

**PROSPECTIVE STUDY OF HEPATITIS C VIRUS INFECTION AND
ITS GENOTYPES IN NORTH EASTERN INDIA**

**ABSTRACT
THIS IS SUBMITTED TO**



**JAMIA MILLIA ISLAMIA, NEW DELHI
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**SUBMITTED BY
DR. PREMASHIS KAR
Department of Biosciences
Jamia Millia Islamia
New Delhi-110025**

BACKGROUND- Till date no information is available about the prevalence and genotype distribution of hepatitis C virus in the Northeast India which is known for its demographic heterogeneity of tribal population and porous international border.

METHODS: A total of 530 symptomatic patients of different types of liver disease were included in the study which was evaluated for HCV antibodies with third generation enzyme immunoassays. Positive samples were retested in duplicate and were ruled out of co-infection with other hepatotropic virus. All the patients were studied for risk factors, history of hepatitis, hepatic enzymes (aspartate aminotransferase (AST) and alanine aminotransferase (ALT)) and hepatitis C virus- ribonucleic acid (HCV-RNA) detection followed by direct sequencing to determine the genotype. Seroprevalence of HCV infections among the blood donor were screened by third generation enzyme immunoassays.

RESULTS: With respect to HCV related liver diseases seen in the North Eastern region, the mean age of HCV infection was 42 ± 15 years with sex ratio 9:1. A total of 76 samples was found to be anti-HCV positive (14.4%). 55/76 (72.4%) cases were HCV RNA positive. With respect to HCV genotype seen in North East India genotype 3a (53.8%) was the commonest subtype seen followed by 4a (47.2%) and 1a (27.2%). Genotype 6 was also found in 5.45% of the cases. In our series from North Eastern India; genotype 3a was the commonest subtype seen in cases of Acute viral hepatitis and we did not find any case belonging to 1a. In Chronic hepatitis 4a (47.2%) subtype was the major genotype, in cirrhosis of Liver genotype 4a (27.2%) and 1a (27.2%) was the most prevalent. With reference to the various risk factors pertaining to HCV transmission, the infection was more prevalent in most patients who were Intravenous Drug abuser (34.5%), had multiple sex partners (20%), had history of being dialysed in the past (3.6%) and those who had exposure to professional barbers (38.1%). With respect to age majority of the HCV prevalence was seen in the age group 30-49 and male sex are more prone to HCV infection. Among the blood donor the serological prevalence of HCV was found in 2.7% of the cases the mean age of the subjects was 32.5 ± 12 years indicating a higher exposure rate to HCV in younger population groups.

CONCLUSION: There was high prevalence of HCV and genotype 4a which was not

common in the Indian population was seen in majority of the case (47.2%) from Northeast India. Genotype 6 which was common in Indo-Myanmar border was also seen in 5.45% of the cases. IVDU, history of dialysis, exposure to multiple sexual partner and professional barbers accounted for HCV infection across all genotypes. High rate of HCV seroprevalence in Northeast (2.7%) compared to rest of India (0.9-1.5%) represents a large over looked reservoir of infection capable of inflicting a significant disease burden on our society. Our study continues to highlight the need of the knowledge on the distribution of various genotypes in our country, which is essential for the prognostic implication of HCV liver diseases seen in India