

FREQUENCY OF HEPATITIS B AND C ON SCREENING IN DERA ISMAIL KHAN

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ABSTRACT

Background: Hepatitis B and C virus infections account for a substantial proportion of liver diseases worldwide. This study was conducted to find out the frequency of hepatitis B & C and associated risk factors in patients clinically suspected as having hepatitis. **Methods:** This descriptive study was conducted at Pathology Department, Gomal Medical College D.I.Khan. Patients suspected of having hepatitis and referred by consultants for investigation, during February 2008 to January 2009 were included. HBsAg and Anti-HCV antibodies screening was done with immune-chromatographic technique one-step device. Positive cases were confirmed by ELISA. **Results:** Total 1544 patients were tested; 1043 males and 501 females, with males to female ratio of 2:1. Out of these 248(16.06%) were HBsAg positive and 101(6.54%) anti-HCV positive. The mean age of HBsAg positive patients was 27.16 ± 11.94 years, while that of Anti-HCV was 35.58 ± 13.93 years. Concurrent infection was found in 4 male patients for both HBsAg and Anti-HCV. As risk factors, parenteral drug administration was the most common risk factor and barber visit the second most common in males while piercing of ear/nose in females. **Conclusion:** Hepatitis B and C are common in this region. Hepatitis B is more frequent than C. Males are affected more as compared to females. Transmission by parenteral route is the most common risk factor.

KEY WORDS: Hepatitis B, Hepatitis C, Seroprevalence.

INTRODUCTION

Hepatitis B virus (HBV) and hepatitis C virus (HCV) infections account for a substantial proportion of liver diseases worldwide.¹ More than 2 billion people worldwide are infected with HBV, HCV or both, and an estimated 500 million have chronic infection with these viruses. The principal long-term sequelae of chronic HBV and HCV infection are cirrhosis and primary liver cancer. Both infections decrease patients' quality of life even in the pre-cirrhotic stage.²⁻⁴

Spread of HBV and HCV is by sharing contaminated needles, using un-sterilized equipment for tattooing, acupuncture or body piercing, sexual act, from infected mother to baby and through blood transfusion.^{5,6}

Presence of hepatitis B surface antigen (HBsAg) and anti-HCV antibodies indicates that the patient may have acute hepatitis or chronic hepatitis with symptomatic or asymptomatic carrier state which may progress to serious consequences like cirrhosis and hepatocellular carcinoma.⁷ The cost of treatment of hepatitis is out of the reach of an ordinary citizen of Pakistan, the best strategy is to control its spread by identification and therapy of carriers.^{8,9}

This study was conducted to find out the frequency of hepatitis B & C and associated risk fac-

tors in patients clinically suspected as having hepatitis.

MATERIAL AND METHODS

Patients who reported to OPD with complaints were included in the study during February 2008 to January 2009. Patients were examined by medical consultants and those suspected for hepatitis were referred for investigation and were included in the study. Cases of routine screening for medical check-up or surgical procedure were not included and those already diagnosed as having hepatitis were also excluded. Blood sample was taken and proforma about risk factors was filled in the Pathology laboratory. Hepatitis B surface Antigen and Anti-HCV antibodies were tested. Immunochromatographic one step device (Acon USA) was used for screening. All positive cases were confirmed by enzyme linked immunosorbant assay (ELISA). False positive cases were excluded from the study.

Data was tabulated for statistical analysis. With application of Version Statistix 9.0 to the numbers of HbsAg and anti HCV, chi square value was 5.67 ($p=0.01$) representing HbsAg positive results are more significant than anti-HCV.

RESULTS

Total 1544 patients were tested; 1043 males and 501 females, with male to female ratio of 2:1.

Table 1: Gender distribution of subjects with positive results.

Gender	Number of Subjects	HBsAg positive	Mean age (years)	Anti-HCV positive	Mean age (years)
Males	1043	205	27±2.67	72	34±3.51
Females	501	43	28±3.53	29	37±3.32
Total	1544	248	27.16±11.94	101	35.58 ±13.93

Out of these, 248 (16.06%) were found HBsAg positive and 101 (6.54%) anti-HCV antibody positive. Concurrent infection for both HBsAg and Anti-HCV antibodies was positive in only 4 patients. (Table 1)

Regarding the risk factors, parenteral drug administration by syringes for medication was the most common risk factor in both of genders and barber visit the second most common in males while piercing of ear /nose in females of positive cases. (Table 2)

Table 2: Distribution of risk factors for hepatitis B and C.

Risk factor	Males (%) (n=277)	Females (%) (n=72)
Parenteral drug use	240 (86.64)	60 (83.33)
Barber visit	201 (72.56)	—
Ear /Nose Piercing	29 (10.46)	62 (86.11)
Tattooing	20 (7.22)	15 (20.83)
Dental procedures	29 (10.46)	5 (6.94)
History of jaundice	14 (5.05)	4 (5.55)
Previous surgery	9 (3.24)	4 (5.55)
Blood transfusion	6 (2.16)	3 (4.17)

DISCUSSION

Many studies are available about the prevalence HBV or HCV in patients and in healthy persons but not in patients suspected as having hepatitis. As the signs/symptoms are vague and unreliable for the diagnosis of hepatitis B or C,^{8,9} in our study the suspected patients were screened for both HCV and HBV. The results were expected to have higher rates patients were suspected for hepatitis and referred by consultants for investigation. These patients were referred mostly from the private clinics so this study is not the reflection of poor socioeconomic part of society as described by some studies.^{10,11}

Frequency of HBV and HCV which is 16.06% and 6.54% in our study is in accordance to the reports of other studies in Pakistan which were 16% and 4-10% respectively.^{8,12-15}

Our study results differ in frequency of HBV and HCV to 8.1% and 11.6% results of Talpur et al¹⁶ and 3.65 and 12.5% of Tanwani et al.¹⁷ The prevalence of HBV was higher than HCV in our study which is encouraging as HBV infection is preventable by immunization. Low rates of prevalence have been reported in some countries at 0.47% and 0.64% for HBV and HCV respectively in Nepal¹⁸ and higher rates of HBV and HCV 6.7% and 13.9% among healthy population in Egypt.¹⁹

In the region of our study, mostly population is scattered sparsely into South Waziristan where trained health personnel are not available. Most people of the area believe that medications are more effective when taken parenterally. On one side people prefer injectable medication and on other side the quacks also injections to charge the patients more and also reuse the same needles.

Among the risk factors, parenteral route was the most common (85.95%) in our study as also reported by Mahsud I²⁰ et al in 2008 but with 30% value.

Piercing of nose and ears is every woman's routine in the area for wearing ornaments and some observe tattooing on forehead and chin for cosmetic reasons. Other risk factors identified on history were dental procedures, blood transfusions and history of jaundice as common as reported in other studies.^{8,20,21}

In our study the mean age of HBV and HCV positive cases was 27.16±11.94 and 35.58±13.93 years which is lower for HBV as compared to HCV.

CONCLUSION

Hepatitis B and C are common in this region. Hepatitis B is more frequent than C. Males are affected more as compared to females. Transmission by parenteral route is the most common risk factor.

We recommend:

- Local and national level mass education for primary prevention.
- Vaccination against hepatitis B for children as well as adults.
- Patients' positive for HBV and HCV should be given proper treatment and counselling.
- All unregistered diagnostic /transfusion practices should be closed.

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