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Detection of Bcl2 Polymorphism in Patient with Hepatocellular carcinoma

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Abstract : Introduction: Despite advances in the knowledge of the molecular virology of hepatitis C virus (HCV), the mechanisms of hepatocellular injury in HCV infection are not completely understood. Hepatitis C viral infection (HCV) influences the susceptibility to apoptosis. This could lead to insufficient antiviral immune response and persistent viral infection. Aim of this study: was to examine whether BCL-2 gene polymorphism at codon 43 (+127G/A or Ala43Thr) has an impact on development of hepatocellular carcinoma caused by chronic hepatitis C Egyptian patients. Subjects and Methods: The study included three groups; group 1: composing of 30 patients with hepatocellular carcinoma (HCC), group 2 composing of 30 patients with HCV, group 3 composing of 30 healthy subjects matching the same age and socioeconomic status were taken as a control group. Gene polymorphism of BCL2 (Ala43Thr) were evaluated by PCR-RFLP technique and measured for all patients and controls. Results: The summed 43Thr genotype was more frequent and statistically significant in HCC patients as compared to control group. This genotype of BCL2 gene may inhibit the programmed cell death which leads to disturbance in tissue and cells homeostasis and reduction in immune regulation. This result leads to viral replication and HCV persistence. Moreover, virus produces variety of mechanisms to block genes participated in apoptosis. This mechanism proves that HCV patients who have 43Thr genotype are more susceptible to HCC. Conclusion: The data suggest for the first time that the BCL2 polymorphism is associated with the susceptibility to HCC in Egyptian populations and might be used as molecular markers for evaluating HCC risk. This study clearly demonstrated that Chronic HCV exhibit a deregulation of apoptosis with the disease progression. This provides an insight into the pathogenesis of chronic HCV infection, and may contribute to the therapy.

Keywords : BCL2 gene, Hepatitis C Virus, Hepatocellular carcinoma, sensitivity, specificity, apoptosis
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