Association of the p53 Arg72Pro polymorphism with esophageal cancer in Chinese populations: a meta-analysis

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ABSTRACT. Although many epidemiologic studies have investigated the p53 codon 72 polymorphism and its association with esophageal cancer (EC) in China, definite conclusions could not be drawn. To clarify the effects of p53 codon 72 polymorphism on the risk of EC, we performed a meta-analysis on the Chinese population. A total of 13 studies including 3308 patients and 5115 controls were involved in this meta-analysis. Our results suggested that the Pro/Pro genotype was associated with an increased risk of EC in the Chinese population (Pro vs Arg: odds ratio (OR) = 1.17, 95% confidence interval (CI) = 1.01-1.34; Pro/Pro vs Arg/Arg+Arg/Pro: OR = 1.32, 95%CI = 1.06-1.66; Pro/Pro vs Arg/Arg: OR = 1.35, 95%CI = 1.03-1.78; Pro/Pro vs Arg/Pro: OR = 1.34, 95%CI = 1.01-1.78).
OR = 1.32, 95%CI = 1.06-1.65). In subgroup analyses by geographical location and ethnicity, significant association was also found in south China in both the Han Chinese population and in the population group with no stated ethnicity. Sensitivity analysis confirmed the reliability and stability of the meta-analysis. No publication bias was found among studies using the Egger test. In conclusion, this meta-analysis provides supporting evidence that the Pro/Pro genotype might contribute to the development of EC in the Chinese population, especially in Southern China.

**Key words:** Meta-analysis; P53 codon 72; Polymorphism; Esophageal cancer