Relationship between osteopontin polymorphism and efficiency of interferon treatment in HCV patients

Thesis

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ABSTRACT

Background and Aim: HCV is considered one of the major health problems worldwide. This study aimed to determine the relationship between Osteopontin gene polymorphism and the efficacy of interferon-based therapies in HCV patients.

Subjects and Methods: The study included 99 HCV chronically infected Egyptian patients. All of them received PEG-IFN alpha-2b plus ribavirin for 24 weeks. As well as 20 healthy subjects serving as control. Physical and clinical examination and 10 ml of blood were collected from each subject. The following was done; liver function tests, hepatitis markers, HCV quantitation by real time PCR, DNA extraction from whole blood, agarose gel electrophoresis followed by sequence analysis.

Results: The single nucleotide polymorphism (SNP) in the premoter region of the Osteopontin gene (OPN) at nucleotide (nt) -443 showed significant difference between responders and non responders by both univariate logistic regression analysis (P=.020) and multivariate logistic regression analysis (P=0.017), The Sustained virological response (SVR) rate was higher in patients with T/T at (nt) -443 than in those with C/C or C/T (66.7% vs 43.1%) P = 0.009.

Conclusion: SNP in the promoter region of the Osteopontin gene (OPN) at nucleotide (nt)-443 may be useful as a marker to predict the efficacy of IFN-based therapies in patients with chronic hepatitis C.

Key words: Osteopontin, Promoter SNPs, Chronic Hepatitis C, Interferon.