

Clinical characteristics in acute pancreatitis patients hospitalised at the University Hospital Centre “Mother Teresa” in Tirana during 2011-2013

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Abstract

Aim: Our objectives were to compare the clinical characteristics, complications and hospitalization rates between two groups of Albanian patients with acute pancreatitis (alcoholic group vs. biliary group).

Methods: A case-series study was conducted including all patients with acute pancreatitis hospitalized at the Gastroenterology Clinic of the “Mother Teresa” University Hospital Centre in Tirana during the period January 2011 – January 2013 (N=112). Data collection included demographic factors, clinical characteristics of the patients, disease complications, duration of the hospitalization and Balthazar grade. Chi-square test was used to observe potential differences in the distribution of categorical variables between the two groups of the patients (alcoholic and biliary groups). Analysis of Variance (ANOVA) and post-hoc Bonferroni tests were used to compare potential differences in hospitalisation rates between the two groups of acute pancreatitis patients (biliary vs. alcoholic).

Results: Of the overall 112 patients, 40 (35.7%) were considered as alcohol users (alcoholic group), and 72 (64.3%) were considered as alcohol nonuser (biliary group). Patients in the alcohol consumption group had a considerably higher male predominance and were significantly younger compared with the patients in the biliary group. Conversely, there was no significant difference in the distribution of clinical signs and symptoms in the two groups. Paralytic ileus and presence of pseudocyst were more prevalent in the alcoholic group, whereas there was no difference in the distribution of abscess, phlegmon, renal failure, metabolic acidosis, or the presence of shock. The lower Balthazar grades were more predominant in the biliary group, whereas higher grades were more prevalent in the alcoholic groups. Finally, there was a significant difference in the mean value of hospitalisation by Balthazar grades.

Conclusion: Our findings provide important and useful evidence about the distribution of clinical characteristics in patients with acute pancreatitis in Albania, a country which is characterized by a rapid transition in the past two decades associated with tremendous changes in behavioural factors including alcohol consumption.

Keywords: acute pancreatitis, biliary tract, clinical characteristics.

Introduction

Acute pancreatitis is a common disease with an incidence between 5 to 80 cases per 100,000 population (1). As a matter of fact, available reports indicate that the incidence of acute pancreatitis is increasing in the past few years (1,2). Alcohol constitutes a large share in the aetiology of acute pancreatitis, notwithstanding the fact that several complex factors appear to contribute in the occurrence of this disease (3). In any case, differentiation of aetiology for acute pancreatitis is considered very important for the treatment and prevention of this condition at a population level.

It should be noted that there have been contradictory reports with regard to whether etiologic factors affect clinical outcomes and mortality of acute pancreatitis (4-7). Thus, several studies have reported that biliary acute pancreatitis is more severe and is associated with higher mortality than the alcoholic acute pancreatitis (4,5). Furthermore, a few studies have reported a higher complication rate and mortality rate in patients with alcoholic pancreatitis (6,7), whereas some additional studies have indicated no significant difference between the two groups (8-10).

In Albania, there are no similar studies to date. Hence, the aim of this study was to describe the clinical characteristics in a sample of acute pancreatitis patients hospitalized in Tirana, the Albanian capital. More specifically, the objectives of this study included comparison of clinical characteristics, complications and hospitalization rates between two groups of the patients with acute pancreatitis (alcoholic group vs. biliary group).

Methods

A case-series study was conducted including all patients with acute pancreatitis hospitalized at the Gastroenterology Clinic of the "Mother Teresa" University Hospital Centre in Tirana during the period January 2011 – January 2013 (N=112). All cases were referred to our clinic with a confirmed diagnosis of acute pancreatitis. More specifically,

clinical diagnosis of acute pancreatitis consisted of the following criteria:

- Abdominal pain (acute, strong, epigastric);
- Lipasemia or amylasemia at least three times more than the higher limit of the norm;
- Characteristic findings available from radiological examinations.

When at least two of the above characteristics were present, patients were classified as acute pancreatitis cases based on the recommendations of the international literature on similar studies (11-13). The biliary etiology was determined after radiological examinations, whereas the alcoholic aetiology was considered after excluding the biliary origin, and the presence of heavy alcohol consumption in the last days preceding the hospitalization or chronic alcohol consumption with heavy alcohol intake in the last days. The type of acute pancreatitis (alcoholic or biliary) was determined from the history of alcohol consumption of the patients. If the patient had a history of alcohol consumption, he/she was considered to be in the alcohol group. Subsequently, patients were considered recovered when the biochemical parameters were normalised and they could leave the hospital.

Data collection included demographic factors (age and sex), clinical characteristics of the patients retrieved from medical case sheets (abdominal pain: epigastric, diffuse, belt-like; hyperthermia, chills, vomiting, hypotension, paleness, meteorism, constipation, oligo-anuria), disease complications (paralytic ileus, pseudocyst, abscess, phlegmon, renal failure, metabolic acidosis, shock), as well as duration of the hospitalization and Balthazar grade (12).

SPSS (version 20.0) was used for the statistical analysis. For numerical variables, mean values and their respective standard deviations were reported (age, and duration of hospitalization). Categorical variables were presented as absolute numbers with their respective proportions. Chi-square test was used to observe potential differences in the distribution of categorical variables between the two groups of the

patients (alcoholic and biliary groups). Analysis of Variance (ANOVA) and post-hoc Bonferroni tests were used to compare potential differences in hospitalisation rates between the groups of acute pancreatitis patients (biliary vs. alcoholic).

Results

From January 2011 to January 2014 there were admitted 112 patients suffering from acute pancreatitis at the Gastroenterology-Hepatology Service of the University Hospital Center "Mother Teresa" in Tirana. Of the overall 112 patients, 40 (35.7%) were considered as alcohol users (alcoholic group), and 72 (64.3%) were considered as alcohol nonuser (biliary group).

Mean age among 112 patients diagnosed with acute pancreatitis was 53.6 ± 13.9 (range: 19-87 years). Table 1 presents the distribution of selected demographic data separately in each group of the patients (alcohol users vs. biliary group). Mean age was significantly lower among alcohol users compared with the patients from the biliary group (50.1 ± 9.1 vs. 55.6 ± 15.8 , $P=0.02$), indicating that alcohol is involved in the aetiology of acute pancreatitis as a younger age. All cases of alcohol users ($N=40$) were males compared with only 37.5% of the patients in the biliary group – a difference which was highly statistically significant ($P<0.0001$). Table 2 presents the distribution of clinical signs and symptoms in each of the two groups of the patients

Table 1. Demographic data of the Albanian patients with acute pancreatitis

Demographic data	Alcohol group (N=40)	Biliary group (N=72)	P-value
Age (years):			
Mean \pm SD	50.1 \pm 9.1	55.6 \pm 15.8	0.02
Sex:			
Males	40 (100%)	27 (37.5%)	0.001

included in this study. There was no evidence of statistically significant differences between the two

groups of the patients (alcohol users vs. biliary group) for any of the clinical signs and symptoms assessed in this study.

Table 2. Distribution of the clinical signs and symptoms

Clinical signs and symptoms	Biliary (N=72)	Alcoholic (N=40)	P-value
Abdominal pain	72 (100.0%)	40 (100.0%)	-
Epigastric pain	61 (84.7)	34 (85.0)	0.99
Diffuse pain	26 (36.1)	13 (32.5)	0.84
Belt-like pain	35 (48.6)	17 (42.5)	0.56
Fever	3 (4.2)	4 (10.0)	0.22
High temperature	9 (12.5)	7 (17.5)	0.58
Chills	4 (5.6)	2 (5.0)	0.98
Vomiting	37 (51.4)	18 (45.0)	0.56
Hypotension	1 (1.4)	1 (2.5)	0.98
Paleness	47 (65.0)	23 (57.5)	0.42
Meteorism	38 (52.8)	40 (100.0)	0.24
Constipation	4 (5.6)	6 (15.0)	0.16
Oligo-anuria	1 (1.4)	0 (0.0)	0.99

On the other hand, there was evidence of a statistically significant difference in the distribution

of paralytic ileus and pseudocyst between the two groups of the patients with acute pancreatitis (biliary

vs. alcoholic) (Table 3). Hence, paralytic ileus and pseudocyst were more frequent among patients of the alcohol group (P-value: 0.01 for both outcomes).

On the contrary, there was no significant difference in the levels of abscess, phlegmon, renal failure, metabolic acidosis and presence of shock.

Table 3. Complications in patients with acute pancreatitis

Complications	Biliary (N=72)	Alcoholic (N=40)	P-value
Paralytic ileus	5 (7.1%)	12 (30.8%)	0.01
Pseudocyst	8 (11.4)	12 (30.8)	0.01
Abscess	0 (0.0)	0 (0.0)	-
Phlegmon	0 (0.0)	0 (0.0)	-
Renal failure	4 (5.7)	5 (12.8)	0.3
Metabolic acidosis	1 (1.4)	0 (0.0)	1.0
Shock	0 (0.0)	0 (0.0)	-

In addition, there was a significant difference in the distribution of Balthazar grade by group of acute pancreatitis patients (alcoholic vs. biliary) (Table 4).

In the biliary group, there were more patients with lower grades of Balthazar, whereas in the alcoholic group there were more patients with higher grades of Balthazar (overall P=0.01).

Table 4. Association between Balthazar grade and group of acute pancreatitis patients

Balthazar grade	Biliary (N=72)	Alcoholic (Nr=40)	P-value
A	16 (22.2)	3 (7.5)	0.01
B	23 (31.9)	10 (25.0)	
C	5 (6.9)	6 (15.0)	
D	25 (34.7)	12 (30.0)	
E	3 (4.2)	9 (22.5)	

Analysis of Variance (ANOVA) revealed a statistically significant difference in the duration of hospitalisation by Balthazar grade (overall P=0.01). Subsequently, Bonferroni test for pairwise comparisons indicated that the group which made the difference with all the other groups was “grade E”, where comparisons with groups A, B and C were all statistically significant the P value was 0.021; 0.022; 0.023. Conversely, there was no significant difference between grades D and E (P=0.145), suggesting that from grade A to Grade E, hospitalisation increases, but group D and E are very close to each-other in the classification and, therefore, there is no significant difference in hospitalisation rates.

Discussion

Several studies have shown that alcohol causes 6%-60% of the acute pancreatitis cases (9). Our study

findings show that 35.7% of the patients suffering from acute pancreatitis in Tirana have a history of alcohol consumption (suggesting that alcohol may be a cause for 35.7% of the cases of acute pancreatitis in this study population).

Furthermore, our findings indicate that acute pancreatitis caused by alcohol is more predominant in males and younger patients, which is in line with previous reports from the international literature (3,10,11).

Our study showed also a significant difference between the two groups, where the patients in the alcohol consumption group had a considerably higher male predominance (P=0.001) and were significantly younger (P=0.02) compared with the patients in the biliary group.

On the other hand, there was no significant difference in the distribution of clinical signs and symptoms in the two groups of acute pancreatitis patients (biliary or alcoholic), which suggests that acute pancreatitis exhibits similar symptoms and clinical signs in biliary and alcoholic patients.

However, distribution of complications was not similar between the two groups. Hence, paralytic ileus and presence of pseudocyst were more prevalent in the alcoholic group, a finding which was highly statistically significant ($P=0.01$ for both outcomes). Conversely, there was no difference in the distribution of abscess, phlegmon, renal failure, metabolic acidosis, or the presence of shock.

Balthazar grades were not evenly distributed in the

two groups of the patients. We noticed that the lower grades were more predominant in the biliary group, whereas higher grades were more prevalent in the alcoholic groups ($P=0.01$).

Finally, duration of hospitalisation was different by the grades of Balthazar. There was a statistically significant difference in the mean value of hospitalisation by Balthazar grades (overall $P=0.01$).

In conclusion, our findings provide important and useful evidence about the distribution of clinical characteristics in patients with acute pancreatitis in Albania, a country which is characterized by a rapid transition in the past two decades associated with tremendous changes in behavioural factors including alcohol consumption.

Conflicts of interest: None declared.

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