

Frequency of Hepatitis C in Patients Undergoing Ophthalmic Surgeries; A Multicenter Study

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Purpose: To find the frequency of Hepatitis C in tertiary care hospitals in Gujranwala and Lahore.

Study Design: Cross sectional observational study.

Place and Duration of Study: Ophthalmology Departments of District Head Quarters Teaching Hospital Gujranwala and at Sardar Trust Eye Hospital, Garhi Shahu, Lahore for a duration of 12 months from March 2017 to March 2018.

Material and Methods: A chart review of all patients admitted in the above mentioned hospitals was conducted. Patients with insufficient clinical information documented in hospital record were excluded from the study. Status of each of the patient whether Hepatitis C positive or not, was determined by the method of rapid chromatography immunoassay for qualitative detection. The results of all patients were recorded according to their age, sex and their demography.

Results: The study was conducted on 4968 patients admitted for ophthalmic surgeries above the age of 13 years. There were 1003 patients at DHQ Hospital Gujranwala and 3965 at Sardar Trust Eye Hospital. Out of 1003, 548 patients (54.6%) were male and 455 (45.3%) were female. 189 patients turned out to have Hepatitis C having a prevalence of 18.8%. However, at Sardar Trust Eye Hospital, out of 3965 patients admitted, 2914 (73%) were male, and remaining (27%) were female. 418 patients were found to be Hepatitis C positive, which constituted about 10.5% of all patients in Lahore.

Conclusion: Frequency of Hepatitis C was 18% in Gujranwala with female dominance and 10.5% in Lahore with male predominance.

Key Words: Eye Surgery, Hepatitis C, Frequency.

Hepatitis C is a single stranded enveloped RNA virus^{1,2} belonging to family Flaviviridae^{3,4} transmitted primarily via blood, body surface secretions and by piercing through percutaneous veins and mucosal surfaces^{5,6}. Hepatitis C virus has an incubation period of 14 to 180 days with an average of 45 days^{3,4}. It can occur in both acute and chronic form leading to cirrhosis^{7,8}, hepatic encephalopathy, coma and death. Worldwide, an estimated 130-150 million people (2-3%) are living with Hepatitis C infection with highest prevalence in

middle income countries including Pakistan. More than 350,000 deaths have been reported to occur with Hepatitis C⁹.

In Pakistan, 6% of its population is actively infected with 1 in every 20 person suffering from it¹⁰. The prevalence in Punjab is 5.46% with maximum population of 25.77% affected in Balochistan¹¹. The purpose of this study is to determine the frequency of hepatitis C presenting in tertiary care hospital in Lahore and Gujranwala. It is also a reflection of the

Table 1: Demographics of patients in Gujranwala.

Age Group	Total Patients Screened	Patients Diagnosed with Hepatitis C Virus		
		Male	Female	Total
Less than 21	40	2	0	2 (5%)
Between 21 and 40	150	8	16	24 (16%)
Between 41 and 60	476	44	57	101 (21%)
Between 61 and 80	308	33	19	52 (17%)
More then 80	29	6	4	20 (34%)
Total	1003	93 (17%)	96 (21%)	189 (18%)

Table 2: Demographics of patients in Sardar Trust Eye Hospital, Lahore,

Age Group	Total Patients Screened	Patients Diagnosed with Hepatitis C Virus		
		Male	Female	Total
Less than 21	268	4	1	5 (1.8%)
Between 21 and 40	644	28	27	55 (9%)
Between 41 and 60	1787	136	104	240 (13%)
Between 61 and 80	1221	80	32	112 (9%)
More then 80	45	4	3	7 (15%)
Total	3965	250 (6.3%)	168 (4.2%)	418 (10.5%)

risk faced by health care workers due to cross infection.

MATERIAL AND METHODS

A cross sectional observational study was conducted at District Head Quarter Teaching Hospital Gujranwala and Sardar Trust Eye Hospital from 1st March 2017 to 31st March 2018 after approval by Institutional review boards of the two hospitals. Patients were excluded if there was insufficient clinical information documented in hospital record. The age and sex of patients, demographical distribution and method of screening used were recorded from medical record. Cases were identified as Hepatitis C positive through screening kits. The primary outcome was the occurrence of Hepatitis C among patients being admitted for surgical procedures. Secondary outcome was the distribution of the disease among masses respective to their age, gender and demography.

The data collected in both the hospitals was stored electronically and analyzed by SPSS version 20. Percentages were calculated for gender, age and demographical distribution.

RESULTS

Majority of the patients presenting for ocular surgery were from the age group of 50 to 70 years, with 101 patients (21%) between 51 to 60 years of age and 52 (17%) patients in their 60's in Gujranwala while 1161 patients (29.25%) between 51 to 60 years of age and 979 (24.6%) patients in their 60s in Lahore. Out of the

1003 patients admitted in DHQ Hospital Gujranwala, 548 (54.6%) patients were male and 455 (45.3%) were female. However out of 3965 patients admitted in Sardar Trust Eye Hospital, 2895 (73%) were male and 1030 (26%) were females.

In DHQ Hospital Gujranwala, 189 (18.8%) out of 1003 patients turned out to be positive for Hepatitis C. The frequency of Hepatitis C in Sardar Trust Eye Hospital, Lahore was 10.5% (418 patients out of 3965). Out of the Hepatitis C positive patients in Sardar Trust Eye Hospital Lahore 194 (46%) cases were reported from Lahore followed by Gujranwala 60 cases (14.28%).

DISCUSSION

Aslam et al showed the prevalence of Hepatitis C in Lahore to be 6.7%¹². Tanveer et al found the prevalence to be 1.48%¹³. However, it varied from 2.1 to 13.5 % in the study conducted by Bostan et al¹⁴. Our current estimate of frequency (10.6%) was higher when compared to nationwide data surveillance study conducted through ELISA blood screen¹⁵ which showed the prevalence to be 6.8% in Lahore. Furthermore, the frequency was more among males in Lahore which was different from that found in previous studies conducted in Jinnah and Sheikh Zayed Hospital Lahore¹⁶. However, the prevalence of Hepatitis C in Pakistan is much more when compared to Bangladesh (1.3%), India (0.8%) and other South Asian countries¹⁷. In a study conducted in New Delhi in 2007, prevalence of 0.66% was noted in blood donors¹⁸. Chowderly et al. from West Bengal depicted

a seroprevalence of 0.87%. It showed a rise from 0.31% in children aged below 10 years to 1.85% in adults aged 60 years with no difference in prevalence between males and females¹⁹. In Punjab, 5% anti HCV positive persons were found in 2012²⁰. One exception was that of Uzbekistan (Central Asian country) which had got slightly higher prevalence (11.3%). The percentages were on the lower side for Central, Southern, Northern and Tropical areas of America which demonstrates percentages varying from 1.2% to 1.6%, depicting rapidly inclining trend of Hepatitis C (10.6%) in Pakistan. The total global prevalence was estimated to be less than 2%, with major chunk comprising of population older than 15 years, congruent to our estimate. According to our result, there was 1.6 times surge in incidence as compared to standard nationwide rate (6%)¹⁷. The actual burden of disease may be much higher than current and previous estimates. A limitation to our study was its retrospective nature because in some cases only limited data were available to be reviewed. Another limitation was the screening technique which was less sensitive as compared to ELISA technique. More studies are needed to fill the gap in our knowledge regarding the burden of HCV disease in Pakistan.

CONCLUSION

Frequency of Hepatitis C in admitted patients is mostly concentrated between 50-60 years indicating the enhanced expression of disease in middle to older age groups with decreased immunity.

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