

# Prevalence of Hepatitis B and C in Urban Patients Undergoing Cataract Surgery

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**Purpose:** This study was carried out to measure the prevalence of HBV and HCV in cataract surgical patients.

**Material and Methods:** This was a prospective observational study conducted at ophthalmology department Abbasi shaheed hospital Karachi from December 2010 to April 2011. A total of 150 patients above the age of 30 years undergoing elective cataract surgery were screened for hepatitis B and C. The patients were screened for HBs Ag and Anti-HCV using immunochromatography (ICT method). Those who were positive by ICT were further tested by Enzyme Linked Immunosorbent Assay (ELISA).

**Results:** HBV or HCV was present in 26 (17.33%) patients out of 150. Prevalence among the male patients was 20% while among female was 13.33%. Out of 26 positive patients, 7 patients (26.92%) were hepatitis B positive and 19 patients (73.07%) were hepatitis C positive.

**Conclusion:** It is mandatory to be screened for hepatitis B and C preoperatively for every patient undergoing cataract surgery.

Hepatitis B and C virus infections affect the liver and results in a broad spectrum of disease outcomes. An infection with HBV can spontaneously resolve and lead to protective immunity, result in a chronic infection and, in rare cases, cause acute liver failure with a high risk of dying. In contrast to HBV, an infection with HCV becomes chronic in most cases.<sup>1</sup> People with chronic hepatitis B and/or C virus infection remain infectious to others and are at risk of serious liver disease such as liver cirrhosis or hepatocellular cancer (HCC) later in life.<sup>2,3</sup>

Estimated prevalence of chronic carrier state of Hepatitis B amongst high-risk groups in Pakistan ranges from 6 - 12% whereas prevalence of Hepatitis C in the high-risk population is much higher - ranging from 15 - 25%. In addition, it has also been estimated that 5% of the general population are chronic carriers of Hepatitis C and 3% of general population are chronic carrier of Hepatitis B.<sup>4</sup>

The prevalence of hepatitis varies from country to country, and at times it will also vary among different

regions of the same country. The epidemiological estimates by WHO show that the prevalence of hepatitis C is low (<1%) in Australia, Canada and northern Europe, and about 1% in countries of medium endemicity, such as the USA and most of Europe. It is high (>2%) in many countries of Africa, Latin America, Central and South-East Asia. In these countries, prevalence figures between 5% and 10% are frequently reported.<sup>5</sup>

Pakistan is a developing country of 180 million people with low health and educational standards. According to the human development index of the United Nations, it was ranked 134th out of 174 countries.<sup>6</sup> Public health authorities are creating awareness about hepatitis through print and electronic media,<sup>7</sup> but still tremendous efforts are required to increase the awareness regarding various risk factors involved in Hepatitis transmission. In developing countries, due to non-implementation of international standards regarding surgical procedures like cataract surgery, blood transfusion, reuse of needles, reuse of syringes, injecting drug users, tattooing, shaving from

barbers, unsterilized dental and surgical instruments are the main source of transmission of HBV and HCV.<sup>8</sup>

Hepatitis B and C are not routinely tested before cataract surgery in majority of our ophthalmology setting. This study was carried out to find out the prevalence of hepatitis B and hepatitis C in our cataract surgical patients in order to get an idea about the requirement of routine preoperative testing for hepatitis B and C.

**MATERIAL AND METHODS**

This study was conducted in ophthalmology department of Abbasi Shaheed Hospital, Karachi from December 2010 to April 2011. Institutional ethical approval was taken and informed consent was taken from every patient. We included all the patients who came to ophthalmology clinic and underwent elective cataract surgery. All patients who were known Hepatitis B and C positive were excluded. The blood samples of all these patients were taken in the hospital laboratory and were screened for HBsAg and Anti HCV using immunochromatography (ICT method). Those who were positive by ICT were further tested by Enzyme Linked Immunosorbent Assay (ELISA). We entered all the data in SPSS version 16 and we measured the prevalence and percentage of all variables.

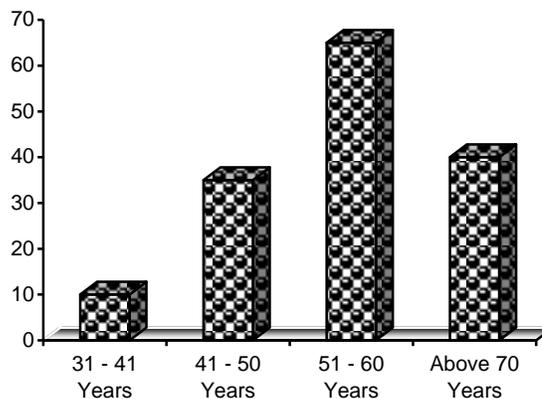
**RESULTS**

The total number of patients included in our study was 150. Out of 150, 90 (60%) were male and 60 (40%) were female. Most of patients were in the 5<sup>th</sup> (43.33%) and 6<sup>th</sup> (26.66%) decade of life as shown in (Fig. 1). HBV or HCV was present in 26 (17.33%) patients. Among male patients (90), 18 were positive for Hepatitis B/C, so the prevalence among male patients was 20%. Among 60 enrolled female patients, 8 were positive for Hepatitis B/C, so the prevalence among female patients was 13.33%. Out of 26 HBV or HCV positive patients, 7 patients (26.92%) were hepatitis B positive and 19 patients (73.07%) were hepatitis C positive. Most of hepatitis B/C positive patients (70%) were in the age group of 5<sup>th</sup> and 6<sup>th</sup> decade of life as shown in (Fig. 2).

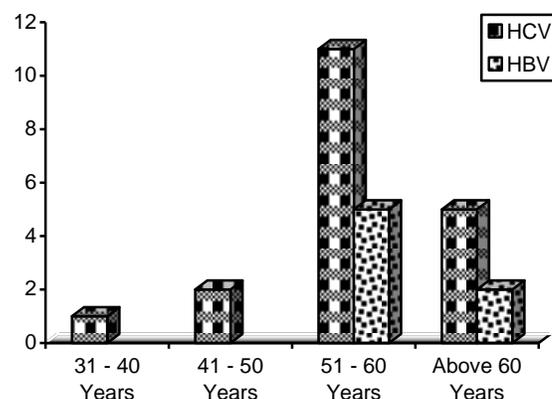
**DISCUSSION**

Viral hepatitis is the major health problem in the 3rd world countries today including Pakistan. HBV and HCV prevalence is high in the general population<sup>1</sup>.

Screening of unknown asymptomatic people is not only important tool in disease detection, prompt diagnosis and treatment but also prevent disease transmission.



**Fig. 1:** Age distribution of patients in the study



**Fig. 2:** Age distribution of HBV and HCV positive patients

In our study the higher prevalence of hepatitis B and C were in the age range of 51 – 60 years, which is comparable to the study of Talpur et al in which 65% positive patients were above the age of 40 years.<sup>9</sup>

Hepatitis B and C was present in 26 patients (17.33%) out of 150. We enrolled 90 male patient and 60 female patients. Among male patients, 18 were positive for Hepatitis B/C, so the prevalence among male patients was 20%. While among 60 enrolled female patients, 8 were positive for Hepatitis B/C, made the prevalence 13.33% in female, which was consistent with the study done by Ali et al.<sup>10</sup>

Our study showed that prevalence of hepatitis C was more than hepatitis B. This was consistent with

Zahid et al<sup>11</sup> in which Hepatitis B was present in (3.08%) and Hepatitis C was present in (5.90%). Ali et al<sup>10</sup> also reported Hepatitis B in (3.6%) as compared to Hepatitis C in (5.1%) of all the positive patients. In another study prevalence of Hepatitis B was (8.66%) and Hepatitis C was (11.66%).<sup>12</sup> Soomro et al also reported that among the 20.67% positive patient of Hepatitis B/C, prevalence of Hepatitis B was 11.29% while Hepatitis C was 88.70%.<sup>13</sup> Our results were also consistent with the study conducted by Chaudhry et al which showed HCV was 9.09% and HBV was 1.73%.<sup>12</sup> Our study was also consistent with the study conducted by Ashok et al which showed HCV was 334 (29.60%) out of 1128 patients and the male were predominant with the male to female ratio was 1.21:1.<sup>14</sup>

The prevalence of hepatitis B and C in our study was contradictory to other studies carried out at national<sup>15,16</sup> and International level.<sup>17,18</sup>

This study shows that the prevalence of hepatitis B and C is quite high. Doctors and paramedical staff in surgical practice are at high risk of acquiring blood borne diseases from the patients on whom they operate. Considering these facts, routine screening for hepatitis B and C for all patients coming for cataract surgery should be done. The print and electronic media of the country should play their part regarding awareness about HCV and HBV. The doctors and paramedical staff should follow proper precautions regarding exposure and dissemination of these blood borne viral infections. It is also an utmost importance to get mass immunization against HBV especially for health personnel in Pakistan.

## CONCLUSION

We found high prevalence of HBV and HCV preoperatively in patient coming for cataract surgery. It is mandatory to do screening of hepatitis B and C preoperatively for every patient undergoing cataract surgery.

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