

Correlation of P53 Gene Expression With Serum Alanine Transaminase Levels and Hepatitis B Viral Load in Cirrhosis and Hepatocellular Carcinoma Patients

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Abstract : The development of HCC is a multi-stage process. Several extrinsic factors, such as aflatoxin, HBV, nutrition, alcohol, and trace elements are thought to initiate or/and promote the hepatocarcinogenesis. Alteration of p53 status is an important intrinsic factor in this process as p53 is essential for preventing inappropriate cell proliferation and maintaining genome integrity following genotoxic stress. This study was designed to assess the correlation of p53 gene expression with HBV-DNA and serum Alanine transaminase (ALT) in patients with cirrhosis and HCC. The study was conducted among 60 patients. The study population were divided into four groups (15 in each groups)-HBV positive cirrhosis, HBV negative cirrhosis, HBV positive HCC and HBV negative HCC. Expression of p53 gene was observed using real time PCR. P53 gene expressions in the above mentioned groups were correlated with serum ALT level and HBV viral load. p53 gene was significantly higher in HBV-positive patients with HCC than HBV-positive cirrhosis. Similarly, the expression of p53 was significantly higher in HBV-positive HCC than HBV-negative HCC patients. However, the expression of p53 was reduced in HBV-positive cirrhosis in comparison with HBV-negative cirrhosis. P53 gene expression in liver was not correlated with the serum levels of ALT in any of the study groups. HBV- DNA load also did not correlated with p53 gene expression in HBV positive HCC and HBV positive cirrhosis patients. This study shows that there was no significant change with the expression of p53 gene in any of the study groups with ALT level or viral load, though differential expression of p53 gene were observed in cirrhosis and HCC patients.

Keywords : P53, ALT, HBV-DNA, liver cirrhosis, hepatocellular carcinoma

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