Study of the Association of CYP2D6*4 Polymorphism with the Susceptibility of HCV-Related Liver Cirrhosis and Liver Cancer.

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Abstract:

Abstract: Background: CYP2D6 is a member of cytochrome P450 enzymes family which is involved in detoxification of a wide range of xenobiotics and drugs. Several genetic polymorphisms had been shown to affect its activity which may result in increased susceptibility to malignant disorders. Aim: to detect if there is specific cytochrome CYP2D6*4 genotype associated with hepatocellular carcinoma or hepatic cirrhosis among patients with hepatitis C. Method: CYP2D6*4 genotyping was performed by polymerase chain reaction restriction fragment length polymorphism (PCR-RFLP). This study includes 23 patients with hepatic cirrhosis, 26 patients with HCC and normal 19 subjects with matched age and sex. Results: The frequency of (Extensive metabolizers) EM genotype (wild type) was higher in HCC cases compared to cirrhotic patients and controls (76.8% versus 39.1% and 63.2%). The frequency of (intermediate metabolizers) IM genotype (heterozygous variant) was higher in cirrhotic cases compared to HCC patients and controls (52.2% versus 15.4% and 26.3%). On contrary, the frequency of (poor metabolizers) PM genotypes (homozygous variant) was the lowest among HCC patients in comparison to cirrhotic patients and controls (3.8% vs 8.7% and 10.5% respectively). Higher frequency of IM and PM genotypes were observed in patients more than 45 years old in cirrhotic and malignant patients. Frequency of IM and PM were significantly higher in males than females in HCC patients (p=0.000). Frequency of p allele was higher in males than females and in older patients than younger patients in the three groups. Conclusions: These data indicate that PM CYP2D6*4 genotype has no role in development of HCC and IM genotype may have a role in developing hepatic cirrhosis, while higher frequency of EM genotype may contribute to the progression of HCC in HCV-infected subjects [Sohair K. Sayed and Hala M. K. Imam. Study of the Association of CYP2D6*4 Polymorphism with the Susceptibility of HCV-Related Liver Cirrhosis and Liver Cancer. Life Sci J 2012;9(3):1571-1577] (ISSN:1097-8135). http://www.lifesciencesite.com. 228

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