



Meta-analysis of the *IL-10* promoter polymorphisms and pediatric asthma susceptibility

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ABSTRACT. The results of previous epidemiological studies exploring the relationship between interleukin-10 (*IL-10*) promoter polymorphisms and susceptibility to pediatric asthma are not consistent. Therefore, we have performed a systematic review and meta-analysis to provide a more convincing conclusion. Odds ratios (OR) with their 95% confidence intervals (CIs) were used to evaluate the strength of association between the *IL-10* promoter polymorphisms and susceptibility to pediatric asthma. Publication bias was examined by Begg's funnel plots and the Egger test. A detailed literature search based on stringent parameters yielded sixteen relevant studies, comprising 2494 cases and 2160 controls. The overall population showed no significant association between the *IL-10* -1082G/A polymorphism and pediatric asthma risk in any of the genetic models (dominant model: OR = 1.583, 95%CI = 0.614-4.076, P = 0.342; allelic model: OR = 1.214, 95%CI = 0.748-1.971, P = 0.433; additive model: OR = 2.240, 95%CI = 0.950-5.277, P = 0.065; recessive model: OR = 1.435, 95%CI = 0.659-3.128, P = 0.363). Subgroup analyses revealed a significant association between different ethnicity

and atopic status subgroups. However, there was no evidence of a significant association between the other two polymorphisms (-819C/T and -592C/A) and pediatric asthma in our study. No significant publication bias was observed in this meta-analysis. The results of this study indicate that the *IL-10* -1082G/A polymorphism might be a risk factor for asthma in children. However, because of the small sample size included in the subgroup analyses, the results should be interpreted with caution.

Key words: Interleukin-10; Polymorphism; Pediatric asthma; Meta-analysis