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Clinical profile and evaluation of level of dependence of alcohol in patients of alcoholic liver disease

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Abstract

Introduction: In India, there is a high frequency of ALD, with alcohol being responsible for roughly half of all instances of cirrhosis. However, not everyone who consumes alcohol develops the condition, and the total chance of acquiring the disease in a person is determined by a number of variables. The length, amount, and kind of alcohol ingested, as well as nutritional state, comorbid illnesses, sex, race, and hereditary variables, may all have a role. Multiple investigations on the impact of drinking patterns in the development of illness have shown conflicting conclusions.
Objectives: Present study aims towards analysing the clinical profile of patients with alcoholic liver disease. Present study also aims to perform psychiatric screening using CAGE criteria and alcohol use disorder identification test (AUDIT) scale for assessing the severity of alcohol dependence.
Methods: Present study was a single centric, prospective, observational and hospital-based study. 50 patients with clinical/investigational evidence of alcoholic liver disease were include in study. CAGE Criteria to screen and alcohol use disorder identification test (AUDIT) scale was used for assessing the severity of alcohol dependence.
Results: The mean age of the recruited patients was 50.80 ± 12.74 years. Among total 50 patients, 96% patients were males and 4% of patients were females. Total 26% patients have CAGE score of four, 34% patients have CAGE score of three, 40% patients have CAGE score of two whereas no patient had a CAGE score of zero. AUDIT scoring indicate that 96% patients exhibit alcohol dependence, 4% patients presented with harmful or hazardous drinking levels whereas no patient presented with Low-risk consumption. A total of 96% patients were alive whereas mortality occurs in 4% patients in present study.
Conclusion: Our findings show a link between the type, amount, and duration of alcohol consumption and the development of alcoholic liver disease.

Keywords: ALD, alcohol, liver, kidney, AUDIT, CAGE

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Introduction

According to the World Health Organization's (WHO) 2014 report on non-communicable diseases, hazardous alcohol consumption causes roughly 3.3 million deaths per year, or 5.9% of all fatalities. Furthermore, hazardous alcohol intake was responsible for 139 million disability-adjusted life years (DALY) or 5.1 percent of the worldwide burden of illness. Alcohol is responsible for 7.6% of male fatalities and 4% of female deaths worldwide [1]. In India, there is a high frequency of ALD, with alcohol being responsible for roughly half of all instances of cirrhosis. However, not everyone who consumes alcohol develops the condition and the total chance of acquiring the disease in a person is determined by a number of variables. The length, amount and kind of alcohol ingested, as well as nutritional state, comorbid illnesses, sex, race and hereditary variables, may all have a role. Multiple investigations on the impact of drinking patterns in the development of illness have shown conflicting conclusions. Women are more likely than males to acquire liver disease, despite drinking less alcohol and over a shorter period of time [2]. Despite the low alcohol content, illicitly made liquor was found to have more toxicity than licit beverages in a research [3]. The severity of protein calorie deficiency has an impact on the fate of ALD patients [4].

Only a tiny minority of doctors incorporate an alcoholism and other addictions assessment as part of their standard work-up. 55 percent of primary care physicians who claim they test for substance addiction on a regular basis utilised the CAGE (cut down, annoyed, guilty, and eye- opener) questionnaire. The CAGE questions are so easy to use that they may be used in almost any clinical setting to identify people who require more comprehensive testing and perhaps treatment, making it one of the most efficient and effective screening tools available. A score of 2 to 3 indicates a high level of suspicion, whereas a score of 4 nearly always indicates the presence of alcoholism [5]. WHO created the AUDIT (The Alcohol Use Disorders Identification Test), a 10-question alcohol screening instrument that was validated in a six-country sample consisting of four industrialized and two developing nations. The instrument's questions were found to be reliable in a variety of cultural settings. The AUDIT has been demonstrated to be a highly sensitive (80%) and specific (89%) screening tool. Problem drinkers were defined as those who scored 8 or above on the AUDIT. Non-problem drinkers were defined as those who scored 1-7 on the AUDIT [6].

Present study aims towards analysing the clinical profile of patients with alcoholic liver disease. Present study also aims to perform psychiatric screening using CAGE criteria and alcohol use disorder identification test (AUDIT) scale for assessing the severity of alcohol dependence.

Material and Methods

Patient Recruitment: Present study was a single centric, prospective, observational, and hospital-based study. 50 patients with clinical/investigational evidence of alcoholic liver disease were include in study. Patients with history of chronic alcohol intake i.e., more than 40gm per day with clinical evidence of liver dysfunction like jaundice, melena, hematemesis, hepatomegaly, hepatic encephalopathy and investigational evidence like raised serum bilirubin, elevated liver enzymes, hepatomegaly or cirrhosis on ultrasound will be taken up for the study.

Psychiatric analysis: Detailed history and examination of each patient was recorded, history pertaining to duration, type, amount and pattern of alcohol consumption was obtained in detail. CAGE Criteria to screen and alcohol use disorder identification test (AUDIT) scale was used for assessing the severity of alcohol dependence.

Statistical Analysis: Data obtained was analyzed according SSPS version 20 (statistical package for the social sciences). The sociodemographic data was presented in form of number and percentage. For quantitative variable, mean was used as measure of central tendency and standard deviation was used as

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measure of variability. The difference between the two group was compare using t-statistics for parametric data and with chi square for non-parametric data. ANOVA was used to compare more than two means. All the test were applied by taking significance level $p<0.05$ as significant.

Results

The mean age of the recruited patients was 50.80 ± 12.74 years. Among total 50 patients, 96% patients were males and 4% of patients were females. The majority of patients have the IMFL (Indian made foreign liquor) as the preferred liquor in present study compared to the locally made alcohol. The patients in the present study revealed the alcohol consumption history of 29.28 ± 10.93 years.

Various signs of ALD present included the tremors in 30% patients, gynecomastia in 8% patients, palmar erythema in 14% patients, spider naevi in 20% patients, hepatomegaly in 6% patients and hematemesis/melena in 24% patients (Figure 1). USG findings from the present study have suggested the grade 2 or 3 fatty liver in 26% patients, hepatomegaly/hepatitis in 10% patients, coarse echotexture in 14% patients, cirrhosis liver in 30% patients, whereas hepatocellular carcinoma (HCC) was not found in any patient (Figure 2).

24% of patients consume 180 ml of alcohol per serving, 36% of patients consume 375 ml, 24% of patients consume 750 ml, 10% of patients consume 1500 ml and 6% of patients consume 2250 ml of alcohol per serving. It was also found in present study that 60% patients consume alcohol daily, 4% patients consume alcohol twice weekly, 6% patients consume alcohol thrice weekly and 30% patients consume alcohol occasionally (Figure 3).

Total 26% patients have CAGE score of four, 34% patients have CAGE score of three, 40% patients have CAGE score of two whereas no patient had a CAGE score of zero (Figure 4). AUDIT scoring indicate that 96% patients exhibit alcohol dependence, % patients presented with harmful or hazardous drinking levels whereas no patient presented with Low-risk consumption (Figure 5). A total of 96% patients were alive whereas mortality occurs in 4% patients in present study.

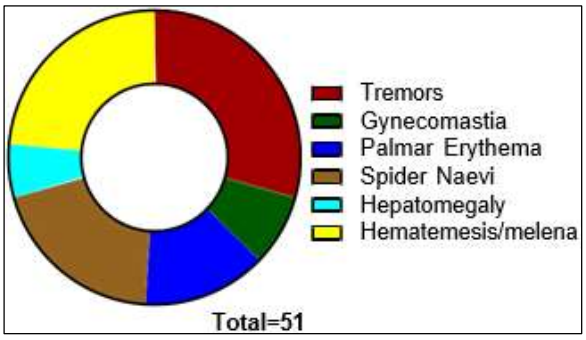

Fig 1: Signs of ALD

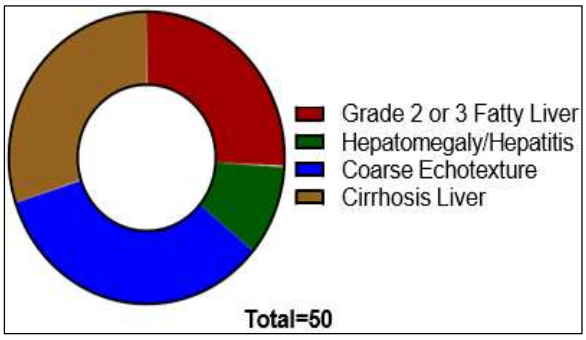

Fig 2: USG findings

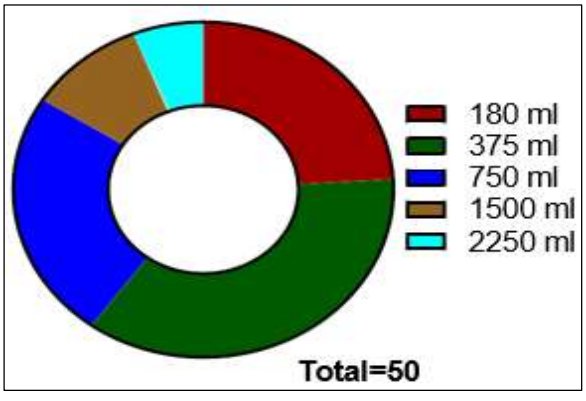

Fig 3: Alcohol consumption per serving

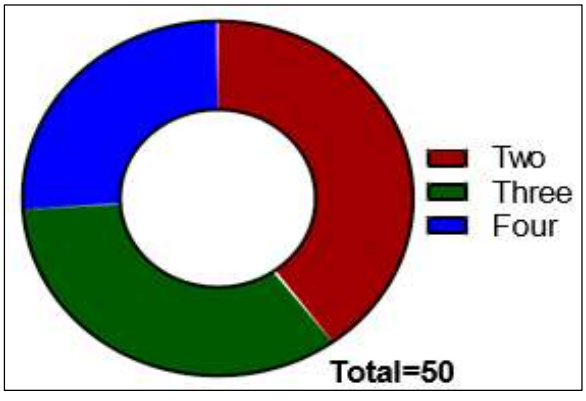

Fig 4: CAGE Scoring

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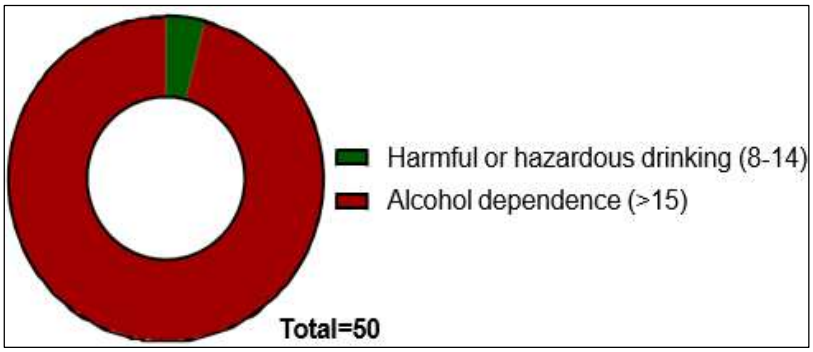

Fig 5: AUDIT Scoring

Discussion

In the present study, the mean age of the recruited patients was 50.80 ± 12.74 years. The majority of the patients (N=120) in study conducted by Khatroth were between the ages of 31 and 40 [7]. The next most prevalent age group was those between the ages of 21 and 30. The most of the patients (N=100) in Chavan *et al*. study was between the ages of 30 and 39 years [8].

It was found in the present study that 24% of patients consumed 180 ml of alcohol per serving, 36% of patients consumed 375 ml, 24% of patients consumed 750 ml, 10% of patients consumed 1500 ml and 6% of patients consumed 2250 ml of alcohol per serving. It was also found in present study that 60% patients consume alcohol daily, 4% patients consume alcohol twice weekly, 6% patients consume alcohol thrice weekly and 30% patients consume alcohol occasionally. According to study conducted by Chavan *et al*., 88 percent of patients used 180 mL of alcohol per day with 53 percent of patients having the alcohol consuming history of 11 to 20 years [8]. According to research conducted by Khatroth, majority of patients consumed >60 grammes of alcohol per 24 hours, 20.8 percent consumed 50-60 grammes per 24 hours, and 12.5 percent consumed 50 grammes per 24 hours [7]. The majority of the patients in study conducted by Ray *et al*., consume 81-90 grammes of alcohol each day for 9-12 years [9].

In the present study, various signs of ALD were present which included the tremors in 30% patients, gynecomastia in 8% patients, palmar erythema in 14% patients, spider naevi in 20% patients, hepatomegaly in 6% patients and hematemesis/melena in 24% patients. Jaundice, nausea, and vomiting were found in 83.3 percent of patients followed by hepatomegaly in 66.6 percent of cases in the study performed by Khatroth [7]. Chavan *et al*. reported nausea and vomiting as an essential symptom in 89 percent of drinkers, followed by abdominal discomfort and fluid retention in 68% cases. They also found that jaundice was detected in 88 percent of alcoholics, as well as ascites in 64 percent and pedal edema in 56 percent. Another significant discovery was hepatomegaly, which was present in 36% of the people. In 44% of their patients, further indicators of liver cell failure were observed [8].

USG findings from the present study have suggested the grade 2 or 3 fatty liver in 26% patients, hepatomegaly/hepatitis in 10% patients, coarse echotexture in 14% patients, cirrhosis liver in 30% patients, whereas hepatocellular carcinoma (HCC) was not found in any patient. The USG findings demonstrated hepatomegaly in 68 percent of patients and splenomegaly in 59 percent of cases in the study conducted by Khatroth [7]. The most frequent symptoms, according to Nand *et al*., were abdominal discomfort (55 percent), distension (78 percent) and jaundice (60 percent), whereas the most common clinical signs were ascites (72 percent), pedal edema (60 percent) and icterus (62 percent). The most prevalent peripheral manifestations were hepatic failure (20%), parotid edema (20%) and alopecia (17%), followed by clubbing (9%) and spider nevi (7%). Hepatomegaly (42%) was shown to be more prevalent in alcoholic liver patients than shrunken liver (13%) in their research. Splenomegaly was prevalent (57%) and moderate (42%) in the majority of the individuals. Ascites was the most prevalent symptom of portal hypertension (72 percent), followed by splenomegaly and a dilated portal vein (53 percent) [10].

In the present study, 26% patients have CAGE score of four, 34% patients have CAGE score of three, 40% patients have CAGE score of two whereas no patient is presented with CAGE score zero. AUDIT

scoring indicates Alcohol dependence in 96% patients, harmful or hazardous drinking in 4% patients whereas no patient in the present study had low-risk consumption. In the study conducted by Thomas *et al*. among total of 554 patients, there were 5.41 percent hazardous drinkers and 13.17 percent non-hazardous drinkers in the AUDIT and CAGE analyses and 5.05% hazardous drinkers and 7.58% non-hazardous drinkers in the TWEAK analysis [11].

In the present study, 96% patients were alive whereas mortality occurs in 4% patients. The mortality rate did not indicate a significant relationship with the amount of alcohol consumed in the study done by Nand *et al*. Furthermore, there was no link between the kind of alcohol consumed and the severity of the condition; nevertheless, the length of alcohol use was linked to a higher death rate. Mortality occurs in the 5.26% case over the duration of 10 years which increase to 27.80% cases on 20 years survival [10].

Conclusion

Present study is a prospective, observational and hospital-based study conducted over the duration of one year. Total 50 patients with clinical/investigational evidence of alcoholic liver disease were recruited in the study. The clinical profile of patients with alcoholic liver disease was analysed in this study and psychiatric screening was performed using CAGE criteria and alcohol use disorder identification test (AUDIT) scale for assessing the severity of alcohol dependence. Our findings show a link between the type, amount and duration of alcohol consumption and the development of alcoholic liver disease. Hepatic cell damage from alcohol intake leads to cirrhosis and its sequelae. Hepatic enzyme elevation, PT/INR, hypoalbuminemia and ultrasonographic findings are all indicators of liver disease severity, which may be measured by hepatic enzyme elevation, prolonged PT/INR, hypoalbuminemia and ultrasonographic findings.

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