



A Single Institute Study of Clinical Profile of Acute Pancreatitis

KEYWORDS

Acute Pancreatitis, Etiopathogenesis, Clinical presentations, Serum Enzyme Levels, Multifactor Scoring

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ABSTRACT *Background :* Acute pancreatitis remains a common disorder with devastating consequences (1). Although most episodes are mild and self-limiting, up to a one-fifth of patients develop a severe attack that can be fatal. In spite of technical advances in medical and surgical fields acute pancreatitis remains a major cause of morbidity and mortality (2, 3).

So, this challenging subject is taken up for the present study in which we will be studying the clinical profile and management of acute pancreatitis in our hospital.

Material and methods: This prospective study was conducted between September 2012 to September 2014 on patients admitted to S.B.K.S.M.I.R&C. Dhiraj Hospital Piparia Vadodara. 50 patients with episodes of acute pancreatitis were enrolled for the study. This was based on the U.K. guidelines for the management of acute pancreatitis(6).

Results: This prospective study conducted at S.B.K.S.M.I.R&C. Dhiraj Hospital Piparia Vadodara, included 50 patients with acute pancreatitis, male and female (M: F =41:9).

Conclusion: Acute pancreatitis is a common cause of acute abdomen in patients presenting to the emergency department. Alcohol being the most common cause of acute pancreatitis in this part of the country, it has a male preponderance and most commonly presents in the 4th decade of life. It is mainly a clinical diagnosis supplanted with biochemical and radiological findings. Ideally all cases should be stratified during the first 48 hours according to one of the scoring systems. Scoring systems help to identify patients, who are more likely to have a severe attack. The management is mainly conservative, with surgery reserved for patients with biliary pancreatitis and those developing complications secondary to acute disease. In those developing necrosis there is a trend toward delaying necrosectomy. Recent results support the use of minimally invasive procedures for the various complications associated with acute pancreatitis.

INTRODUCTION:

Acute pancreatitis is defined as an acute inflammatory process of the pancreas, with variable involvement of other regional tissues or remote organ systems.⁽⁴⁾ It may occur as an isolated attack or recur in distinct episodes with reversion to normal histology between attacks. By definition, acute pancreatitis is reversible. It is distinguished from chronic pancreatitis by the absence of continuing inflammation, irreversible structural changes and permanent impairment of exocrine and endocrine function.

More than a century after its comprehensive description, acute pancreatitis remains a common disorder with devastating consequences.⁽¹⁾ In spite of technical advances in medical and surgical fields acute pancreatitis remains a major cause of morbidity and mortality.^(2, 3) Acute pancreatitis includes a wide spectrum of disease, from one with mild self-limiting symptoms, to fulminant processes with multi-organ failure and high mortality. Most experience relatively minor episodes of disease characterized by mild parenchymal oedema without distant organ dysfunction and a uneventful recovery. Severe episodes, however, may involve a progression to extensive pancreatic necrosis, development of the systemic inflammatory response syndrome (SIRS), multi-organ failure, rapid clinical deterioration, and even death. Although the overall mortality rate for acute pancreatitis is 2–10%, this is related primarily to the 10–30% of patients with severe disease characterised by pancreatic and peripancreatic necrosis.⁽⁴⁾

Although most episodes are mild and self-limiting, up to a one-fifth of patients develop a severe attack that can be fatal. The presentation of wide spectrum of symptoms gives the clinician a heart breaking exercise to bring back the patient from the clutches of the disease process. Pancreatitis by itself is a disease, which is unique, protean and excludes into the diagnostic area.

It cannot be too strongly emphasized that the primary treatment of acute pancreatitis is conservative only, but it is the Pandora's Box of manifestations, with its inherent complications surgery comes into play as diagnostic, prognostic and therapeutic endeavour. Being surgeons we are often required to decide as to whether to "wait and see" or "open and see" weighing the pros and cons of each.

Patients with mild acute pancreatitis generally can be managed with resuscitation and supportive care. Etiologic factors are sought and treated. Those with severe and necrotizing pancreatitis require intensive therapy, which may include wide operative debridement of the infected pancreas or surgical management of local complications of the disease. Whereas early aggressive debridement was used commonly for all patients with pancreatic necrosis in the past, now most pancreatic surgeons have adopted a more conservative algorithm of selective and delayed pancreatic debridement.⁽⁵⁾

Because of the frequent emergency, multimodality presentation, difficult preoperative diagnosis and management of

complications, this challenging subject is taken up for the present study in which we will be studying the clinical profile and management of acute pancreatitis in our hospital.

RESULTS AND DISCUSSION:

Acute pancreatitis varies from mild parenchymal oedema to severe hemorrhagic pancreatitis associated with loss of parenchymal viability with subsequent gangrene and necrosis.

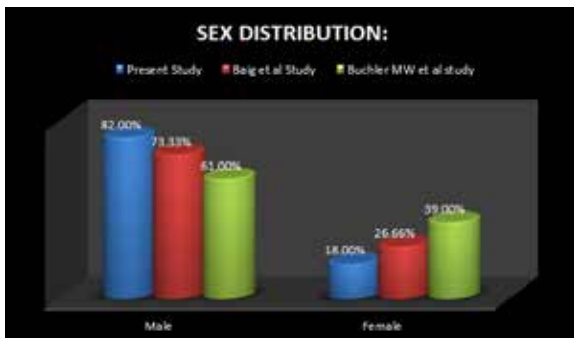
SEX DISTRIBUTION:

There was a male predominance in our study with males accounting for 82% of patients with an M: F: 41:9 which is comparable to the Baig et al⁽⁶⁾ study conducted in eastern India.

Table 1: COMPARISON OF SEX DISTRIBUTION:

SEX	Present Study	Baig et al ⁶	Buchler MW et al ⁸
Male	82%	73.33%	61%
Female	18%	26.66%	39%

FIGURE 1: GRAPH SHOWING COMPARISON OF SEX DISTRIBUTION:



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.

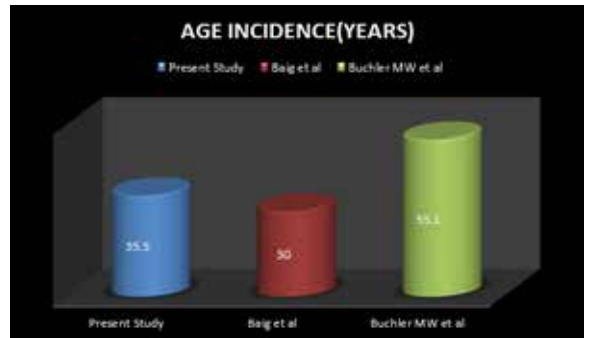
AGE INCIDENCE:

The peak incidence was in the 4th decade of life - the most productive age group. The median age group in our study was 35.5 years compared to 30 years in a prospective study of the aetiology, severity and outcome of acute pancreatitis in the Baig et al⁽⁶⁾ study conducted in eastern India indicating a younger age group being affected.

Table 2: COMPARISON OF AGE INCIDENCE:

Present study	Baig et al ⁽⁶⁾	Buchler MW et al ⁽⁸⁾
35.5 years	30 years	55.1 years

FIGURE 2: GRAPH SHOWING COMPARISON OF AGE INCIDENCE:



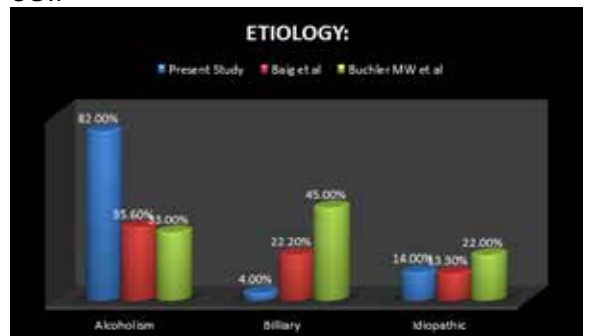
ETIOLOGY:

Alcohol was the main etiological factor in our study and present in about 81.1% of patients. This was higher than in the Baig et al⁽⁶⁾ study conducted in eastern India. In the other studies gall stone was the main etiological factor. The percentage of idiopathic cases was comparable to the Baig et al⁽⁶⁾ study.

Table 3: COMPARISON OF ETIOLOGY:

Etiology	Present Study	Baig et al ⁽⁶⁾	Buchler MW et al ⁽⁸⁾
Alcoholism	82%	35.6%	33%
Biliary	4%	22.2%	45%
Idiopathic	14%	13.3%	22%

FIGURE 3: GRAPH SHOWING COMPARISON OF ETIOLOGY:



Alcohol intake and biliary tract disease account for majority of the cases (90%). Relative frequency depends on the patient population and prevalence of alcoholism in the population studied. In United States alcohol abuse is the main cause. In Europe and Asia, gall stone associated pancreatitis predominates. Gallstones are responsible for 50 -60 % and alcohol 8 - 32 % of attacks of acute pancreatitis in the U.K.⁽⁷⁾ Also females are more prone to gall stone pancreatitis and males for alcohol induced pancreatitis.

COMPLICATIONS OF ACUTE PANCREATITIS:

Complications of pancreatitis:

The pathogenesis and management of the cardiovascular collapse, respiratory failure, metabolic encephalopathy, gastrointestinal bleeding, and disseminated intravascular coagulation that complicate severe pancreatitis appears to be identical to those involved when these processes are superimposed on other disease states that are characterized by peritonitis and hypovolemia.

1) Cardiovascular collapse is largely caused by hypov-

olemia, and its management requires aggressive fluid and electrolyte repletion. This may necessitates placement of central line.

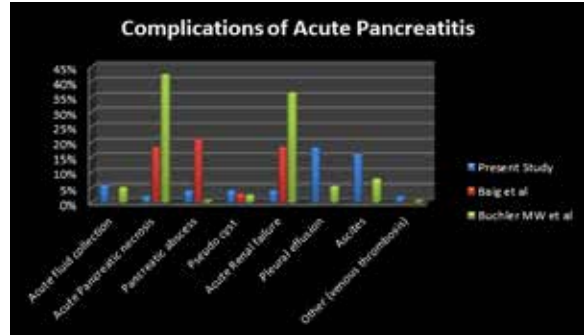
- 2) Pulmonary manifestations of pancreatitis include atelectasis and acute lung injury. Management includes good pulmonary toilet combined with close monitoring of pulmonary function.
- 3) Renal failure in pancreatitis is usually prerenal and is associated with a poor prognosis. In severe cases dialysis, usually hemodialysis, may be required.
- 4) Stress induced gastroduodenal erosion accounts for most of the gastrointestinal bleeding in pancreatitis and prophylaxis with antacid, H₂ receptor antagonists, or proton pump inhibitors may be appropriate. Rarely, massive bleeding can result from injury to peripancreatic vascular structures leading to hemorrhage into the retroperitoneum. The pancreatic inflammatory process can cause thrombosis of major gastrointestinal vessels and results in ischemic lesions involving stomach, small intestine, or colon that may cause bleeding.
- 5) Some patients with severe pancreatitis develop disseminated intravascular coagulation, but it rarely causes bleeding and prophylactic heparinization is usually not indicated.

Although 16% of patients in the present study had ascites which was higher compared to other studies, the rate of pancreatic necrosis was more in other studies as against 2% in our study. Acute Renal failure was seen in 4% of our patients whereas it was much higher in other studies.

Table 4: COMPARISON OF COMPLICATIONS OF ACUTE PANCREATITIS

Complications	Present Study	Baig et al ⁽⁶⁾	Buchler MW et al ⁽⁸⁾
Acute fluid collection	6%	-	5%
Acute Pancreatic necrosis	2%	18.2%	42.15%
Pancreatic abscess	4%	20.9%	0.5%
Pseudo cyst	4%	3%	2.45%
Acute Renal failure	4%	18.2%	36.28%
Pleural effusion	18%	-	5.45%
Ascites	16%	-	7.67%
Other (venous thrombosis)	2%	-	0.5%

FIGURE 4: GRAPH SHOWING COMPARISON OF COMPLICATIONS OF ACUTE PANCREATITIS:



MORTALITY:

Patients with fewer than three of the prognostic criteria can be expected to have a mild attack with little morbidity and a mortality rate of less than 1%. On the other hand, with the presence of more prognostic factor, increased morbidity and mortality can be expected so that, with three or four Ranson’s criteria¹⁰, the mortality rate may reach 15%, and 50% of patients may need to be treated in an intensive care unit. Most patients with five or six signs will require intensive care and, with seven or eight of Ranson’s signs, the mortality rate may reach 90%.

In our study 1 (2%) patient died. The patient died due to acute renal failure with septicemia secondary to acute pancreatitis. The mortality rate in our study standing at 2% is less compared to other studies.

Table 5: COMPARISON OF MORTALITY

Mortality	Present Study	Baig et al ⁽⁶⁾	Buchler MW et al ⁽⁸⁾
Percentage	2%	3.4%	4.4%

CONCLUSION:

Acute pancreatitis is a common cause of acute abdomen in patients presenting to the emergency department.

Alcohol being the most common cause of acute pancreatitis in this part of the country, it has a male preponderance and most commonly presents in the 4th decade of life.

It is mainly a clinical diagnosis supplanted with biochemical and radiological findings. Ideally all cases should be stratified during the first 48 hours according to one of the scoring systems. Scoring systems help to identify patients, who are more likely to have a severe attack,

The management is mainly conservative, with surgery reserved for patients with biliary pancreatitis and those developing complications secondary to acute disease. In those developing necrosis there is a trend toward delaying necrosectomy. Recent results support the use of minimally invasive procedures for the various complications associated with acute pancreatitis

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