Original Article

Prevalence of Anti Hepatitis C Virus (HCV) Antibodies in Cataract Surgery Patients

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Purpose: To find out the prevalence of anti HCV antibodies in patients undergoing cataract surgery.

Material and Method: All patients who were advised and scheduled for cataract surgery and were unknown for any liver disease were included in this study. Each subject was serologically screened for anti HCV antibodies and only included in the study with the evidence of positive or negative report.

Results: Out of 468 patients who reported for cataract surgery 52 (11.1%) turned out to be positive for HCV virus antibodies. In less than 60 years of age females were more whereas in above 60 years of age males and female were equally positive for anti HCV antibodies. Prevalence of diabetes mellitus in HCV positive patients was 19.2%.

Conclusion: The percentage of patients who turned out positive for anti HCV antibodies, who were previously unknown for any liver disease, was significantly higher as compared to the prevalence of carrier state for HCV in general population.

Cataract is a preventable cause of blindness and cataract surgery is the most commonly performed procedure throughout the world to restore the vision. Majority of the cataract surgeries are performed for senile cataract and patients are usually above the age of 50 years. In our population when patients report for poor vision due to cataract they also suffer from other medical problems like diabetes, hypertension etc which are more prevalent in our set up. Screening for diabetes and hypertension is essential requirement for cataract surgery patients. In the last few years incidence of hepatitis has increased tremendously in our society. Hepatitis may be caused by viruses, bacteria, drugs or excessive use of alcohol. The most important cause of hepatitis is virus, of which hepatitis B and C viruses are the most common which produce acute or chronic hepatitis. Most common symptoms of hepatitis are jaundice, hepatic tenderness, hepatomegaly and in some patients spleenomegaly and lymphadenopathy[1].

HCV is a small RNA virus. The average incubation period is 7-8 weeks with a range of 2-26 weeks. The infection leads to chronic carrier state in 60% of affected individuals[2]. Presence of anti HCV antibodies in blood indicate that the person is infected with HCV and may transmit the virus to others. These carriers are the major threat for the spread of disease.

The most common risk factors for the transmission of HCV are per cutaneous exposure to blood, major surgeries, dental treatments, intravenous drug abuse, tattooing, use of contaminated syringes, ear piercing, blood transfusion etc.

Apart from the carrier for HCV and threat for spread to other, HCV infection for the carrier is also serious, such as 20% of the infected patients develop

cirrhosis and 10% of cirrhotic patients may develop hepatocellular carcinoma[3].

In surgical setup where unknown carriers of HCV are undergoing various procedures in which there is exposure of per cutaneous blood in the form of intravenous lines, application of local anesthesia, incision etc, surgeons, paramedical staff and other patients are at increased risk to get infected. One way of controlling the HCV infection is by screening all the surgical patients undergoing any type of surgical procedure. Keeping this in mind we conducted this study to find out the incidence of anti HCV antibody positive patients undergoing cataract surgery that were previously unknown for any liver disease.

MATERIAL AND METHODS

This study was conducted in the department of Ophthalmology, Sheikh Zayed Hospital, Lahore from July 2004 to Feb' 2005. All patients who were advised and scheduled for cataract surgery and were unknown for any liver disease were included in this study. Each subject was serologically screened for HCV and only included in the study with the evidence of positive or negative report.

In addition to anti HCV antibody status, status of diabetes mellitus and hypertension was also recorded. All patients who were serologically position for HCV were referred to physician for further investigation and management.

RESULTS

A total of 468 patients with serological reports were reported during the study period. Of these 468 patients, 52 (11.1%) were serologically positive for anti HCV antibodies. Out of 52 positive patients 25 (48.1%) were males and 27 (51.9%) were females. In male patients age range was from 30 to 81 year (mean 60.6 years, SD ± 17.7) and in female patients, age range was from 30 to 90 year (mean 58.3 years, SD ± 10.6) (Table 1,2).

Out of 468, 72(15.4%) were diabetic, 59(12.6%) were hypertensive and 35(7.5%) were both diabetic and hypertensive. In anti HCV antibodies positive patients, out of 52, 10(19.2%) were diabetic [male = 5 (9.6%), female = 5 (9.6%)], 7 (13.5%) were hypertensive [male = 3 (5.8%), female = 4 (7.8%)] and 6 (11.5%) were both diabetic and hypertensive [male=1 (1.9%), female =5 (9.6%)]. Total 6 (11.5%) male patients with diabetes were positive for anti HCV antibodies, whereas 10 (19.2%) female patients with diabetes were positive for anti HCV antibodies (Table 2).

DISCUSSION

Clinical manifestations of hepatitis C may be acute or chronic. Acute hepatitis tends to be milder than those seen in patients infected with other hepatitis viruses. The disease is sub clinical and insidious in most cases. The most alarming aspect of HCV infection is its high rate of persistence and its ability to induce chronic liver disease. HCV is found worldwide with western world prevalence of 0.3% to 1.5% or more[2].

Table 1: Age and sex distribution

Age	HCV Positive		Total n(%)
	Male n(%)	Female n(%)	
<50	4 (7.7)	6(11.5)	10(19.2)
50-59	4(7.7)	8(15.4)	12(23.1)
60-69	10(19.2)	7(13.5)	17(32.7)
70-79	6(11.5)	3(5.8)	9(17.3)
>80	1(1.9)	3(5.8)	4(7.7)
Total	25(48.1)	27(51.9)	52(100)

Table 2: Co-morbidities

Sex	Anti HCV antibodies positive				
	Number n(%) Out of 468	Diabetic (DM) n (%)/52	Hypertensive(HTN) n (%)/52	DM +HTN n (%)/52	Age range (mean ± SD)
Male	25(5.3)	5(9.6)	3(5.8)	1(1.9)	30-81 (60.6 ± 17.5)

Female	27(5.8)	5(9.6)	4(7.7)	5(9.6)	30-90 (58.3± 10.6)
Total	52(11.1)	10(19.2)	7(13.5)	6(11.3)	

Regional variation exists in the prevalence of HCV infection[4-6] from high endemic area (32.4%) to non endemic area (2.3%). In our study the prevalence of anti HCV positive serology was 11.1%. All the patients were not known for any liver disease. Local studies report an incidence of 4.6% in general population[6] in Buner, NWFP, Pakistan, 4% in blood donars[7] from normal healthy population, 5.3% in pre employment medical examination[8] and 7% in surgical patients[9].

In our study male to female ratio is nearly equal and there is no statistically significant difference. Considering age, in less than 60 years of age, females are nearly twice serologically positive than males, whereas in above sixty years of age, males (56.7%) and females (53.3%) are nearly equally positive for anti HCV antibodies. Incidence also increases as the age increases in study patients i.e. from 42.3% in less then 60 years of age to 57.7% in more than 60 years of age. High incidence with age is also reported in a study conducted in Japan[4].

In our study 10 (19.2%) patients were diabetics, 7(13.5%) patients were hypertensive and 6(11.5%) have both diabetes and hypertension. In another study conducted by Khokhar N, the reported incidence of diabetes in hepatitis patient was 17.3% which is not different from our observation[10].

In another study conducted by Khurrum M et al reported 6% incidence of anti HCV antibodies in health care workers in a local hospital[11].

Though specifically not many local reports about HCV positivity are available in the patients undergoing cataract surgery but incidence of 11.1% in our study is significantly alarming. This may be due to the fact that these patients do not represent a specific population; instead they are coming throughout the city of more than 7 million population and from other cities also. But the significance of these finding lies in special care while handling these patients who are unaware of serious nature and consequences of the carrier state to their families, surgeons, paramedics and community at large.

CONCLUSION

Unknown carriers of Hepatitis C virus antibodies are a serious health threat especially to the people concerned with health care practices. It should be made mandatory to screen for anti HCV antibodies in each and every patient undergoing major eye surgery and specific history should be taken from the patient before minor procedures. Special care should be taken while handling HCV positive patients in operation theatres and disposal of contaminated products properly. All these unknown carriers should be referred to physicians for further investigations and treatment.

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