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ORIGINAL ARTICLE

Demographic Profile and Clinical Spectrum of Alcoholic Liver Disease among Males in Pakistan

AIFA ARSHAD[1], MUHAMMAD ASLAM SHAIKH[2], AHMAD BIN ZAHEER[3], IMRAN JOHER[4], AAMIR HUSSAIN[5]
[1]*University of Health sciences, Lahore*
[2]*Demonstrator, Hazrat Bari Sarkar (H.B.S) Medical & Dental College, Islamabad*
[3]*House Officer, Pakistan Institute of Medical sciences, Islamabad*
[4]*MRCP UK, Assistant Professor, Department of Medicine, Sharif Medical College, Lahore*
[5]*FRPMC Karachi, Assistant Professor Medicine, Fazaia Ruth Pfau Medical College, Karachi*
Correspondence to: Aifa Arshad, Email:aifa_arshad@yahoo.com, Cell: +92-3217738343

ABSTRACT

Introduction: Alcohol is the most common substance abused in western world. Males tend to have more severe liver disease because of heavy and regular drinking.

Methods: Adult patients, 16 years of age and older, diagnosed with ALD within 1 year, were included in the study. Liver disease from other causes was excluded. Demographic profiles, clinical features, laboratory and endoscopic findings of the patients, Child-Turcotte-Pugh (CTP), Model End Stage Liver Disease (MELD) were recorded.

Results: A total of 104 patients with ALD who met the inclusion criteria were enrolled in the study. The mean age of the patients enrolled in the study was 49.2 years (SD = 13.1). Most of the patients were in the 30-65 age group. The four most common clinical symptoms in patients were abdominal distension (n = 89, 85.6%), bilateral lower limb edema (n = 78, 75%), jaundice (n = 39, 37.5%) and anorexia (n = 41, 39.4%). Of 104 patients, 96 (92.3%) had cirrhosis, 9 (8.7%) had fatty liver and alcoholic hepatitis. Of 94 patients with ALD, 49(52.1%) had CTP grade C and 83 (88.3%) had MELD score ≥ 16.

Conclusions: ALD was mainly observed in young patients. The most common clinical symptoms were abdominal distension, bilateral oedema of the lower limbs, jaundice and anorexia. Among patients with cirrhosis of the liver, the majority of patients were CTP class C and obtained a MELD score ≥16.

Keywords: Alcoholic liver disease, clinical profile, demographic profile.

INTRODUCTION

Alcohol consumption is responsible for 3.8% of deaths worldwide and 4.6% of Disability Adjusted Life Years (DALYs)[1-2]. Alcoholic liver disease (ALD) is a spectrum of liver abnormalities caused by chronic and excessive alcohol consumption, and includes steatosis, steatohepatitis, and cirrhosis[3-4]. Alcoholic hepatitis is a clinically serious form of ALD that is associated with a high mortality depending on its severity. Males who consume significant amounts of alcohol have a higher risk of ALD and acute or chronic liver failure[5-6]. Although men are more likely to abuse alcohol, and are more prone to the toxic effects of alcohol at any dose. Alcohol is the most abused substance among men. Traditional drinks such as jaad, rakshi, chyang, tongba and nigar but are uncommon in our country[7-8]. The drinks also have traditional values in line with each culture and tradition. In some ethnic groups, drinking alcohol is essential at certain festivals, ceremonies, parties, invitations, and funerals. Men who who produce alcohol themselves are more likely to consume alcohol[9]. Despite the incidence and demographic profile of ALD in our country, no studies have been conducted in patients with ALD. In this study, an attempt was made to examine demographic characteristics, clinical profiles, ALD spectrum, laboratory parameters, endoscopic results, and the severity of symptoms in the male population.

MATERIAL AND METHODS

It was a cross-sectional, observational, descriptive hospital study conducted at. Patients who reported to the Gastroenterology ward were enrolled in the study for 1 year. Ethical approval for the study was obtained. The sample size was calculated using the following formula: N = Z2 x P (1 - P) / L 2. With a disease incidence of 20.3%, the sample size was calculated at 104. 18 years of age or older people with ALD who met the inclusion criteria were selected for the study. Liver disease due to other causes such as hepatitis B, hepatitis C, drug-induced liver injury, autoimmune hepatitis, and primary biliary cirrhosis; and those who did not give informed consent were excluded from the study. The diagnosis of ALD was made by the treating physician based on the history of alcohol use, physical symptoms of liver disease, and laboratory data on liver disease, in accordance with the guidelines of the American association for study on Liver Disease (AASLD). Liver biopsy was not performed. The diagnosis of fatty liver was made on the basis of an appropriate history of alcohol abuse with the presence of fatty liver on ultrasound after excluding other causes of fatty liver. MRI has not been used to evaluate fatty liver due to its high cost. Clinically diagnosis of alcoholic hepatitis was made if jaundice developed within 8 weeks prior to alcohol consumption, continuous alcohol consumption> 60 grams daily for ≥6 months, 50 or above AST, ALT> 1.5, above 3.0 mg / dL of bilirubin and exclude other causes of hepatitis.

A clinical case of cirrhosis was defined as a patient with at least one clinical symptom of hepatocellular and portal hypertension. A CAGE questionnaire was used, which was assessed for the presence of alcohol dependence. All patients were interviewed in detail and physical examinations were performed. Demographic profiles, features of ALD presentation, signs of cirrhosis, and laboratory and imaging results were recorded on a pre-designed form. Upper gastrointestinal endoscopy (UGI) was performed and oesophageal varices were classified (I-III) according to the classification of AASLD. We used the Child Turcotte Pugh (CTP) criteria and the end-stage liver disease model (MELD) score to assess the severity of the disease. Informed consent was obtained from all participants. All patients received standard nursing treatment. IBM SPSS Statistics version 20 and Microsoft Excel 2016 were used for data entry and statistical analysis. Descriptive statistics were used for the analysis. Descriptive statistics were calculated for frequency, mean, and standard deviation.

RESULTS

A total of 104 patients with ALD who met the inclusion criteria were enrolled in the study. The mean age of the patients enrolled in the study was 49.2 years (SD = 13.1). Most of the patients were in the 30-65 age group.

The three occupations most frequently depending on patients are unemployed 67 (64.4), farmer 21 (20.2) and retired or dependent persons 11 (10.6). Unemployment contributed to the increase in alcohol consumption. Most of the patients were Christen 68 (65.4). Most of the patients were married 100 (96.2) (Table 1). It was found that the main reason for alcohol consumption was family tradition (including holidays, rituals and banquets) in 42.3%, multifactorial in 41% and peer influence in 12.5%. The mean age at the beginning of alcohol consumption

was 25.1 years (SD = 9.8). The mean daily alcohol consumption by the patients was 235 grams (SD = 165.2).

Table 1: Demographic profile of patients (n=104)

Parameters	Frequency (%)
Occupation	
Unemployed	67 (64.4)
Government employee	5 (4.8)
Retired or dependent	11 (10.6)
Farmer	21 (20.2)
Religion	
Christen	68 (65.4)
Muslims	36 (34.6)
Marital Status	
Unmarried	4 (3.8)
Married	100 (96.2)

Table 2: Grading of oesophageal varices in patients (n=89)

Grade	Frequency (%)
Grade 1	32 (36.2)
Grade 2	44 (49.4)
Grade 3	13 (14.6)

Oesophageal varices occurred in 89 (85.6%) of 104 patients with ALD, and grade 2 varices in 44 (49.4%) patients (Table 2).

The four most common clinical symptoms in patients were abdominal distension (n = 89, 85.6%), bilateral lower limb edema (n = 78, 75%), jaundice (n = 39, 37.5%) and anorexia (n = 41, 39.4%). Of 104 patients, 96 (92.3%) had cirrhosis, 9 (8.7%) had fatty liver and alcoholic hepatitis. The mean ± SD of haemoglobin and platelets was 8.7 ± 2.1 g / dL. Liver function test showed that the mean ± SD of total bilirubin, direct bilirubin and albumin are 92.1 ± 114.2 µmol / L, 46.2 ± 60.5 µmol / L and 25.1 ± 6.5 gm / L, respectively. Similarly, the mean ± SD of AST, ALT, and GGT was 113 ± 118 U / L, 51 ± 44 U / L, and 209 ± 174 U / L, respectively. Of 94 patients with ALD, 49(52.1%) had CTP grade C and 83 (88.3%) had MELD score ≥ 16 (Table 3).

Table 3: CTP class of patients (n=94)

Stage/Score	Frequency (%)
CTP Stage	
Stage A	1 (1.1)
Stage B	44 (46.8)
Stage C	49 (52.1)
Meld Score	
<16	11 (11.7)
≥16	83 (88.3)

DISCUSSION

The mean age of the patients in this study was 49.2 years (SD = 13.1). This highlights the early age at which the male population begins to consume alcohol in our society, which correlates with other studies in which ALD develops in the fifth decade, as shown by Becker et al. at the age of 18.6 years (SD = 9.3)[10-11]. Unemployment contributed to the increase in alcohol consumption. Askgaard et al. 78% had cirrhosis of the liver, 86% had a low or medium-low level of education, and only 20% were in employment[12]. The study also found that ALD patients were less employed than the control group in the 10 years prior to diagnosis. A significant percentage (20.2%) of patients were farmers by occupation. This high number may be due to financial difficulties, they cannot afford a good meal and therefore rely on alcohol as their energy source to work hard in the field all day long. This finding is in line with a study by Adhikari et al. in western Nepal, which found that the agricultural population is more abusing alcohol than other occupations[13-14].

A 12-year prospective study of alcohol consumption with over 13,000 participants in Denmark found that the risk of developing alcohol-related liver disease was increased in men who consumed 7 to 13 drinks a week (84-156 g) compared with men who consumed alcohol 14 to 27 drinks (168 to 324 g) per week[15]. A Japanese study showed that the relative risk of developing ALD was 3.7 in men and 7.3 in women, suggesting an increased risk of ALD in men. In a study of 1,000 patients in an alcoholism clinic in Melbourne, Australia, men with cirrhosis consumed an average of 140 ± 55 g of alcohol per day, compared with men who reported 210 ± 80 g of alcohol per day. The most common symptom is abdominal distension, followed by bilateral swelling of the lower limbs, jaundice and anorexia. These are the most frequent admissions of patients with chronic liver disease, according to AASLD. Patients had more cirrhosis than fatty liver and alcoholic hepatitis; this may be due to the late presentation of these patients[16-17]. As these patients presented late in the disease, they had more advanced cirrhosis, resulting in higher CTP and MELD scores. There were also higher grades of esophageal varices. Therefore, this study highlights that drinking behaviour begins in men in our society at an early age. Religious background, geography, ethnicity, and occupation had a significant influence on alcohol use behaviour in this population[18-19]. Overall, the disease picture is similar to that of the general population. However, at diagnosis, the disease is more advanced in the male population. This is a small observational study recommending a separate, large, multicentre, prospective study to assess the case-demographic profile of patients with alcoholic liver disease[20].

CONCLUSION

Our results show that ALD occurs in males at a relatively younger age. Most of the patients are married. The most common clinical symptoms are abdominal distension, bilateral oedema of the lower limbs, jaundice and anorexia. Most patients have cirrhosis of the liver. Most patients have grade 2 oesophageal varices, CTP grade C, and MELD ≥16.

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