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Association between G-217A polymorphism in the *AGT* gene and essential hypertension: a meta-analysis

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ABSTRACT. Numerous studies have evaluated the association between the angiotensinogen (*AGT*) G-217A gene polymorphism and essential hypertension risk. However, the results have been inconsistent. We examined whether the *AGT* G-217A gene polymorphism confers essential hypertension risk by conducting a meta-analysis. We conducted a literature search of the Google Scholar, PubMed, and China National Knowledge Infrastructure databases for relevant studies that examined the G-217A polymorphism and risk of essential hypertension. Statistical analyses were carried out using Stata 12.0 to combine all relevant studies. Crude odds ratios (ORs) with 95% confidence intervals (95%CIs) were calculated to estimate the strength of this association. A total of 2017 patients with psoriasis and 1708 controls from 7 comparative studies were included in this meta-analysis. We found a significant association between the *AGT* G-217A gene polymorphism and the risk of essential hypertension (AA *vs* GG: OR = 2.52, 95%CI = 1.68-3.78; AA *vs* GA: OR = 2.26, 95%CI = 1.48-3.45; dominant model: OR = 0.38, 95%CI

= 0.26-0.57; recessive model: OR = 1.20, 95%CI = 1.03-1.39). Further stratified analyses were conducted by ethnicity and sample size and produced similar results. No evidence of publication bias was found. This meta-analysis confirms that the *AGT* G-217A gene polymorphism is associated with essential hypertension susceptibility.

Key words: AGT; Essential hypertension; Meta-analysis; Polymorphism

