Acta Biomedica Scientia

e - ISSN - 2348 - 2168
Print ISSN - 2348 - 215X

www.mcmed.us/journal/abs

Research Article

INCIDENCE AND AETIOLOGY OF ACUTE PANCREATITIS: AN INSTITUTIONAL EXPERIENCE

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ABSTRACT

Acute Pancreatitis is one of the commonest forms of pancreatitis. The aim of this study is to analyse data concerning incidence and aetiology, severity of acute pancreatitis. Out of 55 patients, 42 were male and 13 were female, the incidence was higher in males. The mean age of the patients was thirty years. In our study most prevalent cause was and most common clinical sign was abdominal pain. Imaging modalities ultrasound data showed the most common findings were calculi. Present study also shows that serum amylase and lipase levels were higher in males when compared to females. In the present study, 94.5 % patients were treated with conservative management and remaining patients underwent cholecystectomy. To conclude, from the present results that, alcohol was the commonest cause of acute pancreatitis and remains a significant cause of morbidity and mortality.

Keywords :- Acute Pancreatitis; alcohol; Ranson's score; cholecystectomy.

Access this article online	
Home page: http://www.mcmed.us/journal/abs DOI: http://dx.doi.org/10.21276/abs.2017.4.3.3	**Quick Response code**

Received:25.06.17	**Revised**:12.07.17	**Accepted**:28.07.17

INTRODUCTION

Chronic pancreatitis is a heterogeneous disease which can be defined semantically as inflammation of the pancreas, which of itself may have a variety of pathological manifestations. Acute pancreatitis is commonly classified in terms of its aetiology or the clinical conditions that predispose to the particular cascade of biochemical and cellular events which include gallstones [biliary], alcohol, endoscopic retrograde cholangio pancreatography [ERCP], postoperative, abdominal trauma, drugs, obstruction, infection, metabolic disorders, as well idiopathic [1]. Acute pancreatitis is a common disease with wide clinical variation and its incidence is increasing. The average mortality rate in severe acute pancreatitis approaches 2–10 % [2]. The most frequent complications of chronic pancreatitis include obstructive jaundice, duodenal stenosis, left-sided portal hypertension, and pseudocyst and mass formation; pancreatic carcinoma may also occur as a complication of chronic pancreatitis [3,4].

Among all the factors, alcoholism is the most common cause of chronic pancreatitis. However, in many tropical countries like India, the etiology frequently includes so called 'tropical chronic pancreatitis' [5]. Clearly, any understanding of the complexity of chronic pancreatitis in India necessitates a study of the association between clinical patterns and risk factors of the disease as a first step. The aim of this study is to analyse data concerning incidence and aetiology, severity of acute pancreatitis.

MATERIAL AND METHODS

This was a prospective study was done in Mamata Medical College and General Hospital, Khammam, India, from July 2011 to August 2012 with prior hospital ethics committee approval and informed and written consent by the patient. Patients were classified into mild, moderate and severe acute pancreatitis based on Ranson's score.

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A total of 55 patients diagnosed with acute pancreatitis were admitted in surgical unit and a careful history taken and physical examination was performed. The laboratory investigations like Complete blood count, Blood sugar, RFT, LFT, Serum amylase, Serum lipase, Serum electrolytes, and Radiological investigations [USG abdomen, CECT abdomen] from each patient. Patients with chronic pancreatitis and pancreatic malignancy, severe metabolic disorders, intestinal perforation, intestinal obstruction, trauma, mesenteric vascular ischemia were excluded from the study.

RESULTS

A total of 55 patients diagnosed with acute pancreatitis were evaluated in the present study. Out of 55 patients, 42 were male and 13 were female, the incidence was higher in males [76.36%] as compared to females. Male preponderance was seen in younger patients and female preponderance is seen as age is increased. The mean age of the patients was thirty years [Table 1].

Table 1. Distribution of cases according to age and sex

Age	Male	Female	Total
10-20	5	0	5
21-30	9	1	10
31-40	11	2	13
41-50	9	3	12
51-60	6	4	10
61-70	2	3	5
Total	42	13	55

In our study most prevalent cause was alcohol [41.8%] followed by gallstone [29%], Post traumatic [16.3%] and idiopathic [12.7%] [Table 2]. Most common clinical sign was abdominal pain [91%], followed by abdominal distention [75%], tachycardia [62%], fever [51%], jaundice [34%], epigastric lump [11%].

Table 2. Etiological distribution of cases.

Etiology	Incidence
Alcohol	23 [41.8%]
Gall stones	16 [29%]
Post traumatic	9 [16.3%]
Idiopathic	7 [12.7%]

Table 3. Distribution of patients based on signs and symptoms

Signs	Incidence
Abdominal pain	91%
Abdominal distention	75%
Tachycardia	62%
Fever	51%
Jaundice	34%
Epigastric lump	11%

Imaging modalities ultrasound data was performed in 46 patients [83.6%] and the most common findings were: calculi [62.3%], dilated duct [51.6%], atrophy [23.1%], mass [5.1%], and common bile duct dilatation [6.2%]

Figure 1. Distribution of patients based on imaging

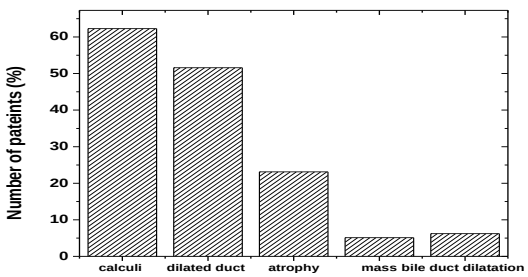

Table 4. Distribution of patients based on Serum amylase and lipase levels.

Patients	Serum Amylase levels [150-300 IU]	Lipase levels [100-200 IU]
Males	**32**	17
Females	**8**	4

As evident in our study that serum amylase level was higher [more than normal range] in males when compared to females. Serum lipase is more specific as compared to amylase; the increased levels were higher in males when compare with females [Table 4]. In the present study, 52 [94.5 %] were treated with conservative management. Of the remaining cases, 3 [5.45 %] patients underwent cholecystectomy and patients had an uneventful recovery without any complications.

DISCUSSION

The incidence of pancreatitis has increased globally in the past two decades [6]. Acute pancreatitis incidence rates peak between ages 35 and 44 years [7]. Acute pancreatitis has variable aetiology which includes, gall stones, alcohol intake, autoimmune, infections, metabolic disorders, penetrating injuries, abdominal trauma and idiopathic [8]. Alcohol is a well-known precipitant of acute pancreatitis, although the incidence of acute pancreatitis in heavy alcohol consumers is not more than 2% to 3% per year, suggesting that there are as yet undetermined environmental or genetic factors that influence the development of acute pancreatitis in this population. [9] Furthermore, alcoholic acute pancreatitis has the highest associated risk of overall mortality, with the odds of death increased 90% as compared with biliary pancreatitis, possibly due to poor baseline nutrition. Between 10% and 30% of cases of acute pancreatitis may be idiopathic in nature [10]. In the present study, alcohol was the commonest cause followed by gallstone, Post traumatic and idiopathic. Whereas; several studies have shown gallstones as the commonest cause [11]. The acute pancreatitis can be diagnosed by abdominal pain, nausea and vomiting, shock, tender abdomen, respiratory distress and also by the elevation of serum amylase and lipase [12]. In the present study, most common clinical sign was abdominal pain, followed by abdominal distention, tachycardia, fever, jaundice and epigastric lump. Our observations are in accordance with earlier studies [13]. The clinical diagnosis of acute pancreatitis is also based on serum amylase and lipase levels. As evident in our study serum amylase levels were significant higher in males when compared to females. Serum lipase is more specific as compared to amylase; the increased levels were higher in males when compare with females. The treatment varies according to the severity, so grading of severity is also very important in the line of management. Most patients with mild acute pancreatitis recover with supportive measures. In the present study, 94.5 % patients were treated with conservative management. Of the remaining cases, 5.45 % patients underwent cholecystectomy and patients had an uneventful recovery without any complications. To conclude from the present results that, alcohol was the commonest cause of acute pancreatitis and remains a significant cause of morbidity and mortality. Most patients with mild acute pancreatitis will recover with conservative measures.

ACKNOWLEDGEMENT: None

CONFLICT OF INTEREST:
The authors declare that they have no conflict of interest.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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Cite this article:
Dasharadha J, Kishan Rao B. Incidence and aetiology of acute pancreatitis: An Institutional Experience. *Acta Biomedica Scientia*. 2017;4(3):119-122.