



Association of the interleukin-28B gene polymorphism with development of hepatitis virus-related hepatocellular carcinoma and liver cirrhosis: a meta-analysis

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ABSTRACT. We examined the association of the interleukin-28B (IL-28B) gene rs12979860 T/C polymorphism with development of hepatitis virus-related hepatocellular carcinoma (HCC) and liver cirrhosis (LC). Two investigators independently searched the PubMed, Elsevier, EMBASE, Web of Science, Wiley Online Library, and Chinese National Knowledge Infrastructure data bases. Pooled odds ratios (ORs) and 95% confidence intervals (95% CIs) for rs12979860 and HCC/LC were calculated in a fixed-effect model (the Mantel-Haenszel method) and a random-effect model (the DerSimonian and Laird method) when appropriate. This meta-analysis included 7 eligible studies, with 1152 HCC and/or LC cases and 1326 controls. Overall, the rs12979860 T/C polymorphism was significantly associated with risk of hepatitis virus-related HCC and LC development (TT vs CC+CT, pooled OR = 1.597, 95%CI = 1.254-2.036). When they were grouped by type of hepatitis virus, similar results were found for hepatitis C virus-related groups (TT vs CC+CT, pooled OR = 1.732, 95%CI = 1.343-2.235, P value < 0.0001). In the overall analysis, the IL-28B rs12979860 T/C polymorphism was

identified as a genetic risk factor for hepatitis virus-related HCC and LC development. A significant increase in the frequency of the T/T genotype was detected from chronic hepatitis to HCC and LC.

Key words: Hepatocellular carcinoma; Liver cirrhosis; rs12979860; Interleukin-28B; Gene polymorphism; Meta-analysis