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# Mutations in basal Core Promoter and Carcinogenetic Potential of HBV Subgenotype C1

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A high incidence of hepatocellular carcinoma (HCC) is coincident with a high prevalence of hepatitis B viral infection in Asian countries. Two hepatitis B virus (HBV) genotypes, types B and C, are more frequently seen in Asia, particularly China, than the rest of world, which make people reason that the unique genetics of HBV subtypes contributes to the carcinogenetic potential. In fact, some studies have shown that patients with genotype C infection have a higher risk of HCC than those with genotype B, attributing in part to a high frequency of double mutation of T1762/A1764 in the Basal Core Promoter (BCP) region of genotype C.

T1762/A1764 double mutations of the BCP have been indicated in determining HCC risk for people chronically infected with HBV. BCP is a regulatory region located in the overlapping hepatitis BX (HBx) gene, and presumably suppress production of hepatitis B "e" antigen (HBeAg). Dr. Li et al in this article revealed that in addition to T1762/A1764 double mutations, V1753 or A1768 mutation in the BCP region, also significantly increased the risk of HCC in patients with subgenotype C1 viral infection. Furthermore, the mutations of 1753/1762/1764, 1762/1764/1768, or 1753/1762/1764/1768 in the BCP region could inhibit the transcriptional activity and abrogate the growth-suppressive effect of HBx, suggesting a collaborative activity with HBx. Their findings provide another line of evidence that the mutation in the BCP region of HBV subgenotype C may be a contributory factor for a high incidence of HCC in HBV genotype C-prevalent regions.

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