



Relationship between *HLA-DP* gene polymorphisms and the risk of hepatocellular carcinoma: a meta-analysis

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ABSTRACT. The association between the *HLA-DP* single nucleotide polymorphisms (SNPs) rs3077 and rs9277535 and hepatocellular carcinoma (HCC) has been reported, but results have been inconclusive and controversial. Therefore, to investigate the relationship between these *HLA-DP* SNPs and HCC susceptibility, a meta-analysis of studies published before January 2014 was carried out using the PubMed and Google Scholar databases. Odds ratios (ORs) and 95% confidence intervals (CI) were calculated for *HLA-DP* alleles, and for co-dominant, dominant, and recessive genotype models of each SNP, based on fixed- or random-effects models. A total of nine studies from six published articles were included. The association study between rs3077 and HCC susceptibility was performed in four independent comparisons that contained 1871 cases with hepatitis B virus (HBV)-related HCC and 3207 carriers with

persistent HBV. Association between rs9277535 and HCC susceptibility was examined in five separate comparisons that contained 2017 cases and 3930 carriers. Our analysis indicated a significant association of rs3077 and rs9277535 with HCC susceptibility, suggesting that rs3077 might act beneficially against HCC susceptibility (A vs G: OR = 0.884, 95%CI = 0.803-0.973, P = 0.012; GA vs GG: OR = 0.842, 95%CI = 0.733-0.967, P = 0.015; AA+GA vs GG: OR = 0.848, 95%CI = 0.744-0.968, P = 0.014), and that rs9277535 might promote HCC susceptibility (AA vs GA: OR = 1.202, 95%CI = 1.011-1.428, P = 0.037). This study suggested that *HLA-DP* rs3077 and rs9277535 polymorphisms are associated with HCC susceptibility in the Asian population.

Key words: *HLA-DP*; SNP, Meta-analysis, Hepatocellular carcinoma