

A Study of Etiological Clinical Biochemical and Radiological Profile of Patient with Acute Pancreatitis with Reference of Out Come in Government General Hospital, GMC, Guntur

N. Kalyani¹, T.V. Adishesu Babu²

ABSTRACT

Introduction: Pancreatitis continues to stir up controversy. The etiology, clinical profile, complications and response to therapy may be different in different parts of the world. The objective of this study was to evaluate the incidence, causative factors, investigations and complications in patients presenting to medical departments of Guntur Govt hospital, Guntur in 50 patients.

Material and methods: Fifty patients meeting the inclusion criteria who presented between January 2014 and December 2014 to the medical departments at GGH, Guntur were studied. Detailed history was taken and physical examination performed and investigated.

Results: Out of the 50 patients included, 43 were males and 7 were females. The incidence of pancreatitis was found to be 1.98/1000/year. 74% of patients had pain predominantly in the epigastric region which was relieved in the majority (73.5%) by sitting forward with knees flexed against the chest. 45 (90%) patients had elevated serum amylase. 80% of patients had alcohol as the main etiological factor. USG was 80-90% sensitive in detecting Acute pancreatitis. Complications were present in 30 (60%) out of 50 patients and Pseudocyst was present in 23% of patients.

Conclusion: We observed that among the study group most of the patients were suffering from acute pancreatitis. Most common in males. All the patients were presented with pain abdomen and most of them had it in the epigastrium and commonest site for radiation is to the back. Alcohol is the main etiological factor. USG was 80-90% sensitive in detecting Acute pancreatitis. Pseudocyst is the commonest complication in patients with Acute pancreatitis. Prognosis was good.

Keywords Pancreatitis; Incidence; Alcohol; Ultrasonography; Serum amylase; Complications.

INTRODUCTION

Pancreatitis, which is most generally described as any inflammation of the pancreas, is a serious condition that manifests in either acute, chronic or acute on chronic forms leading to abdominal pain.¹⁻³ Acute pancreatitis has a sudden onset and short duration, whereas chronic pancreatitis develops gradually and worsens over time, resulting in permanent organ damage. It may result in progressive destruction of the exocrine tissue and in some patients a loss of endocrine tissue as well. However owing to the tremendous reserve of pancreatic function, insufficiency may be subclinical at least in the beginning of the disease.

The early diagnosis of pancreatitis and its complication is still difficult and natural history as well as the prognosis of the disease remains yet to be defined. The clinical profile, complications and response to therapy may be different in

different parts of the world and it is therefore important that experiences from different parts of the country be recorded. Hence this study is done to understand the various etiological factors, clinical features and complications occurring in this part of Guntur (south India).

Aims and objectives of the research were to study the various clinical presentations of Acute Pancreatitis in Government General Hospital, Guntur and to study the complications and outcome of Acute Pancreatitis.

MATERIAL AND METHODS

The present study enrolled 50 patients who were diagnosed as Acute Pancreatitis based on inclusion and exclusion criteria from the patients attending medical and surgical departments of Guntur Govt Hospital. Study was conducted over a period of one year (January 2014 to December 2014).

Method of Collection of Data

This is a prospective and observational study. Ethical clearance was obtained from the institutional Ethics Committee of Guntur Medical College. Informed consent was taken from the patients in their own language before collecting data.

The investigator sought the help of staff and head of the concerned departments (Medicine and Surgery) to conduct the study. All the patients both inpatients and outpatients were screened for pancreatitis during the period of one year were taken as denominator of the study. Meticulous records were maintained regarding clinical features, family history of pancreatitis, alcohol intake, dietary habits, stigmata of alcoholic liver diseases and by performing various⁴ investigations like blood routines, serum amylase, serum LDH, serum calcium, liver function test and radiological investigations like plain X ray abdomen and abdominal ultrasonography.

Ultrasonography of abdomen was used for categorizing the patients into:

- Acute pancreatitis when the patient had hypoechogenic bulky pancreas.
- Chronic pancreatitis when they had ductal dilatations and calcifications.
- Acute on Chronic when they had both the features of

¹Assistant Professor, ²Associate Professor, Guntur Medical College/Government General Hospital, Guntur, India

Corresponding author: DR.N. Kalyani, D. no:7-19-160/80/5, 5/4mallikarjunapet, Near Saibaba Temple, Guntur --522002, India

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Acute and Chronic pancreatitis.

Inclusion Criteria

All patients (of all ages and sex) attending medical and surgical wards of Govt Hospital Guntur who have been diagnosed to have pancreatitis.

Exclusion Criteria

- 1) All Abdominal conditions having similar clinical features other than pancreatitis.
- 2) All patients with post surgical or post traumatic pancreatitis.
- 3) Patients who refused to take part in the study.
- 4) Patients with carcinoma of pancreas.

The data collected in a specially designed proforma were processed and subjected to relevant statistical analysis.

STATISTICAL ANALYSIS

Descriptive statistical procedure and evaluation were done to analyze results. Chi-square test was applied and p-values were determined. All the relevant statistical methods were carried out using SPSS (version 19.0) for Windows.

RESULTS

This was a prospective study done at Govt General Hospital, Guntur among fifty patients from the Medical and surgical departments who met the inclusion criteria over a period of twelve months from January 2014 to December 2014 who were diagnosed of pancreatitis. This study presented here has revealed results which are as follows.

Age and sex distribution

The demographic profile of the study samples showed that maximum subjects belonged to the age group between 21-40 years (70%). Males (86%) were more than females (14%).

Etiological factors

Table 1 shows the number of Alcoholics present in the study subjects. 40 (80%) out of 50 subjects were alcoholic. 5 (10%) out of 50 subjects had Gall stones and 1 out of 50 subjects had hypertriglyceridemia. No obvious etiology was found in 4 (8%) out of 50 subjects.

Table 2 shows that 15 (28%) out of 50 subjects had 3 times elevation of serum amylase and 30 (60%) out of 50 had 5 times elevation of amylase. 5 subjects (12%) shows no elevation.

Table 3 shows that USG was 80-90% sensitive in detecting Acute Pancreatitis.

Table 4 enlighten the distribution of complications in Acute Pancreatitis. 7 (23.1%) out of 30 subjects develop pseudocyst. 5 (16.5%) out of 30 subjects develops hyperglycemia. 5 (16.5%) subjects shows necrosis in USG.

Table 5 depicts the Prognosis in the Patients with Acute Pancreatitis based on BISAP score (B: BUN>25mg%, I: impaired mental status, S: SIRS 2/4, A: age>60yrs, P: pleural effusion)

DISCUSSION

Acute pancreatitis is an inflammatory disease of the pancreas. The etiology and pathogenesis of pancreatitis have been extensively investigated worldwide. The clinical profile, complications and response to therapy may be different in different parts of the world and it is therefore important that experiences from different geographical areas be discovered

Alcoholism	40	80%
Gall Stones	5	10%
Hypertriglyceridemia	1	2%
Idiopathic	4	8%

Table-1: Main Etiological Factors in Acute Pancreatitis

	No. of Cases	Percentage
>3x Normal	15	30%
>5x Normal	30	60%
Not Elevated	5	10%

Table-2: Pattern of amylase in acute pancreatitis

Total no of cases	Yes	No
50	40	10
100%	80%	20%

Table-3: Identification of pancreatitis based on usg

Necrosis	5	16.5%
Pseudocyst	7	23.1%
Ascites	3	9.9%
Thrombosis	2	6.6%
Pleural Effusion	2	6.6%
Hypotension	1	3.3%
Gastrointestinal Haemorrhage	2	6.6%
Azotemia	2	6.6%
Hyperglycemia	5	16.5%

Table-4: Distribution of complications in acute pancreatitis

BISAP Score	Total No. of Patients	Recovered
0	42	42
1-3	6	6
3-5	2	1

Table-5: Prognosis in patients with acute pancreatitis

and studied. Numerous etiopathological factors predisposing to pancreatitis have been identified, yet there is a need to further evaluate this entity which has significant morbidity and mortality.

Although advances in pancreatic function testing and imaging procedures have broadened our knowledge of pancreatitis, the early diagnosis of acute, chronic or acute on chronic pancreatitis and its complication is still difficult. Therefore this study was undertaken at Govt General Hospital Guntur, to study the clinical and etiological profile of pancreatitis.

Our study was unique in the way that the entire population covered was from a rural background. A total of 50 patients who presented during the period of 12 months (January 2014 to December 2014) were studied. An attempt has been made to compare this study with other studies on pancreatitis after adopting comparable standards of diagnosis and modification. Out of 25,200 patients screened for pancreatitis during the study period of one year in Medical and Surgical departments, fifty cases were diagnosed to have pancreatitis.⁵

In this study the age of patients range from 12 to 70 years and most of the patients were between 21-40 years of age. It is comparable to a study on 35 patients with chronic pancreatitis conducted by Lee MG et al where the age of the patients ranged from 21 to 67. It also correlate with another study

conducted by Wayne et al on recurrent pancreatitis, were the age at diagnosis ranged from 25 years to 39 years. The present study has shown that 86 % of the patients were males and only 14 % were females.

In this study abdominal pain was the presenting symptom in all the patients with acute pancreatitis. This correlates with a study conducted by Lee MG et al in which 30(86%) patients out of 35 cases had abdominal pain.

The site of abdominal pain may also vary in patients with pancreatitis. In our study 37(74%) patients had pain predominantly in the epigastrium, five (10 %) patient had pain in the left hypochondrium, three (6%) in the right hypochondrium and diffuse pain in five patients(10%). In 23 (67.6) patients there was history of radiation of pain to the back. 11(32.4%) patients experienced pain radiating to other areas. However, this does not correlate with a study conducted by Lankisch PG et al, where 68 % of patients had pain predominantly in the epigastric region, 32 % in the right hypochondrium, 50 % in the left hypochondrium and 25% in the hypogastric region.⁶

In this study, abdominal pain was relieved by sitting forward with knees flexed against the chest in 25 (73.5%) patients and one (2.9%) subject had relief of pain by squatting and clasping knee to the chest. The rest 8(23.5%) of the patients were relieved of their pain in other positions.

In acute pancreatitis, at the onset of the disease severe pain may limit the food intake. In chronic alcoholics qualitative malnutrition may also contribute to weight loss. In our study most of the patient's body mass index was between 18.5 to 24.9 kg/m². This was comparable to a study conducted by Mentula P et al where the mean BMI was between 25.2 – 26.2 kg/ m².⁷

In most of the countries, alcohol is the major etiologic factor in the development of Acute Pancreatitis. In the present study alcohol consumption was present in 40(80%) out of 50 acute pancreatitis. This was correlating with Lee MG et al who reported that 77% of the patients in their study were chronic alcoholics. Similarly, in a study conducted by Montalto G et al 62% were alcoholics. The study conducted by Shaheen MA (2007) in 760 patients of acute pancreatitis, the percentage of alcoholics was only 53%.⁸

Interestingly in our study, there were no patients with family history of pancreatitis. Serum amylase and lipase activities are elevated only during acute attacks of pancreatitis and not during asymptomatic intervals. In this study, 15(30%) out of 50 acute pancreatitis patients had more than 3 times elevation of serum amylase and 30 (60%) out of 50 acute pancreatitis patients had elevated serum amylase more than five times and 5 (10%) patients show no elevation of serum amylase.⁹

The sensitivity and specificity of ultrasonography and CT in patients with acute pancreatitis are in the range of about 80-90%. The present study revealed the evidence of pancreatitis by ultrasound in 40(80%) patients. In the present study, hyperglycaemia was present in 5(16.5%) out of 50 acute pancreatitis cases. This can be correlated with a study by Wakasugi H et al where 15% patients had diabetes mellitus.¹⁰ Also a study by Lee MG et al revealed evidence of diabetes in 16 % of patients.

In this study 30(60%) out of 50 acute pancreatitis patient

had complications 7(23.1 %) patients developed pseudocyst in this study. This was comparable with the study by Lee MG et al in which 5 out of 35(14.2%) patients developed pseudocyst. The other complications noted were ascitis in 3(9.9%) and Necrosis in 5(16.5%), Thrombosis of vessels in 2(6.6%), pleural effusion in 2(6.6 %) patients hypotension in 1(3.3%), Gastrointestinal haemorrhage in 2(6.6%), Azotemia in 2(6.6%), hyperglycaemia in 5(16.5%), Purtscher's retinopathy in 1(3.3%).

In this study 42(84%) patients were recovered with out any complications. 6(12%) patients patients were recovered normally even with the development of Complications. 1(2%) patient died because of the development of complications

CONCLUSION

In this study we concluded that most of the clinical observations was in accordance with other studies conducted earlier. Among the study pain was a predominant symptom in acute pancreatitis and most of them had it in the epigastric region. Alcohol is the major etiological factor in acute pancreatitis which is in accordance with the other studies. The present study revealed that USG was 80-90% sensitive in detecting acute pancreatitis. The most common complication observed in patients of acute pancreatitis was pseudocyst followed by necrosis and hyperglycaemia.

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