Association of -509C>T Polymorphism of TGF-β1 Gene with Chronic Hepatitis B in Iranian Patient

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Background & Objectives: Hepatitis B infection is a global health problem. Hepatitis B virus can escape from the innate immune system and adaptive immune system mainly acts against it. Transforming growth factor β (TGF-β) has three isoforms in mammals. Several studies have recently shown that TGF-β1 suppresses replication of hepatitis B virus also high expression of this factor is effective in liver fibrosis. In this study, association of promoter polymorphism of TGF-β1 with chronic hepatitis B was investigated.

Methods: We use case-control Methods in this study. 100 patients with chronic hepatitis B and 100 healthy control subjects formed the study population. To investigate the genotypes, polymerase chain reaction (PCR) was used for amplification and then its product was digested with Eco81I enzyme. 15 samples were sequenced to confirm the results.

Results: Genotype frequency of CC, CT, TT in patient population were respectively 23%, 56%, 21% and in control population were respectively 32%, 52%, 16%. The C and T allele Frequencies were determined in patient population (49% and 59%) and in control population (42% and 58%). No significant difference was found between the two groups.

Conclusion: There was no significant difference in genotypes of -509C>T polymorphism between control population and patient population, therefore we can say this polymorphism is not a prognostic factor for chronic hepatitis B in Iranian patients.

Keywords: -509C>T Polymorphism; TGF-β1; Chronic Hepatitis B