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ORIGINAL ARTICLE

Clinico-Pathological Profile of patients Suffering from Chronic Liver Disease Secondary to Viral Hepatitis

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ABSTRACT

Aim: To analyze clinical, biochemical & treatment profile of patients suffering from CLD secondary to viral hepatitis in our region.
Duration & place of study: Descriptive study, January 2021 to July 2021 at Frontier Medical & Dental College, Abbottabad
Methods: All patients having chronic liver disease secondary to viral hepatitis with or without complications were enrolled in this study. A diagnosis was made based on clinical findings, biochemical tests, ultrasonography of abdomen and upper GI endoscopy findings. Inclusion criteria further included presence of stigmata suggestive of chronic liver disease and clinical and laboratory parameters which were indicative of portal hypertension. Patients who refused to give consent, pregnant female patients and patients suffering from CLD caused by etiological factors other than hepatitis viruses and who were terminally ill were excluded.
Results: Mean age of these patients was 41.25±12.59 years. There were 138 males and only 16 female patients. Majority of the patients, 79.22%, developed anorexia. A large number of patients, 82.47%, had hepatomegaly while 58.44% had firmness in their liver. About 79.87% had splenomegaly, 66.23% had spider naevi, 86.36% had ascites and 87.67% had esophageal varices. Almost half of our patients, 50.65%, used steroid therapy while a large majority of them, 85.06%, were taking antiviral treatment. Mean values of bilirubin, alkaline phosphatase, alanine aminotransferase (ALT), albumin and prothrombin time (PT) were 1.43±1.21 mg/dL, 105.33±51.51 U/L, 85.89±89.65 U/L, 3.82±0.65 g/dL, 62.57±22 seconds respectively.
Conclusion: Chronic liver disease secondary to viral hepatitis especially hepatitis B and C virus is quite common in our country. It presents with typical stigmata both clinically and pathologically. There is a need to identify these stigmata and diagnose this condition early to avoid complications in these patients.
Keywords: Hepatitis, antiviral, hepatomegaly, liver, bilirubin

INTRODUCTION

Viral liver infections are amongst the top five commonest infectious causes leading to premature death globally. There are six types of viruses which are known to cause hepatitis but hepatitis B virus (HBV) and hepatitis C virus (HCV) are the most prevalent[1].

Prevalence of chronic HBV infection was estimated to be 257 million globally with the highest number of cases in African and Western Pacific regions. North America has the lowest proportion of chronic HBV cases[2]. HBV was also associated with 29% mortality in patients who were suffering from liver cirrhosis as well as was a major contributor in deaths due to liver cancer[3]. Collectively, about ten HBV genotypes (A-J) were recognized and their distribution differs globally[4]. Risk factors associated with HBV transmission include; i) transfusion of blood and blood products, ii) piercing, surgery or dental treatment with contaminated instruments, iii) IV drug abuse and iv) contaminated transplant organs[5,6,7].

Globally more than 71 million people are suffering from HCV. Highest prevalence of HCV was documented in Eastern Mediterranean region followed by Africa and Europe.[8] HCV has seven major genotypes and 67 subtypes. Most common HCV genotype, in the world, is genotype 1 which is believed to be responsible for about half of the cases of HCV followed by genotype 3 which is responsible for about one third of the HCV cases and also most common in south Asia[9,10]. Both HBV and HCV are associated with the development of chronic liver disease (CLD) and hepatocellular carcinoma (HCC) in some of the patients with CLD later[8].

As the reported prevalence of HBV and HCV infection among general population is 2.6% and 5.3% and among health care workers it is 6.0% and 5.4% respectively, in Pakistan, therefore, we have conducted this study to analyze the clinical, biochemical and treatment profile of patients suffering from CLD secondary to HBV and HCV in our region[11].

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MATERIALS & METHODS

This was a descriptive observational study which was conducted in Frontier Medical & Dental College, Abbottabad from January 2021 to July 2021 after approval of Ethical Review Board. This was a non-probability consecutive sampling. All patients having chronic liver disease secondary to viral hepatitis (HBV and HCV) with or without complications were enrolled in this study. A diagnosis was made based on clinical findings, biochemical tests, ultrasonography (USG) of abdomen and upper GI endoscopy findings. Histopathological analysis was done in some patients. Inclusion criteria further included presence of stigmata suggestive of chronic liver disease and clinical and laboratory parameters which were indicative of portal hypertension. Exclusion criteria consisted of those patients who had refused to give consent, pregnant female patients and patients suffering from CLD caused by etiological factors other than hepatitis viruses and who were terminally ill. Data was entered, managed and analyzed using Minitab, version 20. Descriptive statistics were described using percentage, mean, mode and standard deviation.

RESULTS

There were 154 patients in our study. Mean age of these patients was 41.25±12.59 years. There were 138(89.61%) males and only 16(10.39%) female patients suggesting a male preponderance as shown in Figure 1.

Figure 2 represented the clinical characteristics of the study population. Only few patients, 35.06%, reported fatigue while a majority of patients, 60.39%, reported malaise. Similarly, majority of the patients, 79.22%, developed anorexia. A large number of patients, 82.47%, had hepatomegaly while only 58.44% had firmness in their liver. Maximum number of patients had developed stigmata of CLD; 79.87% had splenomegaly, 66.23% had spider naevi, 86.36% had ascites and 87.67% had esophageal varices representing the advanced stage of their disease. Almost half of our patients, 50.65%, used steroid therapy while a large majority of them, 85.06%, were taking antiviral treatment.

Laboratory parameters of the study population were shown in Table 01. Mean values of bilirubin, alkaline phosphatase, alanine aminotransferase (ALT), albumin and prothrombin time (PT) were 1.43±1.21 mg/dL, 105.33±51.51 U/L, 85.89±89.65 U/L, 3.82±0.65 g/dL, 62.57±22 seconds respectively.

Table 1: Laboratory investigations of study population, (n=154)

Laboratory Test	Mean	Median	Min - Max	Normal Values
Bilirubin	1.43±1.21	01	0.3 - 08	0.1-1.2 mg/dl
Alkaline Phosphatase	105.33±51.51	85	26 - 295	50-116 U/L
Alanine Aminotransferase (ALT)	85.89±89.65	58	14- 648	≤ 45 U/L
Albumin	3.82±0.65	04	2.1 – 6.4	3.5-5.2 g/dL
Prothrombin Time (PT)	62.57±22	62	21 - 100	11-13.5 seconds

Fig. 1: Gender segregation of study population, (n=154)

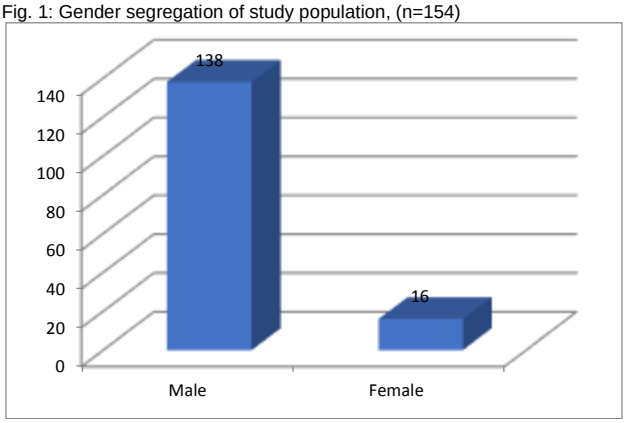
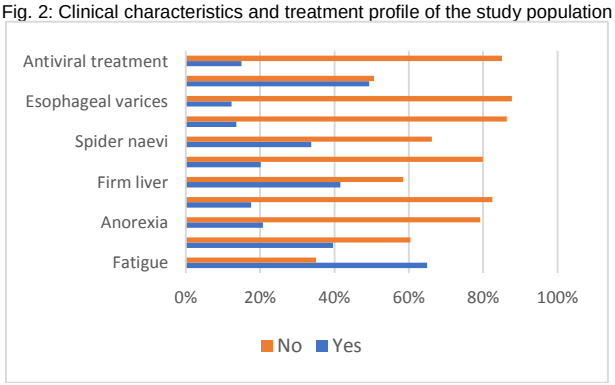


Fig. 2: Clinical characteristics and treatment profile of the study population



DISCUSSION

Chronic HBV and HCV infections are major contributor towards CLD. These patients not only pose a significant health problem as risk of hepatocellular carcinoma is high but these patients also pose a significant medical risk for other patients as well as medical personnel by serving as a potential reservoir of HBV and HCV infection.

Mean age of our patients was 41.25±12.59 years. Among our study population, 89.61% were males and only 10.39% were female patients signifying a male preponderance. Our finding corroborated with other studies. Gomes et al had also reported a similar finding in their study, which was conducted in Bangladesh, where 75% of their study population consisted of male subjects[8]. Similarly, in another study conducted in Hazara, Pakistan, there were 73.3% males while only 26.7% were female patients[12]. This fact reflected social prejudice where males were more prone to receiving medical treatment and indoor admissions as compared to female patients.

Only few patients, 35.06%, reported fatigue while a majority of patients, 60.39%, reported malaise. Similarly, majority of the patients, 79.22%, developed anorexia. A large number of patients, 82.47%, had hepatomegaly while only 58.44% had firmness in their liver. Maximum number of patients had developed stigmata of CLD; 79.87% had splenomegaly, 66.23% had spider naevi, 86.36% had ascites and 87.67% had esophageal varices representing the advanced stage of their disease. Gomez et al had also reported that 28% of their patients had hepatomegaly, 86% had splenomegaly, 90% of their study participants had ascites (ranging from mild to huge) and almost all of their patients had varying grades of esophageal varices[13].

Laboratory parameters of our study population revealed mean values of bilirubin, alkaline phosphatase, alanine aminotransferase (ALT), albumin and prothrombin time (PT) were 1.43±1.21 mg/dL, 105.33±51.51 U/L, 85.89±89.65 U/L, 3.82±0.65 g/dL, 62.57±22 seconds respectively. Mean bilirubin levels were found to be 2.4mg/dL while mean albumin levels were 24.1gm/L in a study which was conducted in Bangladesh[13].

As far as limitations were concerned, we haven't calculated the seroprevalence of HBV and HCV infection as numerous studies were already conducted on this subject. There is a need of time to conduct more studies based on histopathological analysis and with prolonged follow up time in such patients.

CONCLUSION

CLD presents with typical stigmata both clinically and pathologically. There is a need to identify these features and diagnose this condition early to avoid complications.
Conflict of interest: Nil

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