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TO ASSESS THE FREQUENCY OF HEPATITIS B AND HEPATITIS C VIRAL INFECTION IN PATIENTS UNDERGOING ELECTIVE EYE SURGERY.

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ABSTRACT

OBJECTIVE: *To assess the frequency of hepatitis B and hepatitis C viral infection in the patients undergoing elective eye surgery.*
DESIGN AND DURATION: *Hospital based descriptive and observational study from September 2008 to April 2009.*
SETTING: *Department of Ophthalmology, People's Medical College Nawabshah.*
PATIENTS AND METHODS: *All patients who were admitted in the Department of Ophthalmology for elective ocular surgery were included in this study. These patients were investigated for Hepatitis B and C viral infection. Data was collected on a preformed proforma. Results were compiled and compared with national and international studies.*
RESULTS: *In this study 876 patients who underwent eye surgery at the Department of Ophthalmology PMC Nawabshah were screened for HBV and HCV. There were 484(55.25%) male and 392 (44.74%) female patients. Mean age of these patients was 40 years. The range of age was1 to 80 years. 90% patients belonged to rural areas. 05% patients had a history of been vaccinated for hepatitis B especially younger age group patients. Total 119 patients were found positive for hepatitis B and C. Amongst them 19 were positive for hepatitis B (2.18%) and 100 for hepatitis C (11.41%). The presence of Hepatitis C was maximum in 4th decade age group. Hepatitis B was found in 11 (1.25%) male and 08 (0.91%) female patients. Hepatitis C was predominant in males 56 (6.39%) while it was found in 44 (5.02%) female patients. Both hepatitis B and C was found in 119 (13.58%) patients. Amongst them 67 (7.64%) were male and 52 (5.93%) were females. 16(1.82%) of patients had history of jaundice,1.02% with past history of surgery and 0.22% had history of blood transfusion.*
CONCLUSION: *With such a rate of HBV and HCV as reported in our study suggests screening of all the patients who are admitted in hospitals so to avoid further spread of these diseases. At the same time the print and electronic media is required to prevent further transmission by making the public aware about the methods of the spread of disease. It is the prime duty of doctors and paramedical staff to counsel the patients and use ethical practice ensuring use of sterile disposables where indicated and protecting themselves from infection.*

KEY WORDS: Hepatitis B, hepatitis C, Eye surgery, screening, prevention.

INTRODUCTION

Viral hepatitis is a major health problem affecting approximately two billion people worldwide.

The Hepatitis B virus (HBV) has infected more than 2000 million persons and 350 million people are carrier of the virus, each year approximately one million people die from hepatitis B, makes it one of the major causes of morbidity and mortality.[1]

Hepatitis C virus (HCV) infection is increasing even more rapidly and has occurred in endemic situation in most parts of the world, with a prevalence of about 3% world wide.[2] Hepatitis C virus infection progresses slowly and caries high risk of chronic liver disease (70—-80%) and later liver malignancy.[3] In Pakistan a large proportion of the population is already infected with hepatitis B and C with the prevalence of 10% for hepatitis B and 4-7% for hepatitis C. In certain parts especially in the rural areas the percentage of infected individuals is significantly higher then the above quoted figures.[4,5] The transmission of virus is through the blood and secretions. Most common source of spread of these infections is through the use of unsterlized syringes or instruments especially dental instruments or unchecked blood transfusion, other factors involved in the spread of

infection are persons who have their armpits or face shaved by street barber or those involved in sexual abuse.[6,7,8]

Doctors specially surgeons and the para medical staff have a high occupation risk of acquiring HBV and HCV infection from the infected patients. Approximately 500,000 per cutaneous blood exposures occur among hospital based health care workers in the United States each year. Surgeons and operation room personnel have the high risk of occupational exposure.[9,10] With such a high rate of transmission in a highly developed country like USA little is known about the rate of risk in our part of the world. Due to this serious concern is found among practicing surgeons regarding spread of hepatitis B and C infection. This study is carried out to evaluate the presence of hepatitis B and C infection in patients admitted for surgery at an ophthalmic unit. Once inflicted this disease results in social, psychological and economical problems for the patients. Strict measures are required to avoid further spread of this disease. These measures include use of disposable syringes, screened blood transfusion, avoidance of sexual abuse, antiseptic shaving, hair cutting and use of proper antiseptic measures in hospitals, clinics and operation theaters. Medical and paramedical personnel should ensure their own safety in addition to that of their patients and take adequate protective measures.

PATIENTS AND METHODS

This hospital based descriptive and observational study was carried out at the Department of Ophthalmology PMC Nawabshah from September 2008 to April 2009. During this period 876 patients undergoing eye surgery were evaluated for hepatitis B and C. After detailed history, examination and investigations patients were screened for HBV and HCV with chromatography (kit) method. Few cases were confirmed by ELISA method and in suspected cases liver function tests (LFTs) and ultrasound abdomen were performed. All the details were recorded on preformed proforma and data was compiled and analyzed for age and sex mean values. Special emphasis was put on age, sex, occupation, history of jaundice, blood transfusion, surgery in the past and vaccination of hepatitis B. Inclusion criteria included all patients of either sex who were operated as elective cases. Those patients who were admitted for conservative treatment were excluded from the study.

RESULTS:

In this study 876 patients who underwent eye surgery at the Department of Ophthalmology PMC Nawabshah were screened for HBV and HCV. There were 484 (55.25%) male and 392 (44.74%) female patients. Mean age of these patients was 40 years. The range of age was1 to 80 years **(see table:1).** 90% patients belonged to rural areas. 05% patients had a history of been vaccinated for hepatitis B especially younger age group patients. Total 119 patients were found positive for hepatitis B and C. Amongst them 19 were positive for hepatitis B (2.18%) and 100 for hepatitis C (11.41%) **(see table:2)** . Hepatitis C was found more in 4th decade age group **(see table: 3,4)**. Hepatitis B was found in 11 (1.25%) male and 08 (0.91%) female patients. Hepatitis C was predominant in males 56 (6.39%) while it was found in 44 (5.02%) female patients. Both hepatitis B and C was found in 119 (13.58%) patients. Amongst them 67 (7.64%) were male and 52 (5.93%) were females**(see table;2)**.

Active disease was found in 3 cases (0.34%). In these patients surgery was postponed and referred to concerned physician. Most of the patients were not aware of hepatitis B and C. 03 patients (0.34%) presented with jaundice and symptoms of malaria, anorexia, nausea, dyspepsia and low grade fever. 16

TABLE –1
PATIENTS DATA

Number of Patients	876
Age Group	1- 80 years
Mean Age	40 years.
Male	484 (55.25%)
Female	392 (44.74%)

TABLE –2
HBV AND HCV POSITIVE

Total No: of Patients Investigated	876
HBV Positive	19 (2.18%)
HCV Positive	100 (11.41%)
Male	67 (7.64%)
Female	52 (5.93%)

TABLE –3
AGE WISE FREQUENCY OF HEPATITIS B

Age	HBV Positive
1-10	Nil
11-20	Nil
21-30	02
31-40	04
41-50	03
51-60	05
61- abv	05
Total	**19**

TABLE –4
AGE WISE FREQUENCY OF HEPATITIS C

Age	HCV Positive
1-10	Nil
11-20	01
21-30	03
31-40	30
41-50	21
51-60	25
61- above	20
Total	**100**

(1.82%) patients had previous history of jaundice. History of blood transfusion was present in 2(0.22%) patients while 09 (1.02%) patients had past history of surgery. History of sexual or drug abuse was not present in any patient. Screening for hepatitis B and C was advised to the family members of affected patients. All admitted patients who were not vaccinated and not suffering from hepatitis B were advised for vaccination.

DISCUSSION

The incidence of hepatitis B and C has achieved endemic situation in many countries of the world, especially in underdeveloped countries. Pakistan is no exception as disease has been recorded at an alarming level in most parts of the country especially in the rural areas as can be seen from Tables 1 and 2. In this study 2.18% patients had hepatitis B and11.41% patients had hepatitis C. The prevalence rate of both these diseases show different values in the same country. According to Cloud Hay and his colleagues[11] the prevalence of hepatitis C was 11.26% which is similar to our study. Ali and his associates[12] reported 5.1% patients suffering from hepatitis C in their study at Gadap area. The carrier state of HBs Ag is around 10% in different segments of Pakistani people.[5] In a study by Sheikh and his colleagues[13] carrier state of HBs Ag was found to be 2.8 % which is higher than our study. Weis and his co-workers[14] reported 35% cases of HCV and 4% cases of HBV in their study of patients operated at John Hopkins.

In our study ratio of male is higher than female. 11.41% of patients of HCV. HCV were found more in 4th decade and 2.18% of HBV (see table: 3,4), which is similar to the study conducted by Merik and his co-workers at Greece.[15]

Transmission of HBV and HCV is the major hazard to persons dealing with sharp instruments like surgeons, paramedical staff in wards and operation theaters.

It is found in our study that it is not reflecting the true prevalence of HBV and HCV in the general population, as it was conducted only on admitted patients in the Ophthalmology Department of PMC Nawabshah who underwent surgery.

CONCLUSION

With such a high rate of HBV and HCV as reported in our study we suggest screening of all patients who are admitted in hospitals. At the same time the print and electronic media should help by making the public aware about the methods of spread of these diseases. It is the prime duty of doctors and paramedical staff to counsel the patients and their relatives and use ethical practice. Medical and paramedical staff should be aware of safe practices like hand washing and be familiar with sterilization/disinfection techniques. They should take adequate measures to protect themselves and their patients.

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