

Evaluation of Etiologic Profile of Liver Cirrhosis Patients: A Clinical Study

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ABSTRACT

Objective: Cirrhosis is defined as the histological development of regenerative nodules surrounded by fibrous bands in response to chronic liver injury that leads to portal hypertension and end stage liver disease. Hence, we planned the present study to assess the etiologic profile of liver cirrhosis patients.

Materials & Methods: The present study was conducted in the department of General Medicine, Career Institute of Medical Sciences and Hospital, Lucknow, Uttar Pradesh (India) and included assessment etiologic profile of liver cirrhosis patients. A detailed history was taken and a questionnaire was administered. The questionnaire enquired into various risk factors which included the following: history of alcohol consumption including amount and duration, CAGE score, history of blood transfusions, surgeries, needle prick injury, past history of jaundice and high-risk sexual behaviour. All the results were analyzed by SPSS software.

Results: Statistically significant results were obtained while comparing the various etiologic agents in liver cirrhotic patients.

Conclusion: Alcohol is the most common etiologic agent responsible for causing liver cirrhosis.

Keywords: Alcohol, Cirrhosis, Etiology.

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INTRODUCTION

Cirrhosis is defined as the histological development of regenerative nodules surrounded by fibrous bands in response to chronic liver injury, that leads to portal hypertension and end stage liver disease.¹⁻³ Recent advances in the understanding of the natural history and pathophysiology of cirrhosis, and in treatment of its complications, resulting in improved management, quality of life and life expectancy of cirrhotic patients. At present, liver transplantation remains the only curative option for a selected group of patients, but pharmacological therapies that can halt progression to decompensated cirrhosis or even reverse cirrhosis are currently being developed.⁴⁻⁸ Hence, we planned the present study to assess the etiologic profile of liver cirrhosis patients.

MATERIALS AND METHODS

The present study was conducted in the department of General Medicine, Career Institute of Medical Sciences and Hospital, Lucknow, Uttar Pradesh (India) and included assessment etiologic profile of liver cirrhosis patients. Ethical approval was taken from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. Detailed clinical and demographic details of all the subjects were recorded. History of diabetes, hypertension and

other systemic illness were also recorded. A detailed history was taken and a questionnaire was administered. The questionnaire enquired into various risk factors which included the following: history of alcohol consumption including amount and duration, CAGE score, history of blood transfusions, surgeries, needle prick injury, past history of jaundice and high-risk sexual behaviour. A detailed clinical examination was performed and recorded in a proforma. For each patient, the following laboratory parameters were measured: haemogram, liver function tests, renal function tests and blood glucose. Viral markers like HBsAg and anti- HCV antibody by immunochromatographic rapid card test were done in each patient. All the results were recorded on Microsoft excel sheet and were assessed by SPSS software version 17.0. chi-square test was used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

RESULTS

A total of 80 patients with liver cirrhosis were included in the present study. Out of 80, 80% of the patients were males and remaining 20% were females. Statistically significant results were obtained while comparing the various etiologic agents in liver cirrhotic patients (P- value < 0.05).

Table 1: Distribution of subjects according to gender

Parameter	Frequency	Percentage
Gender	Female	16
	Male	64
	Total	80
		20.0
		80.0
		100.0

Table 2: Comparison of etiologic profile in cirrhotic patients

Parameter	Observed N	Expected N	Residual	p- value
Alcohol	24	10.0	14.0	0.00*
NASH	5	10.0	-5.0	
Hepatitis C	7	10.0	-3.0	
Others	4	10.0	-6.0	
Total	40			

*: Significant

DISCUSSION

In the present study, we observed that out of 40 subjects, alcohol was responsible for causing liver cirrhosis in 24 subjects. Significant results were obtained while comparing the etiologic profile of cirrhosis. Sharma B et al evaluated epidemiological data on the etiological profile of cirrhosis of the liver in adults in a tertiary care hospital in a northern hilly state of Western Himalayas. A hospital based, cross sectional, observational study was conducted in the department of Medicine and Gastroenterology in a tertiary care centre of Himachal Pradesh, located in northern India from 1st June, 2012 to 31st May, 2013. In total, 178 patients who were diagnosed with cirrhosis on the basis of history, physical examination, biochemistry and radiology, and of age >18 years were included in the study. Detailed history, examination and investigations were carried out in each case as per protocol. Alcohol was the leading cause of cirrhosis in our study (62.9%), hepatitis B was the second (10.1%), Non-Alcoholic Steatohepatitis (NASH) was the third (7.9%), and autoimmune the fourth (3.9%) most common cause for cirrhosis. Hepatitis C was present in 2.8% of patients as a cause of cirrhosis. Wilson disease and cardiac cirrhosis were present in one patient each. In 9.6% the etiology was cryptogenic. The study identified alcohol as the leading cause of cirrhosis among people in the state. Measures for taking care of preventable risk factors are desired.⁹

Ahmed et al evaluated the etiological profile and seroprevalence of anti HAV IgG in cirrhosis of liver patients. Patients and Methods: 160 hospitalized adult cases of decompensated cirrhosis of liver and 200 healthy controls were assessed for etiology and their anti-HAV IgG status by commercially available kits. Results: Most common cause of cirrhosis of liver in our region is ethanol related. 95% of cases and 89% of controls were seropositive for anti-HAV IgG (P = 0.181, insignificant difference). All cases above the age of 40 years were seropositive. Seroprevalence between sexes (M 97% and F 83.3%) was statistically insignificant. Only age showed a high coefficient of correlation (r = 0.854, statistically significant, P < 0.001). Conclusion: Alcohol is the most common etiology of cirrhosis of liver in north-east India. Socio-cultural milieu in our part may play a role with alcohol contributing to a major but preventable health burden. Anti-HAV vaccination in our setting is not indicated routinely to cirrhosis of liver patients as it will not be cost-effective. However, young cirrhotics should be screened for anti-HAV antibody and if negative, may be offered vaccination.¹⁰ Mukherjee PS et al reported a prospective, multicentric study to delineate the

etiology and clinical profile of chronic liver disease in India. Eleven hospitals from different parts of India participated. Data were uploaded into a web based proforma and monitored by a single centre according to a standardized protocol. 1.28% (n = 266621) of all patients (n = 20701383) attending the eleven participating hospitals of India had liver disease. 65807 (24.68%) were diagnosed for the first time (new cases). Of these, 13014 (19.77%, median age 43 years, 73% males) cases of chronic liver disease were finally analyzed. 33.9% presented with decompensated cirrhosis. Alcoholism (34.3% of 4413) was the commonest cause of cirrhosis while Hepatitis B (33.3%) was predominant cause of chronic liver disease in general and non-cirrhotic chronic liver disease (40.8% out of 8163). There was significant interregional differences (hepatitis C in North, hepatitis B in East and South, alcohol in North-east, Non-alcoholic Fatty Liver Disease in West) in the predominant cause of chronic liver disease. Hepatitis B (46.8% of 438 cases) was the commonest cause of hepatocellular Cancer. 11.7% had diabetes. Observations of our study will help guide a contextually relevant liver care policy for India and could serve as a framework for similar endeavor in other developing countries as well.¹¹

Dezortova M et al assessed the functional status and etiology of liver cirrhosis by quantitative 31P magnetic resonance spectroscopy (MRS). A total of 80 patients with liver cirrhosis of different etiology and functional status described by Child-Pugh score were examined and compared to 11 healthy volunteers. MR examination was performed on a 1.5 T imager using a 1H/31P surface coil by the 2D chemical shift imaging technique. Absolute concentrations of phosphomonoesters (PME), phosphodiester (PDE), inorganic phosphate (Pi) and adenosine triphosphate (ATP) were measured. MRS changes reflected the degree of liver dysfunction in all the patients as well as in individual etiological groups. The most important change was a decrease of PDE. It was possible to distinguish alcoholic, viral and cholestatic etiologies based on MR spectra. Alcoholic and viral etiology differed in PDE and ATP from the control group. Unlike viral etiology, patients with alcoholic etiology also differed in Pi from controls. No significant changes were found in patients with cholestatic disease and controls; nevertheless, this group differed from both alcoholic and viral groups in PDE. 31P MRS can significantly help in non-invasive separation of different etiological groups leading to liver cirrhosis. In addition, MRS changes reflect functional liver injury.¹²

CONCLUSION

From the above results, alcohol is the most common etiologic agent responsible for causing liver cirrhosis. However; we recommend future studies.

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