



A STUDY OF CLINICAL AND ETIOLOGICAL PROFILE OF PATIENTS WITH ACUTE PANCREATITIS

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ABSTRACT

Background: Acute pancreatitis remains a common disorder with devastating consequences. Mortality and morbidity depends on the severity of the disease. We aimed to evaluate the clinical and etiological profile of patients with acute pancreatitis.

Materials and methods: This was a prospective observational study done in the department of Medicine, OGH, Hyderabad, during one year period from 1st July 2017 to 30th June 2018. Detailed clinical history was recorded and examination and lab investigations were done. Severity of acute pancreatitis was assessed using Atlanta classification.

Results: in this study 50 patients were included- 48(96%) men and 2(4%) women. The major etiological groups were as follows: alcohol in 74%, dyslipidemia in 18% and gallstones in 6% of patients. Majority (74%) of the patients were in the age group 21-40 years. Pain abdomen (100%) was present in all patients. Ascites / pleural effusion (18%) was the most common complication. Most of the patients had mild(48%) to moderate (36%) acute pancreatitis.

Conclusion: Acute pancreatitis was common in third decade with a male predominance. Alcohol was the most common aetiology. Patients with acute pancreatitis should be evaluated clinically, biochemically and radiologically as this condition associated with severe systemic and local complications.

KEYWORDS : Acute pancreatitis, S. Amylase, S. Lipase. Alcohol and pancreatitis.

INTRODUCTION

Acute pancreatitis (AP) is an inflammatory process of the pancreas with varying involvement of regional tissues or remote organ systems and with potentially devastating consequences^{1,2}. The incidence of pancreatitis varies in different countries and depends on cause e.g., alcohol, gallstones, metabolic factors and viral infections³. The estimated incidence in industrialized countries is 10-20/100,000 per year.² There are many causes of acute pancreatitis, but the mechanisms by which these conditions trigger pancreatic inflammation have not been identified⁴. Gall stones continue to be the leading cause of acute pancreatitis in most series⁵. Gall stone pancreatitis is more common in women than in men. Alcohol is also a common cause of acute pancreatitis⁶. Alcoholic pancreatitis is more common in men, and usually occurs in individuals with long standing alcohol abuse. Hypertriglyceridemia is the cause of acute pancreatitis in 1.3 to 3.8% of cases⁷. Approximately 2 to 5% of cases of acute pancreatitis are drug related. Drugs cause pancreatitis either by a hypersensitivity reaction or by the generation of a toxic metabolites⁸.

The incidence of AP increases with age. More recently, biochemical markers, such as C-reactive protein³, interleukin-6 and trypsinogen activation peptide^{9,10}, have been used as predictors of severity in AP. The value of hemoconcentration in the initial assessment of AP patients and its implications in prognosis remain controversial.

Diagnosis remains clinical and can be supported by three fold rise in serum lipase (serum amylase) above the upper limit of normal of. But an estimation of serum lipase, trypsinogen or isoamylase assay is confirmatory and will increase the diagnostic yield. Supportive radiological procedures are ultrasonography, computed tomography and MRI. Currently CECT is the imaging modality of choice where areas of hypo perfusion correlate with necrosis¹¹. The treatment of acute pancreatitis is largely supportive. Patient with mild disease are treated by eliminating oral intakes, instituting intravenous hydration and providing frequent parenteral analgesia. Uses of antibiotics and drugs, which reduce the pancreatic secretion, have been studied extensively¹².

With this background, the present study was undertaken to evaluate the clinical and etiological profile of patients with acute pancreatitis.

MATERIALS AND METHODS

This was a prospective observational study done in the department of Medicine, OGH, Hyderabad, during one year period from 1st July

2017 to 30th June 2018. All the patients above 18 years of age presenting in inpatient department with AP (2 of the 3 criteria-abdominal pain suggestive of AP, serum amylase or lipase activity >3UNL, characteristic radiological findings) were included in the study. Patients with chronic pancreatitis (history of chronic abdominal pain/ maldigestion with weight loss / radiological evidence of chronic pancreatitis) and immuno compromised patients were excluded. Detailed history and clinical examination was done and laboratory tests performed included haemogram, serum amylase, lipase, liver function tests, serum triglyceride, blood urea nitrogen, serum creatinine, blood glucose, lactate dehydrogenase, serum calcium, arterial blood gas analysis, Ultrasound Abdomen and CT Scan Abdomen. Severity of assessment was done with Atlanta Classification. All the patients were managed as per standard guidelines.

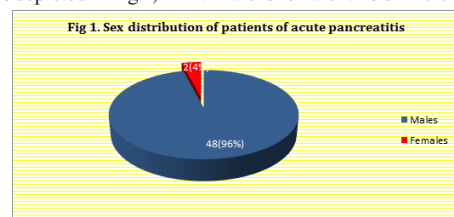
RESULTS

A total of 50 patients with acute pancreatitis were included in the study.

As shown in the Table 1, majority of the patients in the present study were in the age group of 21-40 years (n, % =37, 74%, youngest patient was 16 years and oldest patient was 76 years old.

Age group in years (n=50)	Male n (%)	Female n (%)	Total n (%)
<20	1(2%)	1(2%)	2 (4%)
21-40	36 (72%)	1 (2%)	37 (74%)
41-60	10 (20%)	0 (0%)	10 (20%)
>60	1 (2%)	0 (0%)	1 (2%)
Total	48 (96%)	2 (4%)	50 (100%)

Out of the 50 patients 48(96%) were males and 2(4%) were females which is depicted in Fig 1, with a male to female ratio of 24:1.



In the present study Alcoholism(74%) was the most common cause followed by dyslipidemia (18%) and gall stones (6%)and idiopathic (2%) which is depicted in table 2.

Table 2. Etiology of acute pancreatitis

Etiology	Number	Percentage
Alcoholism	37	74%
Dyslipidemia	9	18%
Gall stones	3	6%
Idiopathic	1	2%
Total	50	100%

Among the clinical features (Table 3) abdominal pain was present in 100% of patients, nausea/vomiting, abdominal tenderness in 96%, jaundice in 18%, fever in 12% and abdominal distension in 4%.

Table 3. Clinical features of acute pancreatitis

Clinical feature	Number	Percentage
Abdominal pain	50	100%
Nausea/vomiting	48	96%
Abdominal tenderness	48	96%
Jaundice	9	18%
Fever	6	12%
Abdominal distension	2	4%

All patients underwent ultrasound abdomen and it was diagnostic in 90% of patients, CECT abdomen was done in 45 patients and the suggestive findings were present in all the cases.

The biochemical parameters are shown in Table 4.

Table 4. Biochemical profile of acute pancreatitis

Biochemical profile	Number	Percentage	
Hemoglobin	<10 gm/dl	47	94%
	>10 gm/dl	3	6%
Total WBC count	≥1500/cmm	3	6%
	<1500/cmm	47	94%
Random Blood Sugar	≥180mg/dl	5	10%
	<180mg/dl	45	90%
Serum. Bilirubin	>1.2mg/dl	4	8%
	≤1.2mg/dl	46	92%
S. ALT	>45IU/L	6	12%
	≤45IU/L	44	88%
S. Albumin	>3.2mg/dl	25	50%
	≤3.2mg/dl	25	50%
S. Calcium	≥8.5mg/dl	37	74%
	<8.5mg/dl	13	26%

Out of 50 patients 20(40%) patients developed complications (Table 5). Hypocalcemia was present in 6%, ascites/ pleural effusion in 18%, obstructive jaundice in 8%, pseudocyst in 6% and upper GI bleed in 2% of patients.

Table 5. Complications of acute pancreatitis

Complication	Number	Percentage
Hypocalcemia	3	6%
Pseudocyst	3	6%
Ascites / pleural effusion	9	18%
Upper GI bleed	1	2%
Obstructive jaundice	4	8%
Total	20	40%

Patients were divided into three degrees of severity as per Atlanta classification. In the present study 24(48%) patients had mild pancreatitis, 23(46%) patients had moderate pancreatitis and 3(6%) patients had severe pancreatitis (Table 6).

Table 6. Severity of acute pancreatitis

Severity	Number	Percentage
Mild	24	48%
Moderate	23	46%
Severe	3	6%
Total	50	100%

DISCUSSION

Acute pancreatitis is a disease that varies in severity ranging from a mild and self limiting illness to a very severe and rapidly progressive condition leading to multiple organ failure and eventually to death. An early diagnosis and identification of those who are at risk of

development of severe disease and rapid institution of therapy might reduce the morbidity and mortality.

A total of 50 consecutive patients with acute pancreatitis were included in the study.

Majority(n.=37, 74%) of the patients in the present study were in the age group of 21-40 years which is comparable to studies by KU Ahmed et al¹³, (54%), Rajashekar Patil¹⁴, (73%), Prasad HL et al¹⁵, (57.5%) and Shakeel et al¹⁶, (51%). Other studies had late presentation in the 5th and 6th decade. This is probably because alcohol was the main etiological factor in our study which presents usually in the younger age group.

There was male predominance in our study with males accounting for 96% of patients with M: F ratio 24:1. The other studies also had a higher percentage of males (92.3% in Rajshekar et al¹⁴, and 80% in Shakeel et al¹⁶). This could be attributed to alcohol which was the main etiologic agent in our society.

Alcohol was the main etiological factor in our study and present in 74% of patients. This was comparable to the study by Rajshekar et al¹⁴, (84.6%), Shakeel et al¹⁶, (90%)J at Finland et al¹⁷, (70%). In other studies gall stone was the main etiological factor(KU Ahmed et al¹³, Prasad HL et al¹⁵).

Pain abdomen was the presenting complaint in all (100%) the patients, this was comparable to the studies by KU Ahmed et al¹³, (96%) and Rajshekar et al¹⁴, (100%) and Kashid A et al¹⁸, (92.73%).

Out of the biochemical parameters tested a higher leucocyte count was associated with high mortality, but a low haemoglobin level was not associated with increased mortality. A low serum calcium and albumin and a high blood glucose level were associated with higher mortality. Serum bilirubin and aspartate aminotransferase were found not to be associated with increased mortality this finding was similar to the study by Shakeel et al¹⁶. In Ranson's and Briisando's experience a high blood sugar, serum creatinine and aspartate transaminase and low serum calcium and albumin were associated with poor prognosis^{19,20}.

Ascites / pleural effusion was the most common complication(18%) which was comparable to studies by Rajshekar et al¹⁴, and Shakeel et al¹⁶. The severity profile was similar to Rajashekar et al¹⁴.

CONCLUSION

Acute pancreatitis is a common cause of acute abdomen and alcohol, dyslipidemia and gallstone are the most common aetiology. Most of the patients were males and were in the third decade with majority presenting with mild to moderately severe pancreatitis. USG is the initial radiological investigation for acute pancreatitis. Because pancreatitis mimics many other acute abdominal conditions, the diagnosis of acute pancreatitis must include a careful consideration of differential diagnosis, which should include perforated viscus, acute cholecystitis, appendicitis, and similar conditions. Early diagnosis and appropriate treatment is important to prevent mortality.

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