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Ligase chain reaction as a modality for the detection of point mutation in the precore region of HBV related HCC cases: A study from Northern India

Abdul Malik[1,2], Abdulmajeed Albanyan[2] and Premashis Kar[1]
[1]Maulana Azad Medical College, India
[2]King Saud University, Saudi Arabia

Mutant hepatitis B with precore stop codon has been reported to be associated with severe liver damage in HBeAg negative patients with hepatocellular carcinoma. Clinically, the biological importance of pre-core G1896A mutation is not well established. The purpose of the present study was to determine hepatitis B virus genotypes and also to elucidate the association of G1896A mutation of precore gene and the severity of liver damage in HBV related HCC cases. Detection of HBV DNA sequences was carried out by polymerase chain reaction (PCR) using primers derived from the precore region of HBV genome. Ligase chain reaction (LCR) assay was performed to screen the presence or absence of G1896A mutation. Direct nucleotide sequencing was done to confirm the results of LCR. A total of 116 HBV related cases who attended the medical out patients department and wards of Lok Nayak Hospital, New Delhi, India were screened over the period of 3years. Patients having super-infection with HDV/HCV/HIV and past history of interferon therapy were excluded. Sequence analysis of viral DNA established that the G1896A mutation was observed in 32 cases in HCC cases. Phylogenetic analysis revealed 60% isolates belonged to genotype A, while 20% belonged to genotype D and 20% belonged to genotype E. The present data suggests that precore G1896A mutations is responsible for 27.2% of the patients of Asian Indian origin suffering from HBV related HCC cases and these cases are more symptomatic and aggressive in patients with the mutant form of the virus as compared with the wild form.

Biography

Abdul Malik has completed his Ph.D. in Biosciences from Jamia Millia Islamia, New Delhi, India and almost 4 years of postdoctoral fellowship at Department of Medicine, Maulana azad Medical College, New Delhi, India. Currently, he is working as an Assistant Professor in the Department of Clinical Laboratory Sciences, College of Applied Medical Science, King Saud University, Riyadh, Saudi Arabia. My research involves as to how we can enhance the shelf life of the platelets once it is isolated from blood which can help in curing lot of diseases.

While my Ph.D. was basically revolving around all the different spectrum of Hepatitis B Virus, i.e. Acute Liver Disease to Hepatocellular Carcinoma and correlating the different mutations observed in all these spectrum of Hepatic liver diasease.

abdul.ksu@gmail.com