ORIGINAL ARTICLE

Chronic Liver Disease: Etiological Spectrum in Adults

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Abstract

This was a hospital based descriptive observational study conducted during November 2013 to October 2014 to determine the causes of chronic liver disease in consecutive new adult patients with confirmed diagnosis of chronic liver diseases attending Govt. Medical College Jammu. A total of 150 patients with chronic liver disease > 14 years diagnosed on the basis of established criteria were included in the study. Majority of the patients were males (74%) and above 40 years of afge (68%). Ascities (61.33%), UGI bleed (38.67%), jaundice (26%) and encephalopathy (20.67%) were presenting, symptoms indicating decompensation at presentation, Etiologies of chronic liver disease were as follows : Alcohol in 67 (44.66%), alcohol + HBV in 10 (6.66%), autoimmune hepatitis in 10 (6.66%), HBV in 9 (6%) and HCV in 9 (6%). Cause cold not be established in 35% of cases which remained idiopathic. Majority of patients (35.33%) presented with child class C and among alcoholics, majority were drivers (24.7%) and daily wagers (19.5%). Alcoholic liver disease was the commonest cause of chronic liver disease in adults followed by idiopathic, hepatitis B, autoimmune hepatitis and hepatitis C. Alcohol remained the most common etiology in males and idiopathic chronic liver disease was predominant in females. Majority of patients presented with advanced stage of the disease and alcohol consumption was more prevalent in lower socioeconomic class.

Key Words

Alcohol, Chronic liver disease, HBsAg, HCV

Introduction

Chronicity of liver disease is determined either by duration of liver disease (typically < 3-6 months) or by evidence of either severe liver disease or physical stigmata of chronic liver disease (clubbing, spider telengiectasia and hepatosplenomegaly). The severity is variable; the affected adults may have only biochemical evidence of liver dysfunction, may have stigmata of chronic liver disease, or may present in hepatic failure. As a result of greater alcohol consumption, an epidemic of diabetes and obesity and hepatitis B and C infections the incidence of chronic liver disease is increasing world wide (1) Etiology of chronic liver disease in adults include a broad spectrum of disorders, overall the most common causes of chronic liver disease world wide are alcohol, chronic hepatitis B and C and non alcoholic fatty liver disease (NAFLD). Primary biliary cirrhosis and autoimmune hepatitis are commonly seen in females, while alcoholism, primary sclerosing cholangitis and hepatitis B are common in males. Genetic diseases such as alpha-1 antitrypsin deficiency, genetic cholestatic disease and wilson's disease are encountered predominantly in children (1-4). Portal hypertension is a universal consequence of chronic liver disease that is responsible for most complications such as variceal bleeding, ascites, spontaneous bacterial

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peritonitis, hepatic encephalopathy and hepatorenal syndrome (5-7). Hepatic encephalopathy alone has a mortality of about 30%. Hepatopulmonary Syndrome and cirrhotic cardiomyopathy are also complications of cirrhosis, jaundice in patients with chronic liver disease suggests parenchymal cell failure (8).

Few studies have been conducted in India in past to find out the epidemiology and changing trends of chronic liver disease, unlike the west were alcohol and HCV are the principal causes of chronic liver disease (9-14), HBV still holds its away and leads HCV as an etiology in India, though alcohol has fast caught up especially after 2007 resulting in the boom of alcoholic liver disease related morbidity and mortality in last few years (11,15-20). This recent alcohol rise in India is the chief point of interest to conduct this study to assess the changing trends in the etiology of chronic liver disease cases, especially in the northern region (Jammu) of India where limited data exists as far as etiological clinical profile of chronic liver disease patients is concerned. With this background we were prompted to undertake this study to document the etiological spectrum of chronic liver disease in adult patients attending Govt. Medical College Jammu.

Material and Methods

This was a descriptive observational study conducted in the post graduate department of medicine, Govt. Medical College Jammu which is a tertiary care institute catering a population of around 6 million from Jammu Province. Consecutive patients with chronic liver disease > 14 years were included in the study after obtaining their consent. The study was conducted for a period of one year.

In the study subjects, chronic liver disease was diagnosed on the basis of history and clinical features (Jaundice, gastrointestinal bleed, ascites, encephalopathy, splenomegaly, abdominal veins etc) and confirmed by biochemical, ultrasonologicasl, endoscopic and serological tests as appropriate. To ascertain the etiology of chronic liver disease, following criteria were used, Alcohol related : CAGE questionnaire-ingestion of 60gm/d or more of alcohol by men and 40gm/d or more by women for 5 years or serum ceruliplasmin < 200mg/I and/or presence of Kayser-Fleischer rings on slit lamp examination of eyes; Autoimmune Liver disease: Hypergammaglobulinemia and positive ANA; Hemochromatosis: Transferrin saturation > 45%; primary biliary cirrhosis: positive for antimitochondrial antibody; NAFLD: presence of steatosis on ultrasound abdomen, alcohol consumption less than criteria mentioned for alcoholic liver disease and presence of metabolic syndrome (NCEP: ATP III Criteria). The severity of chronic liver disease was assessed by using child pugh score.

Statistical Analysis

All the data obtained from the patients of the study group were noted on a proforma especially designed for this purpose. Data was entered in Microsoft excel and analysed using SPSS software. Data was reported as meant ± standard deviation after quantitative variable and as number (percentage) for qualitative variable.

Results

During the one year study period, a total of 150 patients of chronic liver disease were seen. Majority of the patients were males (n=111;74%) and above 40 years of age ((n=102;68%). Of these maximum patients were in the age group of 45-51 years (n=-47;31.33%) *Table 1*

Ascites was the most common clinical presentation (n=92;61.33%) followed by UGI bleed (n=58;38.66%) and jaundice (n=39;26%) (*Table 2*)

Of 150 patients observed in this study, 77 (51.33%) patients had history alcohol consumption. Of these 77 alcoholics, 10(13%) patients were HBsAG positive. Hepatitis B infection was the next major cause, implicated in 12.6% (n=19) followed by autoimmune hepatitis in 6.66% (n=10) and hepatitis C infection in 6% (n=9). No etiology has been found in 30% (n=45) of cases. Alcohol remained the most common etiology in males, 60.4% (n=67) and idiopathic was predominant in females, 56.4% (n=22) Majority of the patients presented with advanced stage of the disease (CPS-Class C), 35.34% 9n=53) were already decompensated at presentation (*Table 4*)

Of 77 alcoholics, 24.7% (n=19) were drivers and 19.5% (n=15) were daily wagers (*Table 5*)

Discussion

In our study we found that majority of patients were males (74%) and rest (26%) were females. Similar sex distribution was observed by Trimukh *et al* (21), Qua and Goh (22) and Song *et al* (23). Most of the patients in our study were above 40 years of age, of which maximum were in the age group 41-50 years. This is in agreement with as reported by Eskandar Hajiani *et al* (24), Manos

Table 1. Age and Sex Distribution of Patients

Age group (years)	Sex		Total n (%)
	Males n (%)	Females n (%)	
>20	2 (1.80)		2 (1.33)
22-30	10(9.00)	5(12.82)	15 (10.00)
31-40	27 (24.32)	4(10.25)	31(20.66)
41-50	40(36.03)	7(17.94)	47(31.33)
51-60	16(14.41)	7(17.94)	23(15.33)
>60	16 (14.41)	16(41.02)	32(21.34)
TOTAL	111(100)	39(100)	150(100)

Table 2. Distribution of Patients According to Clinical Presentation

Presentation	No. of patients	%
Ascites	92	61.33
UGI bleed	58	38.67
Jaundice	39	26.00
Encephalopathy	31	20.67
Coagulopathy	32	14.67
Others	2	1.33

Table 3. Distribution of Patients According to Etiology

Etiology	Sex		Total n(%)
	Male n(%)	Female n(%)	
Alcohol	67(60.36)		67 (44.66)
Alcohol + HBV	10(9.01)		10 (6.66)
HBV	6(5.41)	3(7.69)	9(6)
HCV	5(4.50)	4(10.26)	9(6)
Autoimmune		10(25.64)	10(6.66)
Idiopathic	23(20.72)	22(56.41)	45(30)
Total	**111(100)**	**39(100)**	**150(100)**

Table 4. Distribution of Patients to Child Puge Score (CPS)

CPS	No. of Patients	%
CLASS A	50	33.33
CLASS B	47	31.33
CLASS C	53	35.34
TOTAL	150	100.00

Table.5 Distribution of Population According To Profession and Etiology

Profession	Alocholics	Non alcoholics
Service man	15	17
House wife	0	35
Farmer	4	9
Teacher	1	6
Student	0	3
Daily Wager	15	2
Black Smith	4	0
Driver	19	0
Businessman	11	0
Carpenter	5	0
Shop Keeper	6	1
Total	77	73

et al (25) and G. Rav (2014) (16). Our study revealed that alcohol was the most common etiology (51.33%) followed by cryptogenic (30%), HBV (12.5%), auto immune hepatitis (6.66%) and HCV (6%) in that order.

Of 51.33% patients with alcoholic liver disease, 13% had underlying HBV infection as well. Though the trend data from Asia is scarce, hepatitis B is the common cause of alcoholic liver disease in different Asian Countries (22-24, 26). However, in India there has been a change in the trend with alcohol becoming the strongest determinant of chronic liver disease as a result of rapid westernization and change in socioeconomic situation.

Our findings correlate with other Indian authors such as Guatam Ray (16), Dhiman and Duseja (19), Patel ND *et al* (17) and Jain *et al* (20). A recent publication (27), highlighting the alcohol situation in India strongly supports our present observation. This article highlighted that about 21% of adult men and 2% of adult women drink alcohol, of them 20% are "problem drinkers". The number of drinkers in young age has increased (2-14%) in past 15 years) along with lower age of initiation. Two thirds of alcohol drunk is unrecorded. The higher incidence of alcoholic liver disease in our study is also supported by vast data from western authors such as Thomson *et al* (11), Mc Ayoy and Hayes (10), Belt *et al* (25) and liang *et al* (14). A study of Maskey et al in Nepal reported that 85.7% of patients had alcoholic liver disease.

Regarding HBV and HCV related chronic liver disease, our study is consistent with other Asian studies in which HBV infection leads HCV as an etiology. The incidence of HBV and HCV related chronic liver disease was 12.6% and 6% respectively in our study population which is in agreement with Ray *et al* (eastern india) (16) and Patel ND *et al* (western India) (17) who reported HBV infection as one of the leading cause, preceded by alcoholic liver disease.

In our study most of the patients presented with complications of the disease as a result of persistence of alcohol consumption even after the onset of liver disease, ignorance and late seeking of medical advice. The most common presentation was ascites (61.33%) followed by variceal bleed (38.66%). In our study 35.34%) patients were in child Class-C at the time of presentation followed by Child Class-A (33.33%).

These findings correlate with that of other authors such as Maskey *et al* (28) and Eskander Hajiani *et al* (24). Among alcoholics in the present study, about 38% were labourers/drivers and 35% belonged to service and business class. Reddy *et al* (29) reported that among daily wagers every second person was a regular user. Hazarika *et al* (30) observed tthat in an urban community 51% of these employed in service and business class consumed alcohol.

Difference in etiology has been observed in our study as far gender is concerned, alcohol was the leading cause in males whereas idiopathic chronic liver disease was predominant in females followed by autoimmune hepatitis. All the patients with autoimmune hepatitis in our study population were females (6.7%).

An increasing trend of autoimmune hepatits in 12.9% of patients has been noticed by Song *et al* (23) in their study, attributable to new techniques and detection methods available. Our study revealed a higher incidence of idiopathic cases (30%) as compared to other researchers such as Trimukhe *et al* (19.45%) (21), Qua and Goh (15.4%) (22) and Patel ND *et al* (7.9%) (17.) This high frequency of idiopathic chronic liver disease in our study reflects our financial constraints and non-availability of advanced and specific diagnostic tools to find out the underlying cause.

Conclusion

Alcohol has been found to be the most important etiology among adult patients of confirmed chronic liver disease attending Govt. Medical College, Jammu accounting for 51.33% of patients. Majority of patients were males (74%) and above 40 years of age (68%). All the alcoholics were males. Idiopathic chronic liver disease was the next major etiology (30%) followed by HBV (12.6%), AIH (6.6%) and HCV (6%). Among females, idiopathic chornic liver disease was the predominant etiology followed by AIH (25.64%).

All the patients of AIH were females. Most of the patients presented with complications and advanced stage of the disease (child class -C). Most common presentation was ascities (61.33%) followed by variceal bleed (38.66%) and jaundice (26%). Alcohol intake was rempant among lower socioeconomic class: drivers (24.7%) and daily wagers (19.5%)

Our study definitely foresees an alcoholic menace in coming years and may act as an early guide for government policy in this direction. A significant rising trend of alcoholic liver disease was observed in our study which needs urgent social and medical intervention.

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