Study of Hepatitis B Virus Genotypes and Mutation in 1762 & 1764 Nucleotides of X Gene in Chronic HBV Patients from Golestan Provience - Iran

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Background & Objectives: More than 350 million people are chronic carriers of HBV and many of them develop progressive diseases, including cirrhosis and hepatocellular carcinoma. Many of those infected develop persistent disease and a proportion goes on to develop liver failure and cancer. Researchers showed that double mutations of the x gene at position 1762 and 1764, have been found in chronic hepatitis B. These mutations were proposed to be associated with fulminant hepatitis B increased risk of hepatocellular carcinoma. This project aimed to investigate mutation in the x gene region of HBV infected patients in Golestan province- Iran.

Methods: 100 patients were entered in this study. Hepatitis B viral DNAwas extracted from plasma and PCR was performed using specific primers. Direct sequencing and alignment of x gene were applied using reference sequence from Gene Bank database (Okamoto, 1988; Accession number AB033559 and GU938305).

Results: Among the chronic HBV patients 51% was male and 49% was female. The results showed that 49% of patients had A1762T, G1764A mutations changing AGG to stop codon TGA. 27% and 24% of cases were showed mutation only in A1762T and G1764A positions respectively.

Conclusion: This study was shown presence of x gene mutation in HBV infected people in Golestan province-Iran. The rate of mutation in two positions 1762 and 1764 of HBV genotype D x gene was higher than the average rate of the world (34%).

Keywords: HBV; x Gene; Mutation; Genotype; Iran