

FREQUENCY OF DIFFERENT CAUSES OF CIRRHOSIS LIVER IN LOCAL POPULATION

Fahim Ullah, Sheema Khan, Ayesha Khan Afridi, Sadiq ur Rahman

Department of Medicine, and Department of Surgery, Khyber Teaching Hospital, Peshawar, Pakistan

ABSTRACT

Background: Cirrhosis liver is a common cause of morbidity and mortality in developing countries. The objective of this study was to find out the frequency of different causes of cirrhosis liver in patients admitted to medical unit.

Material & Methods: A prospective study of 95 patients already diagnosed with cirrhosis liver or diagnosed as such during current admission was performed in the Medical B Unit of the Department of Medicine Khyber Teaching Hospital, Peshawar from January, 2009 to December, 2009. Both male and female patients above 15 years of age were included in this study.

Results: Of the 95 patients meeting the inclusive criteria 49(51.6%) were male and 46(48.4%) female patients. The commonest affected age group was 40-60 years. The most common cause of cirrhosis liver in our study was hepatitis C virus infection responsible for 74(61.66%) patients followed by hepatitis B virus infection, hepatitis B and C viruses co-infection and hepatitis B and D virus super infection in 18(18.94%), 5(5.3%) and 4(4.2%) patients respectively. Other causes found were alcoholic liver disease in 3(3.2%) patients, primary biliary cirrhosis in 2(2.1%) and 1(1.05%) patient each had Wilson's disease and haemachromatosis while in 3(3.15%) no cause for cirrhosis liver was found.

Conclusion: The most common cause of cirrhosis liver in admitted patients is hepatitis C virus infection followed by hepatitis B virus infection in our local population.

Key Words: Cirrhosis liver, Hepatitis C virus, Hepatitis B virus.

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INTRODUCTION

Cirrhosis liver is defined as a chronic disorder of liver characterized by degeneration of liver cells followed by fibrosis and disordered regenerating nodules leading to portal hypertension and its complications. In 2001 cirrhosis liver was the 10th leading cause of death in men and 12th for women in the United States resulting in about 27,000 deaths.¹ In developing countries like Pakistan cirrhosis liver is more prevalent compared to developed countries.²⁻⁴ In fact both hepatitis B virus (HBV) and hepatitis C virus (HCV) infections have become endemic in our community.⁵

Both HBV and HCV viruses can cause chronic liver infection and can lead to cirrhosis liver, hepatocellular carcinoma (HCC) and all other complications of cirrhosis liver with resultant increase in morbidity and mortality in these patients.⁶⁻⁹

Corresponding Author:

Dr. Fahim Ullah
Department of Medicine
Khyber Teaching Hospital, Peshawar, Pakistan
e-mail: drfaheemullah@gmail.com

HCV related cirrhosis liver has become a major problem worldwide.¹⁰ It more often results in chronic state compared with hepatitis B virus (HBV).¹¹ Almost 1.5 million new cases of HCV infection occur every year in US.⁶ The prevalence of HCV infection in healthy blood donors was found to be 15.6% in Africa, 1.5% in Japan, 0.64% in US, 0.34% in Canada and 0.075 in United Kingdom.¹² Different studies from Pakistan show prevalence of HCV infection from 00-20.89%.¹³⁻¹⁵

Worldwide there are more than 350 millions of chronic carriers of HBV infection among them almost 75% belong to Asian subcontinent.¹⁶ In Pakistan the prevalence of HBV infection in healthy blood donors is 2-14%.^{13,15} In general population in Pakistan the prevalence of HCV and HBV infection was estimated at 3.6-18.66% and 4.25- 7.13% respectively.¹⁷

Alcoholic liver disease or alcoholic liver cirrhosis develops in 10 to 20% of people who drink heavily for a decade or more.¹⁸ In 2003, 44% of all deaths from liver diseases were attributed to alcohol in US.¹⁹ In developing countries like Pakistan viral hepatitis is by far the most common cause of liver cirrhosis .

Other causes of cirrhosis liver are autoimmune hepatitis, primary biliary cirrhosis, Wilson’s disease, haemochromatosis, α -1 antitrypsin deficiency, primary sclerosing cholangitis (PSC), granulomatous disease like sarcoidosis, type IV glycogen storage disease, various drugs like methotrexate, alpha methyl dopa, amiodarone, venous outflow obstruction like Budd-chiari syndrome, veno-occlusive disease, chronic right-sided heart failure, and tricuspid regurgitation.

The objective of this study was to find out the frequency of different causes of cirrhosis liver in patients admitted to medical unit.

MATERIAL AND METHODS

This prospective study was conducted in Medical B Unit of Khyber Teaching Hospital, Peshawar, over a period of one year between January 2009 to December 2009 including 95 patients who were admitted either with the diagnosis of cirrhosis liver or were diagnosed as such during their stay in hospital. All patients over the age of 15 years both male and females, were included in the study while those with acute liver failure were excluded. They were explained the purpose of the study. After informed consent they were included in study. Demographic characteristics were recorded.

After detailed history, clinical examination was performed to look for the stigmata of cirrhosis liver. Hepatitis B surface antigen (HBsAg) and anti-HCV antibodies tests were performed in all patients using 3rd generation ELISA and those found positive for HBsAg their anti-hepatitis D antibody test was performed as well. Those found negative for both HBV and HCV were screened for other causes of cirrhosis in the light of clinical suspicion like haemochromatosis, Wilson’s disease, autoimmune hepatitis, etc.

The data was entered in an objectively structured proforma and analysed statistically using SPSS version 16.0. Mean and Standard Deviation of age, frequencies and percentages were calculated for all variables.

RESULTS

In our study total of 95 patients were included, 46 (48.4%) females and 49 (51.6%) males. Their age ranged from 16-81 years with mean age of 54 years. The majority of patients were in their 5th and 6th decade of life. (Table 1)

Out of 95 patient 58 (61.05%) were anti-HCV positive, 18 (18.94%) were HBsAg positive while 5 (5.3%) were both anti-HCV and HBsAg positive and 4(4.2%) were positive for both HBsAg and anti-HDV antibodies. Three (3.2%) patients had alcoholic liver

cirrhosis, 2 (2.1%) had PBC and 1 (1.05%) each had Wilson’s disease and haemachromatosis while in 3 (3.15%) no cause was found. (Fig. 1)

Table 1: Age groups of patients.

Age group	No. of patients	Percentage
1-20	1	1.05%
21-40	9	9.47%
41-60	53	55.78%
61-80	30	31.57%
>80	2	2.10%

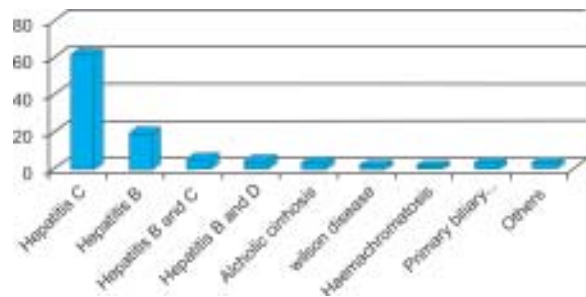


Fig. 1: Frequency of different causes of cirrhosis

DISCUSSION

Cirrhosis is end stage liver disease where normal liver parenchyma is replaced by regenerating nodules and scar tissue resulting from a variety of conduction including viruses like HBV, HCV, HDV, alcoholic liver disease, PBC, Wilson disease, haemochromatosis, α -1 antitrypsin deficiency, autoimmune hepatitis and others.

In our study of 95 patients male to female ratio was 49:46 while the mean age observed was 54 years, both the results match with the figures observed by Khan et al.²⁰

In our study the most common age group involved was 40-59 years contributing 55.78% cases comparable with study conducted by Almani et al, where 64 % were between 45-60 years.²¹

Anti HCV antibody was found positive in 61.05% which is comparable with 52% and 53.6% observed by Khan et al and Almani et al.^{20,21}

HBsAg was found positive in 18.94% while Anwaar et al reported it in 22%, Alam et al in 28% and Hussain et al in 29%.^{8,22,23} One possible explanation may be that none of the above studies further tested for anti HDV antibody which was found positive in 4.2% in our study, making HBS antigen positive in 23.14%. When added together viral markers were observed in almost 90% of the cases which is comparable with 85% observed by Shah et al and others.^{21,24}

HBV and HCV co-infection was observed in 5.3% in our study while Bukhtari et al and Farooqi et al reported it as 7% and 3% respectively.^{25,26}

In our study 1 patient was noted to have PBC similar results were observed by other researchers.²⁷⁻³⁰ One patient had WD as observed by other as well.³¹⁻³³

Surprisingly ALD was observed in 2.10% patients which is in complete contrast to studies in West where ALD is the more frequent cause while Almani et al observed in 8% patients.²¹

In 3.15% patients no cause for cirrhosis could be identified, this observation is almost similar to the result observed by Nadeem et al (5%).^{21,34}

CONCLUSION

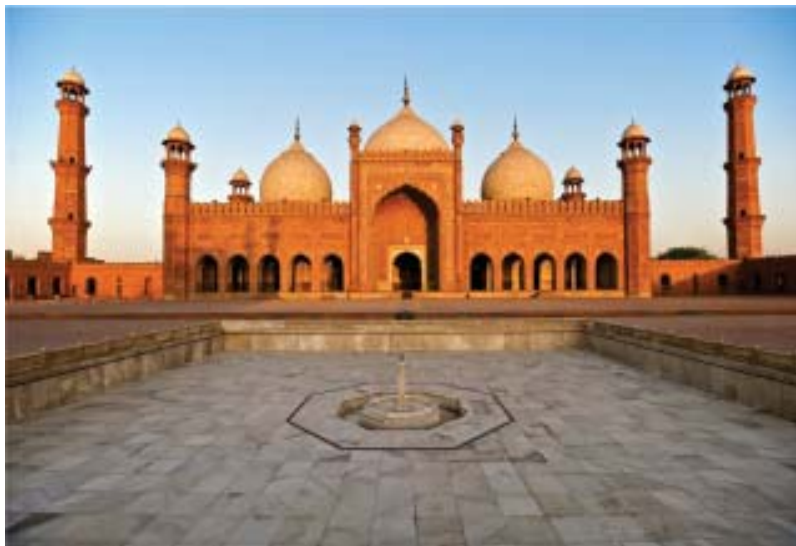
In our local population the most common cause of cirrhosis is hepatitis C virus infection while viral hepatitis is responsible for more than 90% of the cases, majority presenting in their 5th and 6th decade of life with slight male predominance.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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None declared.



Badshahi Masjid, Lahore - Pakistan