 41-60 years and 43.91% were in the age group 18-40 years. However, Baig *et al*. [20] reported the peak incidence at the age of 30 years, indicating a younger age group being affected.

The most common cause of acute pancreatitis varies depending on the country of origin. In the USA, Western Europe, and Asia, gallstones are the most common cause, and alcohol is the second most common cause. However, in our study, only 4% of patients had documented gallstone-induced pancreatitis. Sivsankar *et al*. [21] found alcohol consumption in 45.8% of cases and biliary microlithiasis in 8.3% of cases. In a study by Ramu *et al*. [22] in Kerala, alcohol-induced pancreatitis was higher (42.431%) followed by idiopathic pancreatitis (36.926%). Vengadakrishnan *et al*. [23] in Chennai found alcohol-induced pancreatitis to be higher (51%).

In our study, the most common symptom observed was abdominal pain (100%), followed by vomiting (85%) and fever (3%). These findings correlate with those of Negi *et al*. [19], where vomiting (42.27%) and fever (22.4%) were observed, respectively. Ahmed *et al*. [16] reported that the most common symptoms were upper abdominal pain (96%), nausea and vomiting (88%), abdominal distension (40%), and fever (12%), which is consistent with our study. Similar findings were also observed in the study done by Raghuwanshi *et al*. [24], where the triad of epigastric pain, nausea, and vomiting was seen in 75% of patients.

The clinical presentation of acute pancreatitis varies from case to case, depending on the severity of the disease and any underlying co-morbidities. Mild acute pancreatitis presents with minimal organ dysfunction and uneventful recovery, while severe acute pancreatitis is associated with local and systemic complications and high mortality. In our study, 166 patients were diagnosed with mild (acute edematous pancreatitis) type, with a shorter hospital stay than severe (acute necrotizing pancreatitis) type. Only two patients required ICU admission, and there was no mortality. Similar results were obtained in a study conducted by Ramu *et al*. [22] in Kerala, where 82.1% of cases were mild, and in Ahlawat *et al*. [25] study in North India, where 82% of cases were classified as mild.

Conclusion

This study sheds light on the clinical profile of acute pancreatitis in the northeastern region of India. Among the 200 patients studied, a majority (63%) were in their third and fourth decade of life. Interestingly, there was a higher incidence of the disease in males (96%) compared to females (4%). The most prevalent symptoms reported by patients in the study were pain abdomen, nausea, and vomiting. Additionally, the study revealed that clinical assessment and laboratory markers were reliable indicators of morbidity and mortality. Furthermore, patients with necrotizing pancreatitis had a poorer prognosis.

Conflict of Interest

Not available

Financial support

Not available

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How to Cite This Article

Peer AA, Mir SJ, Bhat SA. Clinical profile of patients with acute pancreatitis. International Journal of Advanced Research in Medicine 2023; 5(1): 98-100