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A clinical profile of acute pancreatitis in a tertiary hospital in South India

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Abstract

Background: Acute pancreatitis is a condition that is quite prevalent in South India. It causes significant morbidity and even mortality if not treated. Aim of this study is to find out the main aetiological factors for acute pancreatitis and their association with comorbidities.

Methods: Our study is a prospective observational study conducted on 80 consecutive patients who presented with features of acute pancreatitis between 20 – 80 years age group, attending the department of General Surgery, Sree Gokulam Medical College and research foundation, Venjaramoodu, Trivandrum during the period of November 2012 to May 2014. The obtained data was uploaded in Microsoft excel sheet and analysed. Finally all these variables were correlated with the severity using Pearson Chi-Square test.

Results: In our study of 80 patients majority were males 59(73.75%). Majority cases were seen in between 41 to 50 years 29(36.3%). The commonest cause was alcohol induced type, 52(65%) followed by gall stone pancreatitis 17(21%). Diet, alcohol intake or gender did not correlate with severity of pancreatitis. Elderly patients with high BMI are more prone to complications.

Keywords: acute pancreatitis, aetiology, gall stone pancreatitis, alcohol induced pancreatitis

Introduction

Acute pancreatitis is defined as an acute condition presenting with abdominal pain and usually associated with raised pancreatic enzyme levels in the blood or urine as a result of inflammatory disease of the pancreas [1]. Acute pancreatitis can recur and it accounts for 3 per cent of all cases of abdominal pain admitted to hospital in the UK [2].

The disease may occur at any age, with a peak in the young males and the older females. The mortality has remained unaltered at 10—15 per cent over the past 20 years. About one-third of patients die in the early phase of an attack from multiple organ failure, while deaths occurring after the first week of onset are due to infective complications [3]. Eighty per cent of patients will have a mild attack of pancreatitis in which the mortality is around 1 per cent, while in those who have a severe attack of pancreatitis the mortality varies from 20 to 50 per cent. The two major causes of acute pancreatitis are biliary calculi, which occurs in 50—70 per cent of patients, and alcohol, which occurs in 25 per cent. The remaining cases may be due to rare causes or be idiopathic [4]. The studies done in Indian subcontinent revealed the leading aetiology as alcoholism (about 42%) followed by gall stones (24%) and trauma (17%).The study also showed more incidence in males (75%) and more in the age of 30s.The attacks were found to be severe in those with alcoholic pancreatitis [5].

The importance of aetiology is that removal of the causative factor can avoid further episodes of pancreatitis. Thus, in a patient who has gallstone pancreatitis, the gallstones should be removed as soon as the patient is fit to undergo surgery and, preferably, before discharge from hospital. The aim of the study was to study the clinical profile of acute pancreatitis in a tertiary care centre in South India.

Methods

A prospective observational study that was carried out on 80 consecutive patients who presented with features of acute pancreatitis between 20 – 80 years age group, attending the department of General Surgery, Sree Gokulam Medical College and research foundation, Venjaramoodu, Trivandrum during the period of November 2012 to May 2014.

Patients who were having chronic pancreatitis and those who didn't wish to be included in the study were excluded from the study. All patients were properly examined after a detailed history taking using the proforma. After obtaining the approval from the ethical committee of this institution data will be collected directly from the patient by interview method based on a questionnaire. Patient's age, sex, occupation, dietary habits were noted. The obtained data was uploaded in Microsoft excel sheet and analysed. Finally all these variables were correlated with the severity using Pearson Chi-Square test.

Inclusion criteria

All the patients diagnosed as acute pancreatitis on the basis of clinical signs, biochemical markers and radiological signs.

Exclusion criteria

1. Patients not willing to be included in the study.
2. Cases of chronic pancreatitis.

Sample Size

All consecutive cases admitted to the surgical wards of Dept. Of General Surgery, SGM & RF, Venjaramoodu, Trivandrum for a period of 18 months from November 2012 to May 2014 are to be studied. All consecutive patients were included in the study.

Results

During the study period 80 cases of acute pancreatitis were admitted in general surgery department, out of which 59(73.75%) were males and 21(26.25%) were females. Age of the patient in our study varied from 20 to 80 years, the youngest being 23 years and oldest being 80 years. Majority cases were seen in between 41 to 50 years 29(36.3%). (Table 1) In our study the 60 cases were mild acute pancreatitis (75%), 14 cases were moderately severe acute pancreatitis (17%) and 6 cases severe acute pancreatitis (8%). In our study the majority of cases who presented with acute pancreatitis were of alcohol induced type, 52(65%). Gall stone pancreatitis accounted for 17(21%) cases. Drugs, tumours, Post ERCP & hypertriglyceridemia accounted for the rest. (Table 2)

In our study 46(58%) patients had diabetes mellitus, 32(40%) had hypertension and 37(46%) had dyslipidaemia.(Table 3) Major co-morbidity was diabetes mellitus among the studied population. In our study the 39 cases were having a BMI of 18.5 to 24.9 (49%) and 1 case with BMI less than 18.5 (1.3%). 5 (6%) were having a BMI of above 30 and 39(44%) had BMI between 18.5 to 19.9. In our study majority of the patients were non-vegetarian 75 (93.8%) and only 5 (6.3%) were vegetarians. Majority of the cases 54 (67.5%) who presented were having habit of consuming alcohol. 2(2.5%) patients in our study died due to complications of severe acute pancreatitis. One due to ARDS and the other due to multi organ failure.

In our study it was found that those with diabetes mellitus developed more severe disease. It was found to be statistically significant with Pearson Chi-Square test value of 8.262, df of 2 and a p value of 0.016. In our study it was observed that severe disease was seen in those with hypertension. On analysis hypertension was found to be statistically significant with Pearson Chi Square test value of 10.635, df of 2 and a p value of 0.005. In our study those with dyslipidaemia had severe disease. But on analysis there was no statistical significance with a Pearson Chi-Square value of 2.181, df of 2 and a p value of 0.336(non-significant). In our study there was no statistical significance of alcohol intake with severity of disease with a Pearson Chi-Square value of 0.087, df of 2 and a p value of

0.958 (non-significant).

Discussion

Our study was a case series study conducted at Sree Gokulam Medical College, Venjaramoodu, Trivandrum from November 2012 to May 2014. This institution is located in a rural area. Majority of the draining population are either in the middle class or low socio economic strata.

In this study on 80 patients, acute pancreatitis was found more commonly in males (73.8%) than in females with a mean age of 45.78 years and with alcohol being the most common aetiology (65%), in agreement with a study by Rithin *et al.*, in which the mean age was 40.9 years and alcohol being common aetiology in 72% of the patients [6]. Similar results were mentioned by Baig *et al*, in which alcoholism accounted for 41.14% of cases forming the majority followed by gall stones contrary to the studies outside India which showed 51.7% cases due to gall stones and 48.3% cases due to alcohol in a study conducted by Maher *et al.* [7, 8] In a study by Bota S *et al.* 41.6% cases were due to gall stones and 37.1% cases were due to alcohol consumption [9].

Among the cases 60 were mild acute pancreatitis (75%), 14 were moderately severe acute pancreatitis (17.5%) and 6 were severe acute pancreatitis (7.5%). We had mortality of 2 patients who developed severe pancreatitis. Both were due to complications of pancreatitis *viz.* ARDS and multi organ failure. The mortality rate in the study by Bota S *et al.* was 4.6% and that in a study by Simoes *et al* was 5.7% [9, 10].

Among the various aetiologies encountered in our study, alcohol was the most common (65%) followed by gall stones (21.3%). Other causes seen were drug induced, post ERCP, tumors and hypertriglyceridemia. Some cases of idiopathic pancreatitis were also observed. Even though the majority of cases were due to alcohol intake, alcohol intake as such didn't show any significant association with the disease severity.

The majority of cases had a body mass index (BMI) in the range of 18.5 to 24.9 (49%). 6 people were having a BMI of more than 30. The mean BMI in those with severe acute pancreatitis was 29.05±1.62. This shows that higher the BMI, the more chance to get a severe disease. This was in agreement with the study conducted by Bota S *et al* which also showed significant association with BMI [9].

57.5% of the cases had diabetes mellitus and 40% had hypertension. 46% of the subjects had dyslipidaemia also. The patients with diabetes and hypertension had significant association with severity. No association was demonstrated with dyslipidaemia.

93.8 % of the cases were having non vegetarian diet. This did not show any significant association with severity.

It was observed that the mean age in mild acute pancreatitis was 43.533±1.39(S.E), moderately severe pancreatitis was 48.79±3.31 and severe acute pancreatitis was 61.33±7.91.

Even though a male preponderance of 79% (54 cases) was seen in gender there was no association demonstrable with severity. This was in agreement with the study conducted by Bota S *et al.* and Simoes *et al.* [9, 10]

Table 1: Age distribution

Age	Frequency	Percentage
20 to 30 yrs	8	10.0
31 to 40 yrs	18	22.5
41 to 50 yrs	29	36.3
51 to 60 yrs	14	17.5
>60 yrs	11	13.8

Table 2: Aetiology distribution

Aetiology	Frequency	Percentage
Alcohol induced	52	65.0
Gallstones	17	21.3
Idiopathic	6	7.5
Drugs	1	1.3
Post ercp	1	1.3
Tumor	2	2.5
Hypertriglyceridemia	1	1.3

Table 3: Comorbidities

	T2DM	HTN	DLP
Percentage	58	40	46
Frequency	46	32	37

Conclusion

In this prospective observational study of patients with acute pancreatitis males were more commonly affected. The most common aetiology was alcohol followed by gallstones. There was no association of severity observed with diet, alcohol or gender. Elderly population with co morbidities and high BMI should be treated under close monitoring.

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Ethical approval: Yes

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