Original Article

Frequency of Hepatitis B and C in Patients Reported at Al-Tibri Medical College & Hospital

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ABSTRACT

Objective: The aim of this study is to determine the frequency of hepatitis B and C in the residents of Malir district who reported to Al Tibri Medical College & Hospital.

Study Design: A Cross Section Prospective study.

Place and Duration of Study: The study was conducted in the Department of Medicine and Pathology of Al Tibri Medical College & Hospital from May 2010 to April 2011.

Materials and Methods: This study was based on the data of patients who reported to the hospital in a year. Pakistan is a developing country. On one side we have a population burden and on the other side communicable diseases. Viral Hepatitis is one of them. In general population the frequency of hepatitis B and C viral infection ranges from 8-15 %. Rapid Chromatography immunoassay and ELISA were the methods for the tests. The data was collected in a preset Performa and analyzed on SPSS version 16.

Results: Total of 2093 specimen were reported. Both hepatitis B surface antigen and anti HCV antibody were checked. Total number of persons screened were 2093. Out of them male were 963 and female were 1130. HBV were 124 positive cases while 426 were anti HCV positive. This showed that HBs antigen were 5.9 % while Anti HCV antibody were 20.35 %. Among HBs Antigen positive cases 61 % were males while 39 % were females and in Anti HCV antibody positive cases the females were 67 % while 33 % were males. Hence combined infection were 2.7%. Cases were divided into five groups according to their ages. The group of ages between 25 to 45 had maximum positivity.

Conclusion: The frequency of HBV and HCV in this particular area of our great province is quite high. This is the time to educate the general population of area so as to prevent the disease.

Key Wards: Hepatitis B virus , Hepatitis C virus, Gadap, Frequency.

INTRODUCTION

Hepatitis B virus and Hepatitis C virus were among the major health issues from the last one and half decade in our country. It is the major cause of the chronic liver disease and hepatocellular carcinoma. The prevalence of hepatitis B virus and hepatitis C virus in general population is 10% and 15% respectively[1] The World Health Organization[2], estimates show that there are 350 million people with chronic HBV and 170 million people with chronic HCV infection world wide. Hepatitis B causes 563000 deaths while 366000 deaths occurs from HCV. Some of these cases will finally end up in hepatocellular carcinoma.

HBV is a 42-nm hepadnavirus[3] with a partially double-stranded DNA genome, inner core protein and outer surface coat. There are eight different geno-types(A-H), which may influence the course of infection and responsiveness to antiviral therapy.HBV is usually transmitted by inoculation of infected blood and blood products or by sexual contact and is present in saliva, semen, and vaginal secretions. HBs Ag- positive mothers may transmit HBV at delivery, the risk of chronic infection in the infant is as high as 90%. HBV is found prevalent in men who sex with men and in injection drug users[4] but the greatest number of cases results from heterosexual transmission. The incidence has decreased by 75 % since 1980s. The groups at risk include patients and staff at hemodialysis centers, physicians, dentists, nurses and people working in clinical laboratory and blood banks. The incubation period of hepatitis B is 6 weeks to 6 months. The onset of hepatitis B is incidous. After an acute hepatitis B infection, HBV infection persists[5] in 1-2 % of immunocompetent adults but higher is number in immunocompromised adults and children. If HBV infection is acquired early in life and viral replication persists there may be 25-40 % chances of developing cirrhosis and hepatocellular carcinoma.

HCV is a single-stranded RNA[6] virus. There are six major genotypes of HCV which have been identified. In the past, HCV was responsible over 90 % of cases of posttransfusion hepatitis yet only 4 % of cases of hepatitis C were responsible to blood transfusions. Over 50 % of cases are transmitted by injection drug use. Body piercing, tattoos, and hemodialysis are also risk factor. The risk of sexual and maternal-neonatal transmission is low. Having multiple sex partners may increase the risk of transmission. Transmission via breast feeding has not been documented. In the developing world like Pakistan, unsafe medical practices are responsible for the huge number of HCV infected cases. Co-infection with HIV is 30 %. It increases the course of the disease. Incubation period average 6-7 weeks, initially there is a mild disease or asymptomatic but over 80 % chances of chronic

infection[7]. HCV infection may induce insulin resistance and increases the chances of type two diabetes mellitus. Considering Pakistan growing population with asymptomatic and unscreened people would really be a great burden on the health sector. Poor literacy rate, low socioeconomic status unhygienic condition and unsterilized equipment[8 9] and procedures were the main contributor for these results. The aim of this study is to determine the frequency of this big problem in the area of District Malir and is the real and original data.

MATERIALS AND METHODS

A cross sectional study was done in private hospital from May 2010 to April 2011 (12 months). All the cases above 18 years of age were screened for Hepatitis B surface antigen and Anti HCV antibody. The data were recorded on a preset proforma and analyzed through SPSS version 16. Tests were done on Rapid Chromatography immunoassay for qualitative detection of surface antigen of hepatitis B and Anti HCV Test were done on ELISA. The persons with known status for HBV or HCV infection were not included in this study and also who had taken treatment for chronic hepatitis were also not included in this study. The laboratory where those tests were performed is well equipped and qualified staff and doctors had performed those tests.

RESULTS

Total of 2093 cases were screened for both HB surface antigen and anti HCV antibody. Among the cases 83% were residents of the Gadap, 8 % were of Malir city, 5 % from Bin Qasim and 4 % were from Landhi Males were 963 and females were 1130. HBV were positive in 124 cases while 426 were anti HCV positive. This showed that HBs antigen were 5.9 % while Anti HCV antibody were 20.35%. Among HB surface Antigen positive cases 61 % males while 39 % were females and in Anti HCV antibody positive cases the females were 67 % while 33 % were males. The combined infections were 2.7%. Cases were divided into five groups according to their ages.

Table No. 1: HB Surface Antigen Positive Cases

Groups	Males	% of Cases Positive	Females	% of Cases Positive
18-25 Years	9	11.84 %	6	12.50 %
26-35 Years	24	31.84 %	13	27.08 %
36-45 Years	29	38. 15 %	17	35.41 %
46-55 Years	9	11.84 %	7	14.58 %
> 55 Years	5	6.57 %	5	10.41 %
Total	76	100 %	48	100 %

The Table No.1 showed the relative frequency in different age groups of the candidates in HBV surface antigen while Table No. 2 showed similar results of Anti HCV antibody positive cases. The groups of ages between 25 to 45 had maximum positivity. Female had more HCV while males had more HBV.

Table No. 2: Anti HCV Antibody Positive Cases

Groups	Males	% of Cases Positive	Females	% of Cases Positive
18-25 Years	35	25.17 %	45	15.67 %
26-35 Years	46	33.09 %	109	37.97 %
36-45 Years	27	19.42 %	89	31.01 %
46-55 Years	17	12.23 %	37	12.89 %
> 55 Years	14	10.07 %	7	2.4 %
Total	139	100 %	287	100%

DISCUSSION

Pakistan is a poor country and has many health issues. The health policies are not on mark and particularly in remote areas of Sindh. What factors really affect these do not fall within the scope of this article, but it provides an eye opening for the health officials of the local areas in particular and overall in general. This is a cross sectional study, conducted in a peripheral tertiary care hospital situated in a remote area of Sindh i.e. District Malir, is a thickly populated rural area with low literacy and poor socio-economic conditions.

The frequency of HCV is more than HBV [10]. The reason behind this is the development of the safe vaccine in HBV infection. More females were reported in this study as the cases were coming to hospital during day time and females reported to hospital easily than the males. The HBV was more common in males while HCV was more common in females. The frequency of HBV and HCV are comparable with other studies. It should be mandatory in every medical setup that these test will be for a patient having a minor or major surgery, with the availability of sterilized equipment and trained staff. [11]

The age ranging from 25-45 years had high prevalence for both HBV and HCV infections that was almost more than 50 % of the total.[12] The number of positive cases in older age group were less. The frequency of HBV surface antigen positivity in this study was 5.9 % while of Anti HCV antibody positivity was 20.35 %. The combined frequency was 2.7 %.

As it is a general review of the population of District Malir reported in Al Tibri Medical College & Hospital regarding HBV and HCV infection, the patients who turned out to be positive did not realize about the severity of their disease. The prevalence of our study of

HBV positive was comparable with other studies. In New Zealand, it was < 1 % , 2-4 % in Japan, 5-18 % in China, 15-20 % in Taiwan and in Sudan, it was 16.8 %. The prevalence of chronic HCV infection is < than 0.1 % in UK while 22% from Egypt, 38 % in Nigeria. These results are comparable with many studies. [13 14 15 16 17]

Now this is the proper time to take serious action regarding its prevention and proper sterilization of equipments[18] and making efforts to educate the common people of Pakistan about these hazards and its consequences. Make it sure[19 20] to screen all those who are either admitted or who visit the OPD.[11] Teach them the mode of transmission and give awareness to them.

CONCLUSION

The frequency of HCV infection is alarming and it should be taken seriously. The frequency is more than one fifth of the population. This area would be a reservoir for the future generation. This is the time to take serious action and implement preventive measures. It should make mandatory to vaccinate every Pakistani for HBV and educate about HCV infection.

REFERENCES

1. Saeed MI, Mahmood K, Ziauddin M, Ilyas M, Zarif M. Frequency and clinical course of hepatitis in tertiary care Hospital. J Coll Physician Surg Pakistan 2004;14(9):523-9.
2. World Health Organization, Hepatitis B Fact sheet 2000.
3. Akhter S , Younus M, Adil S, Hassan F, Jafri SH. Epidiomologic study of chronic hepatitis B virus infection in male volunteer blood donors in Karachi Pakistan.. BMC Gastroenterol 2005;5:26.
4. Custer B, Sullivan Sd, Hazlet TK, Iioeje U, Veenstra DL, Kowdley KV. Global epideomiology of Hepatitis B virus. J Clin Gastroenterol 2004;38(10 Suppl 3):S158-68.
5. Torbenson M, Thomas DL. Occult hepatitis B in HCV +. Lancet Infec Dis 2002;2:479-86.
6. Shepard CW, Finelli L, Alter MJ. Global epidemiology of hepatitis C virus infection. Lancet Infec Dis 2005;5(9):558-67.
7. Hepatitis C. Fact Sheet Geneva World Health Organisation, 2000.
8. Chaudry IA, Khan SA, Samiullah. Should we do hepatitis B and C screening on each patient before surgery. Pak J Med Sci 2005; 21(3): 278-280.
9. Farooqi JI, Farooqi RJ, Nowshad K.Frequency of Hepatitis B & C in selected groups of population in NWFP Pakistan. JPMI 2007; 21(3):165-168.
10. Khan TS, Rizvi F. Hepatitis B seropositivity among chronic liver diseases patients in Hazara Division Pakistan. J Ayub Med Coll Abottabad 2003;15(3):54-55.
11. Ahmed I, Khan SB, Rehman H, Khan MH. Frequency of Hepatitis B & Hepatitis C among Cataract patients. Gomal J of Med Sci 2006;4(2): 61-64.
12. S Arwar J, Gul N, Idris M, Rehman A, et al. Seroprevalence of Hepatitis B & Hepatitis C in health care workers in Abbottabad. J Ayub Med Coll Abbottabad 2008;20(3):27-29.
13. Ghavanini AA, Sabri MR. Hepatitis B surface antigen and anti hepatitis C antibodies among blood donors in Islamic republic of Iran. Eastern Mediterr Health J 2000;6:1114-6.
14. Alam MM, Zaidi SZ, Malik SM. Serology based disease status of Pakistani population infected with Hepatitis B virus. BMC Infectious Diseases 2007;7:64.
15. Chen chien-Jen, Wang, LI-YU, Yu Ming–Whei. Epidemiology of Hepatitis B infection in the Asia Pacific Region. JGH 2000;15(2): E3-E6.
16. Mudari HMY, Smith HM, Rahoud SA, Fletcher IA, Saeed OK, Fedail SS. Prevalence of hepatitis B virus infection in Gezira state of central Sudan Saudi J Gastroenterol 2007; 13(2):81-83.
17. Amin J, Yousuf H, Mumtaz A, et al, Prevalance of hepatitis B surface antigen and anti hepatitis C virus. Professional Med J 2004;11(3):334-337.
18. Toda T, Mitsui T, Tsukamoto Y, Ebara T, Masuko K, Takahashi M, Okamoto H. No evidence for patient to patient transmission of hepatitis C virus during upper gastrointestinal endoscopy: molecular studies on three acute hepatitis C patients. Dig Endosc 2009;21(3): 147-53.
19. Ghany MG, Strader DB, Thomas DL, Seeff LB. Diagnosis, management and treatment of hepatitis C: an update. Hepatol 2009;49(4):1335-74.
20. Sorrell MF, Belongia EA, Costa J, Gareen HF. National Institutes of Health Consensus Development Conference Statement: Management of Hepatitis B. Ann Intern Med 2009;150(2): 104-110.

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