

STUDY ON CLINICAL PROFILE OF ACUTE PANCREATITIS FROM A TERTIARY CARE TEACHING INSTITUTE OF WESTERN UTTAR PRADESHJAIPAL SINGH¹, ALOK MAWAR², JAYA PATEL^{3*}, ROHIT MANYAL³, RAJEEV LOHOKARE³

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ABSTRACT

Objective: The objective of this study was to study the clinical profile of subjects diagnosed and managed for acute pancreatitis at a tertiary care teaching institute of western Uttar Pradesh.

Methods: All the cases diagnosed and managed for acute pancreatitis at the study place and during the study time formed the study population. All the cases were followed up till the outcome of the case. A detailed pro forma was designed to capture relevant details of study subjects.

Results: Underlying cause of the clinical condition was noted as alcoholic in nature by majority (80%) of the study subjects. In ten patients (16.7%) reason for the pancreatitis could not be ascertained despite extensive evaluation. Common complications of the clinical condition were noted as pleural effusion (n=12, 20%), followed by ascites (n=9, 15%) and acute fluid collection (n=5, 8.3%). Mortality was seen among two patients (3.3%).

Conclusion: In this region of the western Uttar Pradesh, alcohol is the most frequent cause of acute pancreatitis. Males are more likely to get the condition, and it typically manifests in the fourth decade of life. Biochemical and radiological results supplement the primary clinical diagnosis.

Keywords: Pancreatitis, Diagnosis, Management.

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INTRODUCTION

Pancreatitis is characterized as a pancreatic inflammatory condition that may or may not impact nearby tissues or distant organ systems [1]. The histology may return to normal between attacks or it may manifest as a solitary attack that recurs in discrete episodes [2,3]. Acute pancreatitis is classified into three severity levels: mild acute pancreatitis (absence of organ failure and systemic or local complications), moderately severe acute pancreatitis (no organ failure or transient organ failure lasting <48 h with or without local complications), and severe acute pancreatitis (persistent organ failure more than 48 h that may involve one or multiple organs) [4,5].

Although there are other causes of acute pancreatitis, such as biliary stones, idiopathic conditions, and therapeutic endoscopy, gallstones are the most frequent one. The single substantial risk factor for chronic pancreatitis remains alcohol intake. Although chronic pancreatitis is less common than acute pancreatitis, it nevertheless has a negative impact on the patient's quality of life [6]. Pancreatic cancer is the result of persistent pancreatitis, which has a significant death rate. Acute and chronic pancreatitis both have a high mortality rate in these patients due to their fulminant courses, which if not treated promptly, can result in complications. Long-term pancreatitis can also lead to pancreatic cancer [7].

Timely decision-making and initiation of treatment is extremely important in cases of acute and chronic pancreatitis. This relevant topic is chosen for the present study due to the frequent emergency, multimodality presentation, complicated pre-operative diagnosis, and management of sequelae. Hence, the present study was undertaken to study the clinical profile of subjects diagnosed and managed for acute pancreatitis at a tertiary care teaching institute of western Uttar Pradesh.

METHODS

This study was conducted by the department of biochemistry along with department of general surgery and emergency of a tertiary care

teaching health center located at western Uttar Pradesh. All the cases diagnosed and managed for acute pancreatitis at the study place and during the study time formed the study population. During stipulated study period of 10 months a total of 65, eligible study subjects were studied.

Study setting

This study was hospital-based study.

Study design

This study was prospective study.

Study period

This study was March 2021–December 2021.

Sampling technique

This study was purposive sampling.

Inclusion criteria

Any case diagnosed and managed for acute pancreatitis at the study place and during the study time.

Study strategy

All the cases were followed up till the outcome of the case. A detailed pro forma was designed to capture relevant details of study subjects. First section contained the demographic details of the patient. Second section contained the clinical information of the case along with follow-up details of the interest. Details on the investigations done and treatment received were also noted down. Third section had questions on outcome data of the patient.

The study was initiated only after obtaining the necessary permissions like permission from ethics committee of the medical college. Collected data were entered in the Microsoft Excel spreadsheet, coded appropriately, and later cleaned for any possible errors. The statistical

analysis was carried out using IBM SPSS Statistics for Windows, Version 22.0 (IBM Corp. Armonk, NY, USA). All data collected and analyzed by appropriate statistical methods and tests.

RESULTS

Data of 65, eligible study subjects, were collected. Out of 65, data of five subjects were found incomplete hence discarded. Finally, data of 60 subjects were analyzed and presented here.

Regarding gender distribution, we observed that out of total 60 subjects, 50 were male and remaining ten were females (83.3% vs. 16.7%). We noted a male predominance in our study. Regarding age incidence, we observed that median age group in our study was 36.6 years among all 60 subjects (Table 1).

Underlying cause of the clinical condition was noted as alcoholic in nature by majority (80%) of the study subjects. In ten patients (16.7%) reason for the pancreatitis could not be ascertained despite extensive evaluation (Table 1).

Common complications of the clinical condition were noted as pleural effusion (n=12, 20%), followed by ascites (n=9, 15%) and acute fluid collection (n=5, 8.3%). Morality was seen among two patients (3.3%) (Table 2).

DISCUSSION

Regarding pathology of this clinical entity, when these processes are added to other disease states that are characterized by peritonitis and hypovolemia, the pathogenesis and management of the cardiovascular collapse, respiratory failure, metabolic encephalopathy, gastrointestinal bleeding, and disseminated intravascular coagulation complications of severe pancreatitis appear to be identical.

Hypovolemia is a major contributor to cardiovascular collapse, which calls for prompt fluid and electrolyte replenishment. It could be necessary to put a central line as a result. Atelectasis and acute lung damage are pulmonary signs of pancreatitis. Good pulmonary hygiene and careful pulmonary function monitoring are part of management. A poor prognosis is connected with pancreatitis-related renal failure, which is typically prerenal. Dialysis, typically hemodialysis, may be necessary in extreme situations.

The majority of gastrointestinal bleeding in pancreatitis is caused by stress-induced gastroduodenal erosion, and antacids, H₂ receptor antagonists, or proton-pump inhibitors may be used as preventative measures. Rarely, damage to the peripancreatic vascular systems can cause severe bleeding that enters the retroperitoneum. Major gastrointestinal vessels may thrombose as a result of the pancreatic inflammatory process, which can also result in ischemic lesions in the colon, small intestine, and stomach that may bleed. Disseminated intravascular coagulation can occur in certain individuals with severe pancreatitis, but it seldom results in bleeding; therefore, preventive heparinization is typically not necessary.

Regarding gender distribution, we observed that out of total 60 subjects, 50 were male and remaining ten were female. We noted a male predominance in our study. This is in coherence with another study from eastern part of our country [8]. The reason for male preponderance is probably higher incidence of alcoholic pancreatitis and also because biliary pancreatitis is seen equally in males and females, despite a higher prevalence of gallstones in females.

Regarding age incidence, we observed that median age group in our study was 36.6 years among all 60 subjects. Hence, it can be said that peak incidence was noted in the fourth decade of life that is the most productive age group of the life stage. Another study by Baig *et al.* [8] noted that median age group in his study was 30 years amongst 50 subjects. Hence, it can be said that in eastern part of our country a bit

younger population is getting affected. On the other hand, findings of Beger *et al.* are not matching with our findings. A bit elder population was noted down to be affected by Beger *et al.* [9].

Regarding etiology, in our study, underlying cause of the clinical condition was noted as alcoholic in nature by majority (80%) of the study subjects. In ten patients (16.7%) reason for the pancreatitis could not be ascertained despite extensive evaluation. Finding observed by Baig *et al.* correlates the finding of our study, whereas observation of Beger *et al.* is different in this regard. His study observed as biliary as most common cause of pancreatitis (Table 3).

Regarding common complications, in our study, common complications of the clinical condition were noted as pleural effusion (n=12, 20%), followed by ascites (n=9, 15%) and acute fluid collection (n=5, 8.3%). In another study, done by Baig *et al.* noted pancreatic abscess as the commonest complication, whereas acute pancreatic necrosis was seen as most common complication by Beger *et al.* [8,9] (Table 4). In this study, morality was seen among two patients (3.3%). On the other hand, a lower mortality was seen by Beger *et al.* It could be explained on the basis of better nursing care received by the patients.

The severity of acute pancreatitis has been categorized using a number of different ways. The presence of systemic inflammatory response

Table 1: Comparative analysis of different variables related to acute pancreatitis

Variables	Frequency	Percentage
Gender distribution		
Male	50	83.3
Female	10	16.7
Age distribution		
Median age	36.6 years	
Etiology		
Idiopathic	10	16.7
Biliary	2	3.3
Alcoholic	48	80

Table 2: Comparative analysis of complications and mortality related to acute pancreatitis as noted in this study

Variables	Frequency	Percentage
Complications		
Pleural effusion	12	20
Ascitis	9	15
Acute fluid collection	5	8.3
Acute renal failure	3	5
Pancreatic abscess	2	3.3
Pseudo cyst	2	3.3
Acute pancreatic necrosis	1	1.67
Other (venous thrombosis)	1	1.67
Mortality	2	3.3

Table 3: Comparative analysis of different variables related to acute pancreatitis

Variables	Present study (%)	Baig <i>et al.</i> [8] (%)	Beger <i>et al.</i> [9] (%)
Gender distribution			
Male	83.3	73.3	61.0
Female	16.7	26.7	39.0
Age distribution			
Median age	36.6 years	30.0 years	55.1 years
Etiology			
Idiopathic	16.7	13.3	22
Biliary	3.3	22.2	45
Alcoholic	80	35.6	33

Table 4: Comparative analysis of complications and mortality related to acute pancreatitis as noted in this study

Variables	Present study (%)	Baig et al. [8] (%)	Beger et al. [9] (%)
Complications			
Pleural effusion	20	Not available	5.5
Ascitis	15	Not available	7.7
Acute fluid collection	8.3	Not available	5
Acute renal failure	5	18.2	36.3
Pancreatic abscess	3.3	21	0.5
Pseudo cyst	3.3	3	2.5
Acute pancreatic necrosis	1.67	18.2	42.1
Other (venous thrombosis)	1.67	Not available	Not available
Mortality	3.3	Not available	0.5

syndrome, scores such as the Glasgow, Ranson, and acute physiology and chronic health evaluation, and other indicators of illness severity are useful but insufficiently established to predict mortality [10]. Early organ malfunction indicates the severity of the disease, and patients need to start receiving urgent care very once. Most of the time, antibiotic prophylaxis is ineffective, and early enteral feeding reduces both local and systemic infection [11]. Over the past few years, there have been substantial changes in how acute pancreatitis is treated. Patients with infected necrosis and increasing sepsis require intervention in the early stages of therapy, which is non-surgical and only supportive. Early intensive care has unquestionably improved patients' outcomes [12].

CONCLUSION

In this region of the western Uttar Pradesh, alcohol is the most frequent cause of acute pancreatitis. Males are more likely to get the condition, and it typically manifests in the fourth decade of life. Biochemical and radiological results supplement the primary clinical diagnosis. Ideally, one of the scoring methods should be used to stratify all cases within the first 48 h. Systems of scoring assist in identifying patients who are more prone to experience a severe episode.

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AUTHORS' CONTRIBUTION

All the authors have contributed equally.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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