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Original Article

INCIDENCE OF NON BILIARY NON ALCOHOLIC ACUTE PANCREATITIS IN A TERTIARY HOSPITAL

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Abstract

Acute pancreatitis is an important cause of hospital admission with acute abdomen. It is responsible for significant morbidity and also mortality in patients.

Background: Acute pancreatitis is an important cause of hospital admission with acute abdomen. It is responsible for significant morbidity and also mortality in patients.

Objective: To determine the incidence of non biliary non alcoholic acute pancreatitis (Non A non B) and also to compare the incidence with alcoholic and biliary pancreatitis in the department of surgery of Chittagong Medical College Hospital, Bangladesh as well as with the developed countries

Methods: This prospective study was carried on 75 patients of both sex having acute abdominal pain characteristic of acute pancreatitis and serum amylase >3 times normal, admitted in General Surgery wards in CMCH and supported by biochemical test during June 2008 to May 2010.

Results: The mean (±SD) age was 36.1±15.4 years and 32.7±14.3 years in male and female group respectively ($p>0.05$) and maximum number was found in the age group of 20-30 years in both groups. Choledocolithiasis were 2(33.3%) and 7(21.9%) in male and female respectively evaluated by USG. Sludge in GB 1(16.7%) in male and 7(21.9%) in female. Biliary ascariasis 3(50.0%) and 16(50.0%) in male and female respectively. Alcoholic was found 4(16.0%), Biliary 2(8.0%) and Non Alcoholic non Biliary 19(78.0%) in male patients. Biliary 32 (64.0%) and Non Alcoholic non Biliary 18(36.0%) in female patients. The difference was statistically significant ($p<0.05$). It was observed that the total patients were 75 among them Alcoholic was 4(5.3%), Biliary was 34(45.3%) and Non Alcoholic non Biliary was 37(49.3%) of study patients.

Conclusion: Non-A non-B acute pancreatitis accounts for about a half - of all cases of acute pancreatitis and is significantly less frequent among female patients. Biliary pancreatitis was higher in female subjects. Bilio pancreatic ascariasis is 50.0% in both male and female subjects.

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Introduction

Acute pancreatitis is an inflammatory condition of the pancreas that may extend to local and distant extra-pancreatic tissues[1]. The disease may range from a mild, self-limiting inflammatory process to extensive necrosis and multi organ failure[2].

The patterns of mortality and morbidity in acute pancreatitis have changed over time. Currently about one third of patients die in the early phase of an attack from multiple organ failure [3,4].

Acute pancreatitis accounts for 3% of all cases of abdominal pain admitted to hospital in the UK, it varies from 21-50 cases per 100,000 of population[5]. In India, Thailand, and Bangladesh respectively 313,256, 19,078, and 41,570 people per year suffer from pancreatitis[6]. Some epidemiological evidence suggest that the true incidence is probably increasing and partly reflecting increased alcohol intake among the young, 2,5 but also due to gall stones in some areas[7]. Russel RCG et al. (2004) found that overall mortality rate of acute pancreatitis is 10-15% over the last 20 years. 80% of the attack is mild and 20% is severe which has mortality about 1% and 20-50%5 among them respectively.

A lot of aetiological factors have been identified which vary from country to country. Gall stone is the most common cause of acute pancreatitis, accounting for approximately 45% of all cases. Alcohol is the second most common cause accounting for 35% of all cases. After gall stone and alcoholism, miscellaneous cause accounts for approximately 10% of acute pancreatitis, finally about 10% of causes are idiopathic[8].

Materials and methods

This prospective study was carried out in the Department of Surgery of Chittagong Medical college Hospital, Chittagong from June 2008 to May 2010. The study population consisted of all patients admitted in General Surgery wards in CMCH who has been diagnosed as an acute pancreatitis clinically and supported by biochemical test. Patient age <12 years, Chronic pancreatitis, pancreatic or periampullary carcinoma were excluded in this study. Using information obtained directly from the study population and their haematological, biochemical reports, USG, ERCP and also from interviewing based on pre-tested data collection from.

Results

Table 1: Age distribution of the study patients (n=75)

Age in year	Male (n=25)		Female (n=50)		P-value
	n	%	n	%	
<20	3	12.0	9	18.0	
20-30	9	36.0	22	44.0	
31-40	5	20	7	14	
41-50	5	20.0	4	8.0	
>50	3	12.0	8	16.0	
Mean ±SD	36.1±15.4		32.7±14.3		0.339[NS]
Range (min -max)	(17-79)		(14-70)		

P value reached from unpaired 't' test
NS= not significant
Maximum number was found in the age group of 20-30 years in both groups. The mean age difference was not statistically significant (p>0.05) between two groups in unpaired t-test.

Table- 2: Distribution of alcoholic, biliary and non -A non -B acute pancreatitis of male and female patients (n=75)

	Male (n=25)		Female (n=50)		P-value
	n	%	n	%	
Alcohol	4	16.0	0	0.0	
Biliary	2	8.0	32	64.0	0.001[S]
Non Alcoholic non Biliary	19	78.0	18	36.0	

P value reached from chi square test
S= significant

Table - 3: Status of alcoholic, biliary and non -A non -B acute pancreatitis of the study patients (n=75)

	Number of patients	Percentage (%)
Alcohol	4	5.3
Biliary	34	45.3
Non Alcoholic non Biliary	37	49.3

It was observed that the total patients were 75 among them Alcoholic was 4(5.3%), Biliary was 34(45.3%) and Non Alcoholic non Biliary was 37(49.3%) of study patients.

Table - 5: Alcoholic status of the study patients (n=75).

Alcohol	Male (n=25)		Female (n= 50)	
	n	%	n	%
Yes	4	16.0	0	0.0
No	21	74.0	50	100.0

It was observed that 4(16.0%) was alcoholic in male patients and none was found in female patients.

Discussion

TBiliary disease and alcohol abuse are the leading causes of acute pancreatitis (AP), reported in 55-85% of patients in reports in the literature. Gallstones appear to be the leading cause of AP, reported for 38-43% of patients, whereas alcoholic AP has been found in 31% of patients[3]. The incidence of alcoholic AP was significantly higher among patients aged less than 50 years, biliary AP predominating among their older counterparts. This is in agreement with Blamey et al[4]. who studied 405 patients. We found a significantly higher incidence of alcoholic AP among men and a significantly higher incidence of biliary AP among women. Blamey also reported that female gender was an independent predictive factor, but linked with age at multivariate analysis[4]. Epidemiological data confirms the female predominance of a biliary cause, biliary AP being twice as frequent in women as in men[3]. The incidence of non-A non-B AP was 31% in their series. This is similar to figures reported in the literature where estimates have been around 30%, ranging from 15-39%[1].

A total of 75 patients of both sex having acute abdominal pain characteristic of acute pancreatitis and serum amylase >3 times normal, who were admitted in General Surgery wards in CMCH and supported by biochemical test were included in the study during June 2008 to May 2009. The present study findings were discussed and compared with previously published relevant studies.

Mennecier et al. (2007)1 have shown in their series, the mean age of the drug induced patients 36.1± 18.3 years which closely agrees with the present study where the mean age of the patients having acute pancreatitis were 36.1±15.4 years and 32.7±14.3 years in male and female group respectively. The age range from 17 to 79 years in male and 14 to 70 years in female and most of the patient was found in the age group of 20-30 years in both groups. The mean age was high in male patients but not statistically significant (p>0.05) between male and female patients. Male female ratio was 1:2 in this study, which indicates that the biliary AP significantly more frequent among female.

In this study it was observed that the mean(±SD) duration of hospital stay were 3.8±1.7 days and 3.2±1.4 days in male and female group respectively. Majority of the male patients had stay more than 3 days however, most of the female patients stay 1 to 3 days in the hospital. The mean duration of hospital stay was almost similar (p>0.05) between two groups. Mennecier et al. (2007)1 observed in their study that the mean(±SD) duration of hospital stay was 14.4±2.4 days, which is higher than the present study.

The mean(±SD) serum amylase were found in this study was 4127±28420 µ/L in male and 2588.8±1926.4 µ/L in female group. The Serum amylase ranged from 622 µ/L to 35000µ/L in male patients and 479 µ/L to 9000µ/L in female patients. Majority (24.0% in male and 40.0% in female) of the patients had 1001 to 2000µ/L in both groups. The mean Serum amylase was significantly (p<0.05) higher in male patients.

In this study it was found that Choledocolithiasis 2(33.3%), Sludge in GB 1(16.7%), Biliary ascariasis 3(50.0%) and Choledocolithiasis with biliary ascariasis was not found in male patients evaluated by USG. However, in female patients Choledocolithiasis7 (21.9%), Sludge in GB 7(21.9%), Biliary ascariasis 16(50.0%) and Choledocolithiasis with biliary ascariasis 2(6.2%).

Mennecier et al. (2007)[1] reported in their study that patients aged less than 50 years, alcoholic AP was significantly more frequent (56.0%) than biliary AP (13.0%) or non-A non-B AP (31.0%) (P<0.05). After the age of 50 years, biliary AP predominated (57.0%) over alcoholic (17.0%) and non-A non-B AP (26.0%) (P<0.05). Biliary AP (52.0%) was significantly more frequent among women than alcoholic AP (10.0%) or

non-A non-B AP (38.0%) (P<0.05). Alcoholic AP was significantly more frequent among men (45.0%) than biliary AP (28.0%) or non-A non-B AP (27.0%) (P<0.05). Frey et al. (2006)6 showed in their study that 32.6% had biliary tract disease alone, 20.3% had alcohol abuse alone and 36.6% were idiopathic. The authors also reported that the standardized incidence rate of alcoholic and idiopathic pancreatitis was highest in African Americans, whereas biliary pancreatitis was highest in Hispanics. In this present study it was observed that Alcoholic consumption was 4(16.0%), Biliary 2(8.0%) and Non Alcoholic non Biliary 19(78.0%) in male patients. However, in female patients Alcoho consumption was not found, Biliary 32(64.0%) and Non Alcoholic non Biliary 18(36.0%). Biliary acute pancreatitis was significantly (p<0.05) higher in female patients but Non Alcoholic non Biliary was significantly (p<0.05) higher in male patients. The result obtained in the present study is comparable with the above authors, however regarding the alcohol consumption the incidence was higher in their study, which is due to their regular practice in their daily life. In this study it was found that 4(16.0%) had alcohol exposure only in male patients. The total patients were 75 among them Alcoholic was 4(5.3%), Biliary was 34(45.3%) and Non Alcoholic non Biliary was 37(49.3%) of study patients.

As regards to the level of RBS it was observed that in the current study that RBS Normal 22(88.0%) in male and 48(96.0%) in female patients. The mean(±SD) RBS were 12.5±8.8 mmoL and 11.9±8.7 mmol in male and female patients respectively. The RBS ranged from 5 mmol to 26 mmolin male group and 7 to 22 mmol in female group. The mean RBS was almost similar between two groups.

In this current study it was observed that 22(88.0%) and 50(100.0%) patients were improved in male and female group respectively. Refer cases was 2(8.0%) and death 1(4.0%) in male patients.

Conclusion

The incidence of acute pancreatitis is not uncommon. It is a major cause of acute abdomen in our hospital practice. Among various etiological factors, our study reveals that the incidence of non-A, non-B, accounts for about half (50%) of the acute pancreatitis. Biliary and alcoholic causes are about 45% and 5% respectively. So this figure is quite different comparing the study of developed country where alcoholism is one of the leading cause of acute pancreatitis.

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