

FREQUENCY OF HEPATITIS B AND HEPATITIS C AMONG CATARACT PATIENTS

Iftikhar Ahmad¹, Sardar Bahadur Khan², Hafeez-ur-Rehman³,
Muhammad Hussain Khan¹, Saeed Anwar¹

¹Department of Community Medicine & ²Ophthalmology, Gomal Medical College and
³Mehmood Eye Hospital, D.I.Khan, Pakistan

ABSTRACT

Background: In Pakistan the frequency of Hepatitis B and C virus infection ranges from 8-15% in the general population with variations in different parts of the country. Patients undergoing any surgical procedure may have these infections, demanding special precautions. The aim of this study was to determine frequency of hepatitis B and C among patients undergoing elective cataract surgery.

Material and Methods: It was a descriptive study based on survey in which all patients above the age of 25 years, presenting for cataract surgery to Mehmood Eye Hospital, District Dera Ismail Khan, Pakistan were screened for Hepatitis B and C infections, from 1st July 2004 to 31st May 2006. The findings were recorded on a structured compilation sheet and analyzed. Those found positive on screening test were confirmed by Enzyme Linked Immunosorbant Assay (ELISA).

Results: Total number of patients screened was 1130. The frequency of hepatitis B and C (combined) was found to be 5.75% (65/1130); out of which 3.18% (36/1130) were HBsAg positive and 2.57% (29/1130) anti-HCV positive. Out of them, 39 were males (60%) and 26 females (40%). The frequency of HBV was 72% (26/36) in males and 28% (10/36) in females. The frequency of HCV was 45% (13/29) in males and 55% (16/29) in females. The proportion of HBsAg to anti-HCV was 55% (36/65) to 45% (29/65). The frequency of hepatitis B and C (combined) was more in age group ranging between 45 – 74 years, in both sexes. The frequency of hepatitis B among age groups 25 – 34, 35 – 44, 45 – 54, 55 – 64, 65 – 74 and 75 years and above was 3% (1/36), 6% (2/36), 17% (6/36), 33% (12/36), 28% (10/36), and 13% (5/36), respectively. The frequency of hepatitis C among age groups 25 – 34, 35 – 44, 45 – 54, 55 – 64, 65 – 74 and 75 years and above was 3% (1/29), 3% (1/29), 10% (3/29), 38% (11/29), 28% (8/29), and 18% (5/29) respectively. The frequency of hepatitis B and C (combined) among urban and rural populations was 45% (29/65) and 55% (36/65) respectively. One of the interesting findings was that none of the patient was found to be suffering simultaneously from both hepatitis B and C.

Conclusion: The prevalence of HBsAg and anti-HCV in patients presenting for surgery is high, requiring routine preoperative screening of all the patients.

Key words: Hepatitis B, Hepatitis C, Cataract, Surgery, Screening.

INTRODUCTION

Both hepatitis B and C are among the leading causes of morbidity and mortality and a serious public health problem, worldwide as well as in Pakistan.

Hepatitis B virus (HBV) infection is endemic worldwide and is responsible for an estimated 1-2 million deaths worldwide every year. About 2 billion people have current or past infection and 350 million (5- 15 % of the total cases) are carriers of the virus, out of which around 80% reside in Asia.

More than one-third of population of South East Asian Region (SEAR) has been infected with HBV, with about 80 million carriers and approxi-

mately 0.2 million deaths annually.¹ Out of the SEAR, Myanmar, Thailand and Bangladesh have highest carrier rate ranging from 9-12%.

Hepatitis C prevalence, according to WHO estimates, is 3% of world population with 170 million cases. Almost 50% of all cases become chronic carriers at risk of liver cirrhosis and liver cancer².

Pakistan is also facing a huge burden of these diseases. The prevalence among general public of HBV and HCV infection in Pakistan is 10%^{3,4} and 4-10% respectively.^{5,6}

Patients presenting to different public and private hospitals are not routinely screened for

hepatitis B and C. Since majority of carriers are asymptomatic, they pose a real threat to health staff through self pricks and other patients who share the same surgical instruments.⁷

The prevalence of HBsAg and anti-HCV in hospitalized surgical patients is very high. There is lack of routine serological screening prior to surgery which is one of the factors responsible for increased disease transmission. The major risk factors include re-use of contaminated syringes, surgical instruments and improperly screened blood products⁸.

Afghan refugees have got higher rates of prevalence of hepatitis B and C than Pakistanis. Poor literacy, low socioeconomic status and poor hygienic conditions could be implicated.⁹ Afghan refugees living in Balochistan have got higher rates of hepatitis B.¹⁰

The aim of this study was to determine the frequency of Hepatitis B and C in patients undergoing elective cataract surgery.

MATERIAL AND METHODS

It was a descriptive study based on survey in which all the patients above the age of 25 years presenting for cataract surgery to Mehmood Eye Hospital, District Dera Ismail Khan, were screened for Hepatitis B and C infections, from 1st July 2004 to 31st May 2006. The findings were recorded on a structured compilation sheet and analyzed through application of statistical tools.

Rapid chromatography immunoassay for qualitative detection of surface antigen of hepatitis B and antibodies for hepatitis C was the screening technique. Those found positive on screening test were confirmed by ELISA.

Ethical considerations like confidentiality about the study patient’s names and their results were maintained.

RESULTS

Total number of patients screened was 1130. The frequency of hepatitis B and C (combined) was found to be 5.75% (65/1130); out of which 3.18% (36/1130) were HBsAg positive and 2.57% (29/1130) anti-HCV positive.

The frequency of HBV was 72% (26/36) in males and 28% (10/36) in females. The frequency of HCV was 45% (13/29) in males and 55% (16/29) in females.

The proportion of HBsAg vs. anti-HCV was 55% (36/65) to 45% (29/65).

The frequency of hepatitis B and C (combined) was more in age group ranging between

Table-I: Incidence of HBV and HCV in different age groups.

Years	HBV	HCV
25-34	1	0
35-44	2	1
45-54	6	5
55-64	12	10
65-74	10	8
75 and above	5	5
Total cases	36	29

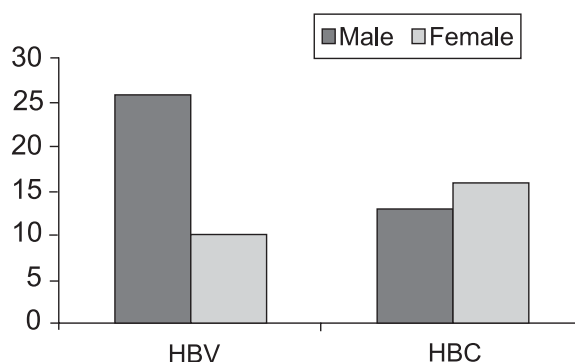


Fig 1: Prevalence of HBV and HCV in male and female patients undergoing elective eye surgery.

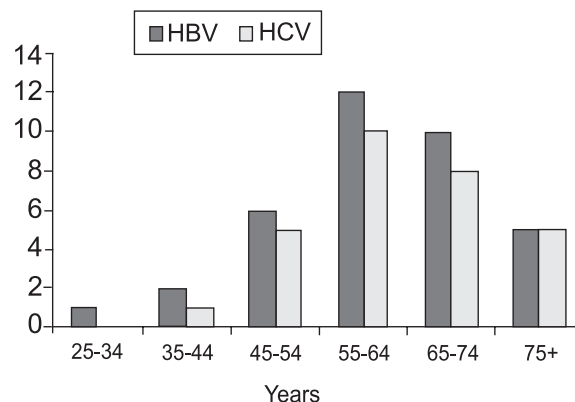


Fig 2: Prevalence of HBV and HCV in male and female patients at different age groups.

45 - 74 years, in both sexes. The frequency of hepatitis B among age groups 25-34, 35-44, 45 - 54, 55 - 64 , 65 - 74 and 75 years and above was 3% (1/36) 6% (2/36) 17% (6/36), 33% (12/36), 28% (10/36), and 13% (5/36), respectively.

The frequency of hepatitis C among age groups 25 - 34, 35 - 44, 45 - 54, 55 - 64 , 65 - 74 and 75 years and above was 3% (1/29), 3% (1/29), 10% (3/29), 38% (11/29), 28% (8/29), and 18% (5/29) respectively.

The frequency of hepatitis B and C (combined) among urban and rural populations was 45% (29/65) and 55%(36/65).

One of the interesting findings is that none of the patient was found to be suffering simultaneously from both hepatitis B and C. Descriptive statistical analysis was done.

DISCUSSION

The frequency of HBV was more in males than females while there was not much gender difference found as for as HCV was concerned.

The greater frequency of HBV infection in males as compared to females could be a reflection of more males coming for treatment and testing in our setting. Besides it could be due to more social mobility in males than females and thus greater vulnerability to be infected. This finding is comparable to a number of studies,^{11,12,13,14, 15} while contradicting results of other studies conducted in different parts of the country.^{16,17}

Both hepatitis B and C are highly prevalent in the age group between 55 - 64 years. It could be due to study being conducted among cataract patients, majority of whom are of old age, while prevalence of HBV and HCV infections is least in the age group 25-34 years.

The results show that the rate of HBV infection is higher than HCV in this study, which is in line with other studies carried out at national^{18,19} and International level.^{20,21}

The combined frequency of HBV and HCV is more in rural than urban population.

One of the reasons for that could be that the size of rural populace is greater than urban in our setting.

Most of the patients suffering from hepatitis B and hepatitis C do not realize that they have got such deadly viruses in their body and can transmit it to non-infected healthy individuals²². The prevalence of HBsAg and anti-HCV in patients presenting for surgery is high,²³ Doctors in surgical practice are at high risk of acquiring blood borne diseases from the patients on whom they operate.²⁶ Direct correlation was

found between HBsAg positivity rate and number of blood transfusions.²⁴ There was a linear correlation of anti-HCV positivity with the number of transfusions.²⁵ In professional blood donors group there were 9% seropositive cases as compared to 0.8% cases in voluntary blood donors.²⁷ 80% of HB and HCV positive patients had no past history of jaundice. None of the 750 patients were found vaccinated against HBV.²⁸ Since there is a general lack of community-based epidemiological work and also there was a lack of representation from across the country.²⁹ Prevalence of antibodies to HCV in health workers are 20 folds higher than health workers in the developed countries.³⁰

CONCLUSION

The high prevalence of HBsAg and anti-HCV in the eye patients presenting for cataract surgery provides evidence for routine preoperative screening of all patients for surgery. There is an urgent need for mass immunization against hepatitis B, and awareness regarding hepatitis B and C should be promoted among doctors, paramedical staff and general public.

Larger population based studies are needed to confirm the results,

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Address for Correspondence:

Dr. Iftikhar Ahmad
Department of Community Medicine
Gomal Medical College
D.I.Khan, NWFP, Pakistan
Cell: 03339961943 (Cell)
Email: iftikharahmadgandapur@yahoo.com.