

Clinical Profile and Outcome of Acute Pancreatitis in Rural Population in South India

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Introduction: Acute pancreatitis is one of the most common cause of acute abdominal pain with a wide range of presentation from mild to multi-organ failure; hence we intended to study the clinical profile of acute pancreatitis in our study. **Methods:** All subjects admitted with acute pancreatitis above the age of 18 years; both male and female willing to participate were included in the study. 60 subjects were studied where males dominate the study. **Results:** Alcohol intake and gall stone being the etiological cause for the illness. **Conclusion:** The recovery rate was 95% with no mortality was observed in our study.

Keywords: Acute Pancreatitis, Alcohol, Gall stones

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Introduction

Acute pancreatitis is a common cause of acute abdominal pain requiring hospital admission. Acute pancreatitis is an inflammatory process of the pancreas with varying involvement of regional tissues or remote organ system with potentially devastating consequences. Acute pancreatitis has a benign course, with gall stone and alcohol intake being the major cause for 70% of cases. Patients with acute pancreatitis can be classified into mild acute (absence of organ failure and system or local complication), moderately severe acute (no organ failure or transient organ failure fewer than 48 hours without or without local complications) and severe acute pancreatitis (persistent organ failure > 48 hours that might contain one or multiple organ systems).

The first 12 hours are extremely important to provide appropriate management which will decrease morbidity and mortality [1-3]. The clinical presentation varies from case to case, depending on the severity of acute pancreatitis and any underlying co-morbidities. A patient may present with minor complaints of pain epigastrium on one extreme and multi-organ system failure on the other end [4]. As acute pancreatitis is a mild to serious illness with a high mortality rate, it's more important to have a prompt identification of diagnosis and treatment which is more important for the clinical outcome. Hence, in this study we had an intent to explore the clinical profile and outcome of acute pancreatitis in our tertiary care centre.

Methodology

This is a prospective study done in the department of general surgery in Government Head Quarters Hospital, Tirupur between April 2019 and Feb 2020 to identify the clinical profile and outcome of acute pancreatitis patients. 60 patients were included in the study who were willing to participate. Appropriate consent was obtained from the enrolled patients. Diagnosis of acute pancreatitis was based on the presence of appropriate clinical evidence associated with an elevation of serum amylase and/or urinary amylase. Patients were classified into mild, moderate, and severe acute pancreatitis based on Ranson's score, Glasgow scoring system [5].

Inclusion criteria

- All patients who have been diagnosed to have acute pancreatitis by clinical examination, supported by USG, CT abdomen

- All patients were initially subjected only to conservative measures
- Patient of all age group and both sexes

Exclusion criteria

- Patients requiring emergency surgery
- Post-traumatic admissions
- Chronic Pancreatitis and pancreatic malignancy

On admission detailed history was taken and a demographic profile was noted. Relevant history, family history and personal history especially alcohol consumption was recorded. A detailed history was obtained and a thorough physical examination was carried out for every subject, as per the predesigned proforma. Associated medical disease, like hypertension, diabetes mellitus, chronic renal failure, bronchial asthma, chronic obstructive pulmonary disease (COPD) and ischemic heart disease were noted. Results of haematological, biochemical and imaging tests were noted. The most likely etiological factor was identified by analysing history, physical examination and relevant investigations. Investigations like routine blood test, DC, WBC count, blood sugar estimation, routine urine examination were done. A specific investigation like serum lipase estimation was also done. Ultrasonography of the whole abdomen and pelvis were done in all patients to evaluate for the presence of gall stones and common bile duct pathology. CT scan was done after 72 hours of admission. Data collected were analysed statically.

Results

Table 1: Sex distribution among the age group

Age group	Sex		Total
	Male	Female	
≤20	2	0	02
21-30	6	8	14
31-40	11	8	19
41-50	9	06	15
51-60	8	0	08
>60	0	0	02
Total	38	22	60

A total of 60 patients were enrolled in the study, out of that 38 were male and 22 are females. These patients were grouped into 6 groups based on their age. The maximum number of patients were in the age group was between 31-40 and fewer patients were reported to be in <20 and <60.

Table 2: Response to treatment in presenting complaints

Chief Complaints	On admission	Day 3	Day 7
Upperabdominal pain	60 (100%)	35 (58.33%)	2 (3.33%)
Abdominalpain that radiates to back	54(90%)	31 (51.66%)	1(1.66%)
Abdominal distension	28(46.66%)	11(18.33%)	2 (3.33%)
Palpable abdominal lump	11(18.33%)	1(1.66%)	0 (0%)
Jaundice	2 (3.33%)	0 (0%)	0 (0%)
Anorexia	39(65%)	12 (20%)	2 (3.33%)
Nausea	51(85%)	24 (40%)	1(1.66%)
Vomiting	44(73.33%)	17 (28.33%)	0 (0%)
Not passedflatus and motion	2 (3.33%)	0 (0%)	0 (0%)

The most common complaints observed were abdominal pain (60%) abdominal pain that radiates to the back (54%), nausea(51%) And the least reported complaints were not passed flatus and motion. Apart from these, Jaundice (2%), abdominal lump(11%) was also observed.

Table 3: Comparison of pulse and blood pressure in patients with acute pancreatitis

	On admission	Day 3	Day 7	P Value	
P.R	Tachycardia	33 (55%)	8(13.33%)	1 (1.66%)	0.001
	Normal,	34 (56.66%)	49(81.66%)	56(93.33%)	
B.P.	Hypertension	27(45%)	18(30%)	2 (2.9%)	0.001
	Hypotension	2 (3.33%)	2 (3.33%)	1(1.66%)	
	Normal	38(63.33%)	47(78.33%)	54(90%)	

On Day 1, 38 patients were found to have normal blood pressure and 34 were having normal pulse rate and 33 patients were found to be tachycardic. On Day 2, only 8 patients were tachycardic, 49 patients were found to be having normal pulse rate and 38 patients were having normal blood pressure.

Table 4: Etiological distribution of cases of acute pancreatitis

Etiology	Sex		Total
	Male	Female	
Alcohol	27	2	29
Gallstones	8	18	26
Idiopathic	1	2	3
Hypertriglyceridemia	2	0	2
Total	38	22	60

The most common etiological factors observed in the study was alcohol(27 in males and 2 in females). Gallstones account for 8 male patients and 18 female patients. Apart from these hypertriglyceridemia (2 in males) were also observed.

Table 5: Comparing per abdominal findings in patients of acute pancreatitis

	On admission	Day 3	Day 7	P Value
Tense	54 (90%)	23(38.33%)	1 (1.66%)	0.001
Tender	57 (95%)	34(56.66%)	3 (5%)	0.001
Non Tender	0	33(55%)	54(90%)	0.001
Guarding	51 (91.1%)	24(40%)	3 (5%)	0.001
Rigidity	46 (76.66%)	21(35%)	1 (1.66%)	0.001
Bowel Sounds	2 (3.33%)	0	0	0.562

In our study on per abdomen examination, tenderness (95%), tense abdomen (90%), guarding per abdomen (91%) and rigidity (76.66%) was observed on Day 1 and the percentage is gradually reduced on Day 3 and Day 7.

Table 6: Complications in patients of acute pancreatitis in CECT abdomen

Complications	No of patients (%)
Nil	34 (56.66%)
Pseudocyst and Necrosis	17 (28.33%)
Pseudocyst	4 (6.66%)
Necrosis	4 (6.66%)
Peripancreatic fluid collection	1 (1.66%)
Total	60 (100%)

56.66% of the study population presents without any complications. Pseudocyst and Necrosis (28.33%), Pseudocyst4 (6.66%), Necrosis 4 (6.66%), Peripancreatic fluid collection (1.66%) were the observed complications in other patients.

Table 7: Outcome in patients of acute pancreatitis

Outcome	No of patients (%)
Cured	57 (95%)
LAMA	3 (5%)
Total	60 (100%)

95% of patients were cured, 5% of patients got leave against medical advice out of the 60 patients. There was no mortality reported.

Discussion

Acute pancreatitis is a common emergency condition accounting for 3% of patients admitted with acute pain abdomen, the spectrum of disease ranging from mild attacks of abdominal pain to multiorgan failure and death. The overall mortality of acute pancreatitis is 1-2%, but in severe acute pancreatitis mortality is 10-30%. Early diagnosis and identification of those who are at risk are more essential for a better outcome which made us study the clinical profile of acute pancreatitis.

Acute pancreatitis was most common among patients who were in the 2nd to 4th decade of life (33/60). Males predominated compared to females as alcohol was the major etiological cause. Upper abdominal pain, nausea, vomiting and anorexia were the most common presenting symptoms. As major studies were correlated with our observation that gallstone and alcohol were the most common etiological factors.[6] In our study on per abdomen examination, tenderness (95%), tense abdomen (90%), guarding per abdomen (91%) and rigidity (76.66%). Similar study results were found in a study done by Ahmed et al.[7] On hematological examination in our study, TLC was 11,000 (62.7% patients), 1.5% patients had blood glucose > 200 mg/dl, serum amylase (94% patients), serum lipase (86% patients) > 3 times of normal. Our study is very much similar to Ahmed et al and others.

Radiological findings like chest x-ray reported pleural effusion in 9% of patients and it's very similar to the study done by Negi et al. [6] USG findings reported bulky pancreas in 83.6% and pseudocyst 11.9% of patients. Contrast-enhanced computed tomography of the abdomen reported complications in 44% of patients in our study. Complication like pseudocyst with necrosis (28.33%), pseudocyst (6.66%), necrosis (6.66%), peripancreatic fluid collection (1.66%) similar to study done by Ahmed et al. [7] Most common aetiology was alcoholic (n=29) followed by gallstones (n=26). Similar studies like Negi et al, Baig SJ et al, Macro S et al reported gall stone and alcohol are main etiologic agents. In our study, 95% of patients were cured, 5% of patients got leave against medical advice. There was no mortality reported. Similar results were obtained in a study done by Ramu R et al [8].

Conclusion

In our study we observed males were more affected than females; alcohol and gall stones were the leading causes as it had been proven in the early studies and we had no mortality. We must diagnose early to have increased clinical cure among patients reporting acute pancreatitis.

Limitations

- Small study sample
- Exclusion of patients requiring surgery
- Single centric

Contribution by authors

K K Saravanan had conceptualized the study, prepared the study protocol, conducted the data collection, analysis and manuscript writing. **K K Saravanan** has verified all the drafts and approved the final draft., **Mohamed Mubarak Ali V A** had provided key inputs on methodology during protocol preparation, supported data compilation and analysis.

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