

Original Article

Hepatitis B virus remains the leading cause of cirrhosis of liver in Bangladesh

Das DC¹, Mahtab MA², Rahim MA³, Malakar D⁴, Kabir A⁵, Rahman S⁶

Abstract

Cirrhosis is a serious and irreversible disease. It is a consequence of chronic liver disease characterized by replacement of liver tissue by fibrotic scar tissue as well as regenerative nodules, leading to progressive loss of liver function. Present study was conducted to evaluate the aetiological factors of liver cirrhosis. This was a retrospective cross-sectional study. Patients attending Hepatology Green Unit, Bangabandhu Sheikh Mujib Medical University, Dhaka in 2014 with cirrhosis were included. Total 770 patients were studied, 525(68.18%) males and 245(31.82 %) females. Majority of patients, 379(49.22%) had HBV infection, 162(21.04%) had NASH, 113(14.68%) had HCV infection, 31(4.02%) had alcohol abuse, 28(3.64%) had Wilson's disease, 23(2.98%) had autoimmune hepatitis and no etiological factors (cryptogenic) were recorded in 34 (4.42%) patients. HBV infection was the major risk factor for cirrhosis in our patients.

Key words: Liver Cirrhosis, Chronic HBV and HCV infection, NASH, Alcohol

Introduction

Cirrhosis is a serious and irreversible disease. It is a consequence of chronic liver disease characterized by replacement of liver tissue by fibrotic scar tissue as well as

regenerative nodules, leading to progressive loss of liver function.^{1,2} It is a major cause of mortality and morbidity worldwide.³ Regardless of the cause, 80-90% of the liver function must be lost before hepatic failure ensues. Common causes of cirrhosis of liver which is a significant health problem worldwide include Hepatitis B, C, alcohol and NASH. Cirrhosis develops in about 10-20% within 5-30 years.

Chronic hepatitis B virus (HBV) infection is a serious health problem because of its worldwide distribution and its potential adverse sequelae, including cirrhosis and hepatocellular carcinoma (HCC).^{4,5} It was estimated that more than 200,000 and 300,000 chronic HBV carriers worldwide die of liver cirrhosis and HCC, respectively, each year.⁶

The most common cause being viral hepatitis as compared to West where alcohol is more common.^{7,8} Majority of patients with chronic liver disease had evidence of HBV, HCV. HBV is now more common as compared to HCV in our country and a high frequency of HBV seropositive individuals of both sex among patients referred for chronic liver disease. About 15% of patients with cirrhosis will finally develop hepatocellular carcinoma.⁷

Methods

This was a cross-sectional descriptive study. This was a retrospective study. Patients attending Hepatology Green Unit, Bangabandhu Sheikh Mujib Medical University, Dhaka, from January 2014 to December 2014 with cirrhosis were included. Patients having an evidence of cirrhosis of liver on clinical, biochemical and ultrasound examination of abdomen were included in this study. All those patients who were not confirmed to be cirrhotic, excluded from this study. These patients were carefully examined to determine the etiology of the disease.

Results

During the study period, 770 patients with a diagnosis of cirrhosis of liver were studied. Majority were 525 (68.18%) males and 245 (31.82 %) were females.

This study showed that HBV infection was the major etiological factor and responsible for 49.22% of the total cases. We also observed 21.4% of patients with cirrhosis

1. *Dr Dulal Chandra Das, Medical Officer, Department of Hepatology, BSMMU, Dhaka. E-mail: dulaldas36@gmail.com.
2. Dr Mamun Al Mahtab, Associate Professor, Department of Hepatology, BSMMU, Dhaka.
3. Dr Md Abdur Rahim, Assistant Professor, Department of Hepatology, Abdul Malek Ukil Medical College, Noakhali.
4. Dr Debraj Malakar, Department of Hepatology, BSMMU, Dhaka.
5. Professor Dr Anwarul Kabir, Professor, Department of Gastroenterology, BSMMU, Dhaka
6. Professor Dr Salimur Rahman, Professor, Department of Hepatology, BSMMU, Dhaka.

*For correspondence

due to nonalcoholic steatohepatitis (NASH) and HCV in 14.68 % of cirrhotics. Cirrhosis due to alcohol abuse in 4.02%, autoimmune hepatitis in 2.98%. In this study, 3.64% cirrhotic patient had Wilson's disease and etiologic factor was not recognized in 4.42% of patients and known as cryptogenic cirrhosis. HBV infection was the major etiological factor and responsible for 49.22% of the total cases and 21.4% of patients due to nonalcoholic steatohepatitis (NASH) and 14.68 % of cirrhosis due to HCV. (Table-I)

Table- I: Etiological factors of cirrhosis.

Factors	Male		Female		Positive proportion	
	No	%	No	%	No	%
HBV Infection	268	70.71	111	29.29	379	49.22
NASH	121	74.69	41	25.31	162	21.04
HCV Infection	73	64.60	40	35.40	113	14.68
Alcohol	27	87.10	4	12.90	31	4.02
Wilson's disease	15	53.57	13	46.43	28	3.64
Autoimmune Hepatitis	5	21.74	18	78.26	23	2.98
Unknown Cause	16	47.06	18	52.94	34	4.42

Discussion

Cirrhosis of liver is generally irreversible disease, and treatment focuses on preventing progression and complications. In advanced stages of cirrhosis the only option is a liver transplant. Cirrhosis of liver is a frequent cause of admission in hospitals and HBV was the most common cause. At least 5-10% of infected patients, develop chronic liver disease and cirrhosis develops in about 10-20% patients within 5-20 years.⁹

This study showed that HBV infection was the major etiological factor and was responsible for 49.22% of the total cases presented with cirrhosis, as observed by Choon-Seng Qua and Khean-Lee Goh, that most of their patients with HBV infection (46.1%), presented with established cirrhosis.¹⁰ We observed 21.4% of patients with cirrhosis due to nonalcoholic steatohepatitis (NASH).

NASH is more likely to occur with people who are obese, diabetes patients, those with high blood lipid levels, as well as individuals with hypertension. NASH, in its early stages, begins with the accumulation of too much fat in the liver. The fat causes inflammation and scarring, resulting in possible cirrhosis later on.

We observed infection of HCV in 14.68 % of cirrhotics, while Choon-Seng Qua and Khean-Lee Goh, has reported 18.5 % infection with HCV and alcohol 12.6%.¹⁰ Previous studies also included patients with non-viral forms of cirrhosis, mainly alcohol related, where the pathogenesis and pathophysiology of liver damage are quite different.¹¹⁻¹³

We observed cirrhosis due to alcohol abuse in 4.02%, autoimmune hepatitis in 2.98%.

In this study, 3.64% cirrhotic patient had Wilson's disease, whereas 02% of patients had Wilson's disease, as reported in other studies.¹⁴⁻¹⁶ In this study the etiological factor was not recognized in 4.42% of patients and known as cryptogenic cirrhosis as reported by Nadeem, et al.⁹

These figures remain same for both males and females. Although HBV (49.22%) remains the leading cause of cirrhosis in Bangladesh (61.2 % in 2007), NASH (21.04%) (3.6 % in 2007) has become more important than HCV (14.68%) (2.2 % in 2007) as the etiology of cirrhosis in Bangladesh. We have also found more alcohol related cirrhosis (4.02%) in this country (1.5 % in 2007).

We conclude that chronic HBV infection is the major risk factor for cirrhosis in our patients. HBV vaccine has been integrated into the existing expanded programme on immunization (EPI). A multidisciplinary approach for prevention and control of HBV infection must be adopted to make the public awareness through the mass media about its complications and possible modes of transmission.

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