



Association between the interleukin-6 -174 G/C polymorphism and risk of ischemic stroke: a meta-analysis

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ABSTRACT. Numerous studies have evaluated the association between the -174 G/C polymorphism in the interleukin-6 (*IL6*) gene and ischemic stroke risk. However, the results have been inconsistent. In this study, we performed a meta-analysis to assess the association of the *IL6* -174 G/C polymorphism with ischemic stroke. Published literatures from PubMed and Embase databases were retrieved. Pooled ORs with 95% CIs were calculated using fixed- or random-effect models. A total of seven case-control studies containing 2025 patients and 2174 controls were enrolled into this meta-analysis. In combined analysis, the results showed no significant association between the *IL6* -174 G/C polymorphism and ischemic stroke risk in the overall population (GG vs CC: OR = 1.22, 95%CI = 0.50-3.01; TT vs TC: OR = 0.97, 95%CI = 0.81-1.15; dominant: OR = 0.98, 95%CI = 0.70-1.38; or recessive: OR = 1.24, 95%CI = 0.57-2.70) models. In the subgroup analysis by race, no significant associations between the -174 G/C

polymorphism in the *IL6* gene and ischemic stroke risk were found in Caucasians or Asians. No publication bias was found in the present study (all $P > 0.05$). Overall, the meta-analysis results suggested that the *IL6* -174 G/C polymorphism was not associated with an increased risk of ischemic stroke. Further large and well-designed studies are needed to confirm this conclusion.

Key words: IL-6; -174 G/C; Gene polymorphism; Ischemic stroke