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TO STUDY SEROPREVALENCE AND VARIOUS RISK FACTORS ASSOCIATED WITH HCV IN HEPATIC DISORDERS

***Manika Mehta and Bhavna Singla**

Patiala Panjab, India.

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***Corresponding Author**
Dr. Manika Mehta
Patiala, Panjab, India.

ABSTRICT

Background: *HCV is the major factor in the development of hepatic disorders.* ***Aim:*** *To study seroprevalence of HCV in liver disorders and risk factors associated with liver disorders and HCV.* ***Material and Methods:*** *The study was conducted on 100 patients of hepatic disorders admitted in Medicine wards of Rajindra Hospital, Patiala. Detailed history was taken with special emphasis on risk factors like blood transfusion, alcohol, drug addiction, needle-injury, multiple sexual contacts and perinatal transmission. Then blood was tested for Anti HCV abs.* ***Results:*** *Seroprevalence of HCV in patients with hepatic disorders was 40%. Out of 40, 35 were males and 5 were females with a male to female ratio of 7: 1. Majority of males were in the age group of 41-60 years followed by the age group of 21-40 years. Maximum number of anti-HCV positive cases had blood transfusion as a risk factor. Seroprevalence of HCV in patients with drug addiction (81.8%), blood transfusion (48%) and HCC (50%).* ***Conclusions:*** *Great stress must be laid on proper preventive measures such as screening of blood, safe sexual practices, proper sterilization of instruments, proper disposal of contaminated material.*

KEY WORDS: HCV **(**Hepatitis C virus), Prevalence, HCC (Hepatocellular carcinoma).

INTRODUCTION

The HCV is an enveloped virus that belongs to separate genus Hepaciviruses and family Flaviviridae.[1]

HCV is a blood borne virus that is most efficiently transmitted through large or repeated percutaneous exposures to blood transfusions. Transmission of HCV may also occur through sexual route, through perinatal exposure, percutaneous exposures in the health care setting,

among patients undergoing chronic hemodialysis or sharing of equipment among intravenous drug users.[2]

HCV accounts for 20% of cases of acute hepatitis, 70% of cases of chronic hepatitis, 40% of cases of end stage cirrhosis, 60% of cases of hepatocellular carcinoma and 30% of liver transplants.[3]

Third- generation anti-HCV tests (EIA-3 and RIBA-3, respectively) contain antigens from the HCV core, nonstructural 3, nonstructural 4, and nonstructural 5 genes. HCV tridot is a visual, qualitative, fourth generation HCV-Ab screening assay, based on flow through technology, utilizing a unique combination of modified antigens from the putative core, NS3, NS4, and NS5 regions of HCV. These antigens are immobilized on a porous immunofiltration membrane.[24] Detection of HCV RNA in patient specimens by polymerase chain reaction (PCR) provides evidence of active HCV infection and is potentially useful for confirming the diagnosis and monitoring the antiviral response to therapy.[4]

MATERIAL AND METHODS

The study was done on 100 patients of hepatic disorders who were admitted in Medicine wards of Rajindra Hospital, Patiala from June 2010 to July 2012. The study was approved by Ethics committee of Rajindra Hospital, Patiala. These patients had deranged liver function tests and showed evidence of liver parenchymal disease radiologically (either or both on USG & CT) including four cytological proven. Hepatocellular carcinoma cases with markedly raised AFP levels. The study group was represented by patients of various age groups, males and females and of different social strata.

After taking informed consents from patients, detailed history was taken with special emphasis on risk factors like blood transfusion, alcohol, drug addiction, needle-injury, multiple sexual contacts and perinatal transmission.

5 ml of blood was collected in a clean vial and serum was separated and tested using HCV Tridot test (J Mitra & Co Ltd.). This is 4th generation rapid visual test for the detection of antibodies to hepatitis C in human serum. Results are obtained in 5 minutes. It has high sensitivity and specificity. It carries unique combination of HCV antigens, core, NS3, NS4 and NS5.

RESULTS AND OBSERVATIONS

SEX DISTRIBUTION OF PATIENTS ACCORDING TO HEPATIC DISORDERS

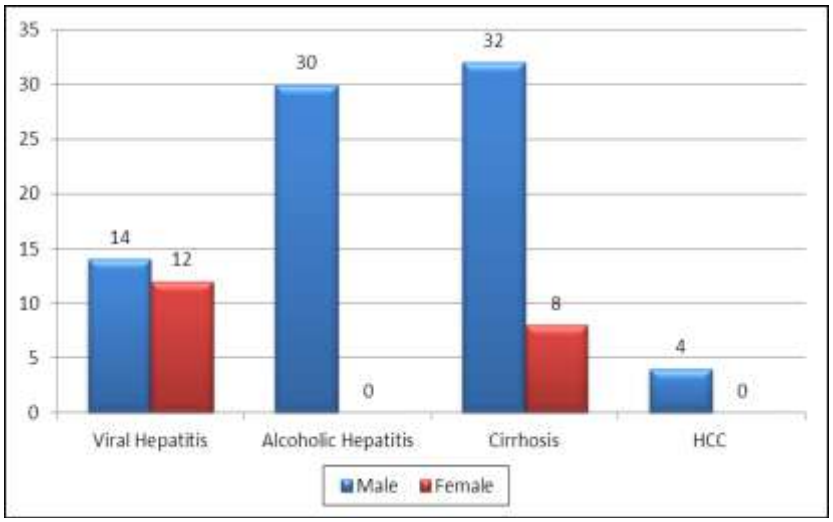

Fig-1: There was statistically significant difference seen among hepatic disorders in relation to sex of the patient (p<0.001).

HISTORY OF RISK FACTORS IN RELATION TO SEX

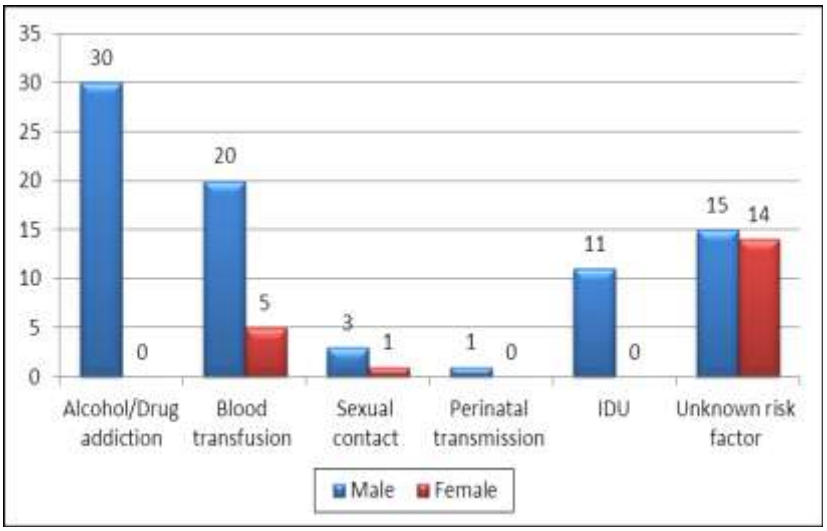

Fig-2: There was statistically significant association seen in relation to the sex of the patient with history of alcohol/ drug addiction (p<0.001).Out of total 30 cases with history of alcohol/ drug addiction 100% were present in males.

Anti- HCV POSITIVITY IN RELATION TO HEPATIC DISORDERS

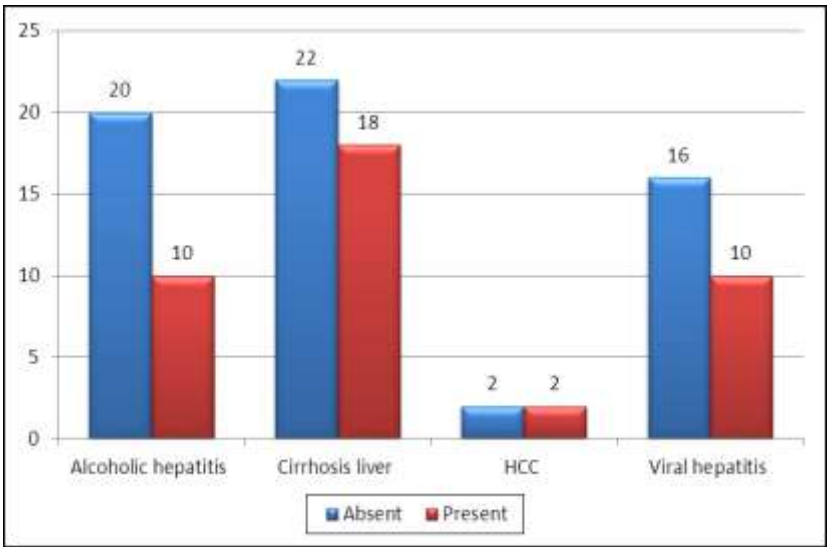

Fig-3: Out of 100 cases of hepatic disorders, 40 were Anti -HCV positive. Maximum anti-HCV positivity was seen in cases of cirrhosis liver. There was no statistically significant difference seen among various hepatic disorders in relation to anti-HCV positivity (p>0.05).

ANTI-HCV POSITIVITY IN RELATION TO AGE AND SEX

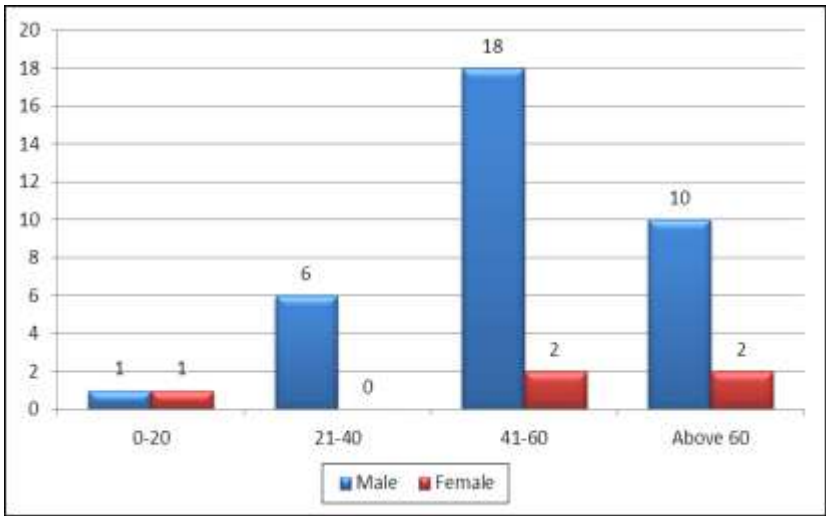

Fig-4: Maximum anti- HCV seropositivity was seen in 41-60 age groups and it was more in case of males. There was no statistically significant Anti-HCV positivity association seen in relation to age and sex of the patients (p>0.05).

ANTI-HCV POSITIVITY IN RELATION TO SEX AND RISK FACTOR

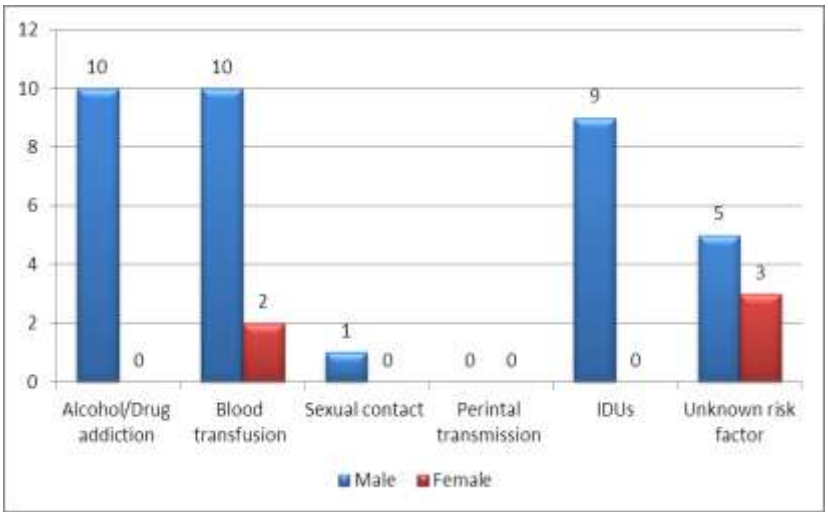

Fig-5: Maximum number of anti-HCV positive cases had blood transfusion as a risk factor. There was no statistically significance is seen between the sex of the patients and risk factors with anti-HCV seropositivity (p>0.05).

DISCUSSION

The study included 100 cases with hepatic disorders comprising of 26 cases of viral hepatitis, 30 cases of alcoholic hepatitis, 40 cases of cirrhosis and 4 cases of HCC.

The present study showed 40% anti-HCV positivity in hepatic disorders which is comparable to the study of Devi et al (30% prevalence).[5]

Out of 40 Anti HCV positive patients, 10 patients were of viral hepatitis, 10 patients had alcoholic hepatitis, 18 patients had cirrhotic liver and 2 had HCC.

Out of 40, 35 were males and 5 were females with a male to female ratio of 7: 1. Majority of males were in the age group of 41-60 years followed by the age group of 21-40 years.

Out of 5 females, 2 were in the age group of 41-60 years and 1 was in the age group of 0-20 years and 2 were in the age group of above 60 years.

The results are comparable to the study of Devi et al[5] in which HCV seropositivity was found to be maximum in the age groups of 32-42 years (46.6%)

Out of 100 cases, 11 patients were of IDUs. Out of the 11 IDUs, 9 were anti HCV positive. Saraswathi et al[6] 2007 studied 61.2% prevalence.

Out of 100 cases, 25 had history of blood transfusion. Out of these 25, 12 patients were anti – HCV positive. Mathur et al[7] 2008 studied 43.65% prevalence.

Seroprevalence of Hep C in patients with HCC in the present study was 50% slightly higher compared to Paul et al (12%).[8]

So the results of the present study are comparable to other studies.

CONCLUSIONS

So, it is concluded from the present study that HCV is the major factor in the development of hepatic disorders. Routine evaluation of viral markers should be carried out in all hepatic disorders especially in acute cases to prevent them from becoming chronic hepatic disease.

For hepatitis viruses, the main routes of transmission are blood transfusion and drug addiction. To prevent the spread of HCV, people must be educated about these infections.

Great stress must be laid on proper preventive measures such as screening of blood, safe sexual practices, proper sterilization of instruments, proper disposal of contaminated material.

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