

The Evaluation of Correlation of IL-28B Genotype with Sustained Virologic Response in Patients with Chronic Hepatitis C in Mazandaran-Iran

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Background & Objectives: Hepatitis C infection is a global health problem because of the high rate prevalence and morbidity and mortality worldwide. There are several factors, which is effective on developing diseases outcome in individuals infected with HCV such as, environmental condition, host genetic factors and viral factors. Recently, single nucleotide polymorphisms (SNPs) near the human IL-28B gene, encoding for interferon lambda 3, are associated with sustained virological response (SVR). The aim of this study was to evaluate the influence of IL28B genotypes on SVR rates in a group of patients with chronic hepatitis C from the Northern part of Iran.

Methods: In this case-control study, 133 HCV-RNA positive patients (96 (72.2%) males and 37 (27.8%) females) with mean age of 36.38±12.49 years, and 173 healthy volunteers with age, sex and geographical area matched with same patients were recruited. All originating from mazandaran province. DNA extraction and IL-28B genotyping DNA was extracted with salting out methods. Genomic DNA were amplified for IL-28B gene polymorphism by Tetra-ARMS-PCR using thermocycler (Eppendorf, Hamburg, Germany).

Results: In the present study, the SVR rates according to IL28B genotype were as follows: 85.5% in patients with genotype C/C, 44.4% in those with genotype C/T, and 21.7% in those with genotype T/T. (p<0.0001).

Discussion: The SVR rate was directly related to the IL28B genotype: 85.5% in the C/C genotype. Thus, IL-28B (rs12979860) CC genotype was associated with a better treatment response rate. There is association between genetic factors specially IL-28B with disease outcome.

Keywords: IL-28B; Sustained Virological Response; Chronic Hepatitis C