



Interleukin-10 gene -592C>A polymorphism and susceptibility to gastric cancer

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ABSTRACT. Numerous studies have evaluated the association between the human interleukin-10 gene -592C>A polymorphism and gastric cancer risk. However, the results have been inconsistent. This meta-analysis was designed to resolve these controversies. Systematic searches of the electronic databases Embase, PubMed, and Google Scholar were performed to identify relevant studies. A meta-analysis was performed to examine the association between the interleukin-10 gene -592C>A polymorphism and gastric cancer risk. Odds ratios (OR) and its 95% confidence intervals (CI) were used for statistical analysis. Twelve studies were included in the meta-analysis, which included 2116 gastric cancer cases and 4077 controls. No significant association was found between the interleukin-10 gene -592C>A polymorphism and gastric cancer risk in total population analysis. In stratified analysis, a significant association was found in the Asian subgroup (AA vs AC: OR = 0.79, 95%CI = 0.64-0.98; dominant model: OR = 1.26, 95%CI = 1.04-1.57), and no significant association was observed among Caucasians. In addition, the corresponding pooled ORs were not substantially altered after excluding one study that deviated from Hardy-Weinberg equilibrium in the control group. This meta-analysis supports an association between the interleukin-10 gene -592C>A polymorphism and gastric cancer risk in Asians but not in Caucasians.

Further large and well-designed studies are needed to confirm these conclusions.

Key words: Gastric cancer; Gene polymorphism; Interleukin-10; Meta-analysis