

# Frequency of Anti Hepatitis C Virus in Eye Surgery Patients at Tertiary Referral Center LUMHS

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**Purpose:** To determine the incidence of anti-hepatitis C Virus in patients undergoing eye surgery.

**Material and Method:** The study was conducted in the Department of Ophthalmology Liaquat University of Medical and Health Sciences Jamshoro from July 2007 to June 2008. In this study evaluation of 1128 patients of various ages under going eye surgeries and were unaware of hepatitis C infection were included in this study. Each patients was serologically screened by rapid chromatography immunoassay for qualitative detection of antibodies for Hepatitis C before surgery.

**Result:** Five hundred forty four (48.22%) patients were male and 584 (51.77%) were female. Large number of patients were in 4<sup>th</sup> and 5<sup>th</sup> decade of life in both sexes. Of these 1128 patients, 334 (29.60%) were serologically positive for hepatitis C antibodies. Majority of them were male (54.80%) with male to female ratio of 1.21:1.

**Conclusion:** The incidence of hepatitis C antibodies positive is higher in our population. There fore it is mendatory to screen every patient for hepatitis C and B before any surgical procedure. The surgeon and health care professional should protect themselves. The used infected material should be destroyed properly.

**H**epatitis C virus is a small RNA virus. The average incubation period is 7-8 weeks with a range of 2-26 weeks<sup>1</sup>. It is primarily a blood borne or parenterally transmitted infection. Vehicles and routes of parenteral transmission include contaminated blood and blood products, needle sharing, contaminated instruments (eg;in haemodialysis, reuse of contaminate medical devices, tattooing devices, acupuncture needles, razors) and occupational and nosocomial exposures<sup>2</sup>.

Only a relatively small fraction of HCV infections are symptomatic. Most infected individuals remain asymptomatic and presumably undiagnosed and leads to chronic carrier state. These are about 60% affected individuals<sup>3</sup>. It stands to reason that an occupational risk for transmission of HCV in the health care setting might exist, including transmission from infected patients to staff, from patient to patient, and from infected providers to patients<sup>4</sup>. Presence of anti HCV antibodies in blood indicate that the person is infected with Hepatitis C virus and may transmit the virus to others. Without meticulous attention to infection control and disinfection and sterilization procedures, the risk for transmission of blood borne pathogens in the health care setting is magnified.

The study was conducted to find out the incidence of HCV antibodies in patients undergoing surgery at department of ophthalmology Liaquat University of Medical and Health Sciences Jamshoro at Hyderabad. Which is one of the largest tertiary care center in Sindh. This institution is a great referral centre for whole interior sindh province.

#### **MATERIAL AND METHODS**

This prospective observational study was conducted at department of Ophthalmology, Liaquat University of Medical and Health Sciences Jamshoro/Hyderabad from July 2007 to June 2008. A total of 1128 patients under going eye surgery, who were unaware of hepatitis C infection were included in this study. Each patients was serologically screened by rapid chromatography immunoassay for qualitative detection of Hepatitis C virus antibodies to find the carrier status of patients before surgery.

#### **RESULTS**

A total number of 1128 patients were operated during the study, five hundred forty four (48.22%) patients were male and 584 (51.77%) were female. Of these

1128 patients, 334 (29.60%) were serologically positive for hepatitis C antibodies. Male patients were more in number (54.80%) with male to female ratio of 1.21:1. (table 1). Large number of patients 280 (83.82%) were in 4<sup>th</sup> and 5<sup>th</sup> decade of life in both sexes.

**Table 1:** Incidence of anti Hepatitis C in different age group

Age	Male n (%)	Female n (%)	Total n (%)
21-30	11 (3.29)	7 (2.10)	18 (5.59)
31-40	23 (6.89)	13 (3.90)	36 (10.78)
41-50	45 (13.47)	40 (11.98)	85 (25.44)
>50	104 (31.14)	91 (27.25)	195 (58.38)
Total	183 (54.80)	151 (42.20)	334 (100)

#### **DISCUSSION**

Hepatitis C Virus was initially isolated from the serum of a person with non- A, non B hepatitis in 1989 by Choo et al.<sup>5</sup> Shortly after the cloning of HCV, this new isolated virus was discovered to be the cause of approximately 90% of non A, non B hepatitis in the United States.

The world wide prevalence of hepatitis C virus infection is estimated by the World Health Organization (WHO) to be approximately 3% corresponding to 170 million infected persons<sup>6,7</sup>. It appears to be endemic in most parts of world<sup>8</sup>. Regional variation exists in the prevalence of HCV infection<sup>9</sup> from high endemic area to non endemic area. Figures have even widely varied within the same country. In Pakistan HCV is highly endemic and its incidence is increasing since last few years. The incidence of anti HCV positive in our study is 29.60%. The incidence reported in other local studies were 4% in blood donors<sup>10</sup> from normal healthy population, 4.6% in general population in Bunner NWFP<sup>9</sup> and 7% in surgical patients.<sup>11</sup> Chaudhary IA et al<sup>12</sup> reported 11.26% incidence of HCV infection among their operated patients where as study conducted by Khurram<sup>13</sup> et al reported 6% incidence of anti HCV antibodies in health care workers in a local hospital. While the incidence ranges from 0.4% in the adult general population of Fakuoka, Japan to 14.4% in the Healthy individuals from Southern Italy<sup>14</sup>. In Brazil, WHO estimates suggest

that between 2.5% and 4.9% of the general population is positive for anti-HCV antibodies<sup>5</sup>.

Concerning demographic variables, the increase in the risk for HCV seropositivity between 30 and 60 years age was different to that reported for blood donors in Australia<sup>15</sup> or the United states<sup>16</sup>. Incidence increases with increasing age i-e 5.39% at the age of 20 to 30 years where 25.44% at the age of 40 to 50 years. Increasing incidence with increasing age is also reported by Mahmood T. et al<sup>1</sup>. In contrast BrandaoA BM et al<sup>17</sup> and Patino-Sarcinelli F et al<sup>18</sup> reported decline of infection rate in person greater than 50 years.

In this study the incidence of anti-hepatitis C in male is higher (54.80%) than the female (45.20%) which contrast to Chaudhary IA et al<sup>11</sup> who reported higher incidence in female patients.

## CONCLUSION

The incidence of hepatitis C antibodies positive is higher in our population. Therefore it is mandatory to screen every patient for hepatitis C and B before any surgical procedure. The surgeon and health care professional should protect themselves by using protective mask, eye protection glasses, double gloves before handling infected cases. The used infected material, needles and other waste material should be destroyed properly.

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