

FREQUENCY OF HEPATITIS D IN CHRONIC HEPATITIS B PATIENTS VISITING OUT PATIENT DEPARTMENT, HAYATABAD MEDICAL COMPLEX, PESHAWAR

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ABSTRACT

Introduction: A high frequency of hepatitis D infection in chronic hepatitis B patients has been reported in recent times in studies done in both Punjab and Sindh provinces. However no study had so far been conducted in Khyber Pukhtunkhwa province regarding this frequency. Hepatitis D serology was used as marker of hepatitis D infection in chronic hepatitis B patients visiting medical OPD Hayatabad Medical Complex (HMC), Peshawar.

Material & Methods: This cross-sectional study was carried out at medical OPD, Department of Medicine, HMC Peshawar from 1st Jan, 2014 to 31st Dec, 2014. Consecutive sampling was employed with a total sample size of 191 patients. Patients with CHB of any duration, who were 13 or more years of age and of either sexes were included in the study. Patients with a history of interferon treatment in the past, patients on immunosuppressive drugs or patients with concomitant hepatitis C virus (HCV) were excluded. Patients with CHB were identified by two positive HBsAg tests by ELISA done more than 6 months apart. All patients with CHB were tested for presence of anti-HDV antibodies by 3rd-generation ELISA method.

Results: Overall the prevalence of hepatitis D seropositivity was 47% in our chronic hepatitis B patients. A large proportion these hepatitis seropositive patients were young males.

Conclusion: A high percentage of patients with CHB in our country are also suffering from concurrent HDV infection. Majority of these patients are young males. Failure to recognize them can lead to improper treatment of patients suffering from CHB.

Key Words: Chronic hepatitis B, hepatitis D virus, Age, Prevalence.

INTRODUCTION

Chronic hepatitis B (CHB) is an important health problem facing the world. Each year more than a million people die because of the complications of CHB including cirrhosis, liver failure and Hepatocellular Carcinoma.¹ Hepatitis D Virus (HDV) is a type of viral hepatitis that can only infect patients already infected with hepatitis B and results in exacerbation of their disease.²

HDV is transmitted in the same way as hepatitis B Virus (HBV). The routes of transmission include perinatal, sexual and percutaneous transmission like IV drug abuse. In endemic countries like Pakistan, percutaneous transmission through reused syringes and needles is also an important mode of transmission of HBV & HDV.³

All patients suffering from CHB should ideally

be also checked for concomitant HDV infection before starting treatment, as the treatment of CHB alone is different from combined HBV/HDV infection. CHB alone is usually treated with oral anti-viral drugs and less frequently with interferon- α in conventional doses. However combined HBV/HDV infection requires high dose interferon- α and for a longer duration of time.⁴

In the last 2 decades there has been a decline in the prevalence of HDV in different parts of the world especially Europe. The main reasons for this are the universal HBV vaccination, improvement in socio-economic conditions and changes in high risk behaviours.⁵ Even in India, HDV infection is not very common and there has been a declining trend similar to that seen in other countries of the world.⁶ In contrast to this, HDV infection is still prevalent in some countries including Pakistan.⁷

The worldwide prevalence of HDV infection in CHB is 5%.⁸ In Pakistan the prevalence of HDV infection is much higher with previous studies showing a prevalence in the range of 16-27%.² However more recent studies have found a very high prevalence of this infection among CHB patients.

The objective of this study was to find out the prevalence of HDV infection in CHB in our local population since no study evaluating the prevalence has been done in Khyber Pukhtunkhwa.

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MATERIAL & METHODS

This cross-sectional study was carried out at medical OPD, Department of Medicine, HMC Peshawar from 1st Jan, 2014 to 31st Dec, 2014. Consecutive sampling was employed with a total sample size of 191 patients.

Patients with CHB of any duration, who were 13 or more years of age and of either sexes were included in the study. Patients with a history of interferon treatment in the past, patients on immunosuppressive drugs or patients with concomitant hepatitis C virus (HCV) were excluded.

The purpose and procedure of study was explained to all patients and written informed consent taken. Patients with CHB were identified by two positive HBsAg tests by ELISA done more than 6 months apart. All patients with CHB were tested for presence of anti-HDV antibodies by 3rd-generation ELISA method by out of hospital laboratory as the facility of this test was not available at our hospital.

Data was collected through specially designed proforma and was analyzed using SPSS version 11. Frequencies and percentages were calculated for categorical variables like gender, age groups and anti-HDV antibodies. Mean \pm SD was calculated for age.

RESULTS

A total of 191 patients were included in the study. The average age of patients in the study was 31.36 years \pm 12.10 SD with a range from 14 years to 65 years.

Among the 92 anti-HDV positive patients 62(67.39%) were males and 30(32.60%) were females

as shown in figure 02.

Out of these 191 patients, 92(48.2%) patients were positive for anti-HDV antibodies while 99(51.8%) were negative for anti-HDV antibodies a shown in figure 01.

Out of 62 anti-HDV positive males, 52(83.9%) were

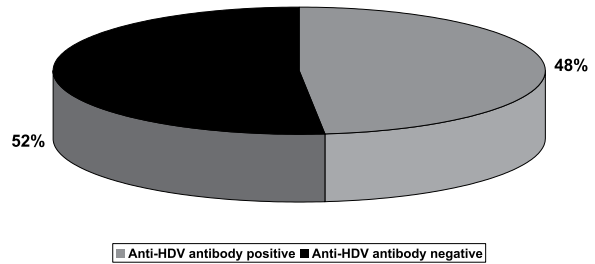


Figure no. 1: Frequency of Hepatitis D Seropositivity

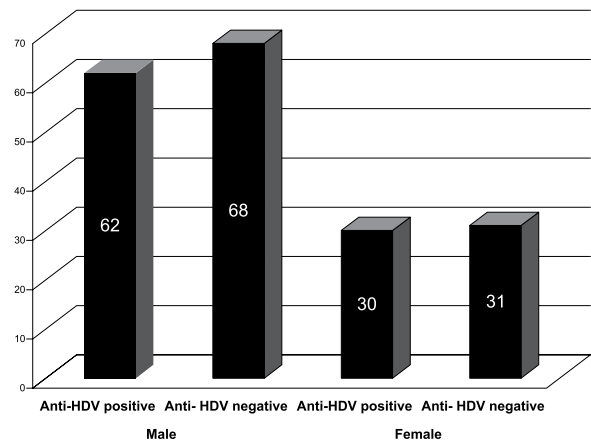


Figure No.2: Gender Distribution of Anti-Hdv Antibody Positive Patients

Table No.1 Gender-Wise Distribution of Anti-Hdv Antibody Positive Patients Among Different Age Groups

Anti- HDV antibody				Gender		Total	
				Female	Male		
Negative	Age groups	13-35 years	Count	26	40	66	
			% within gender	83.9%	58.8%	66.7%	
	36-60 years	Count	5	28	33		
		% within gender	16.1%	41.2%	33.3%		
	Total			Count	31	68	99
				% within gender	100%	100%	100%
Positive	Age groups	13-35 years	Count	19	52	71	
			% within gender	63.3%	83.9%	77.2%	
	36-60 years	Count	9	10	19		
		% within gender	30.0%	16.1%	20.7%		
	61 Years and above	Count	2	0	2		
		% within gender	6.7%	.0%	2.2%		
	Total			Count	30	62	92
				% within gender	100%	100%	100%

in younger age group, 10(16.1%) were in middle age group, while there was no male patients in the older age group. Among the 30 anti-HDV antibody positive females, 19(63.3%) were in younger age group, 9(30%) belonged to middle age group, while 2(6.7%) were in older age group as shown in table 01.

Thus majority of anti-HDV antibody positive patients i.e. 52(56.52%) were males, belonging to the younger age group.

DISCUSSION

In this study the frequency of HDV was studied among patients with CHB. The frequency was found to be quite high i.e.48.2%.

Recent studies else where in Pakistan have also shown a high prevalence of HDV infection. In the study by Seetlani NK et al, the prevalence of HDV was 58.6% in CHB patients visiting liver clinics in Karachi.⁹ In another study carried out at Karachi between 2005 and 2009 found this frequency to be 35.2%.¹⁰

Older studies done in Pakistan showed a lower prevalence of HDV infection. For example, HDV seropositivity in HBsAg positive patients was 16.6% in the study by Mumtaz K et al, in 2005.¹¹ Another study by Shaikh MA et al, carried out between 2003 and 2008 showed this frequency to be 23.6%.¹²

Another study conducted by Zuberi BF et al, in 2007 found the frequency of HDV seropositivity to be 26% in CHB patients.¹³ The same frequency increased to 31.5% in a study done at a tertiary care centre in Karachi.¹⁴

All the above studies suggest that the prevalence of combined HBV/HDV infection has been on the rise. The reasons for this rise may be a lack of proper implementation of hepatitis B vaccination as well as a lack of awareness among public regarding risk factors for transmission of HDV infection.

Another significant finding in our study was that the majority of HDV seropositive patients were young males comprising 56.52% of total HDV seropositive patients. This pattern has also been seen in previous studies in which rate of HDV infection is reported higher in young males compared to females.⁹ The reason for this might be an increased prevalence of high risk behaviors in younger males.

The limitation of this study remained the failure to perform HDV PCR to confirm or refute the presence of active HDV infection.

CONCLUSION

In the light of the study it is concluded that a high percentage of patients with CHB in our country are also suffering from concurrent HDV infection. Majority of these patients are young males. Failure to recognize

them can lead to improper treatment of patients suffering from CHB.

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