Association of *CYP1A1 Msp*I polymorphism with oral cancer risk in Asian populations: a meta-analysis

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ABSTRACT. Numerous studies regarding the association between the *CYP1A1 Msp*I polymorphism and oral cancer risk in Asian populations have shown controversial results. To get a more precise estimation of this relationship, we conducted a comprehensive meta-analysis. PubMed, the Cochrane Library, Elsevier Science Direct, Web of Knowledge, the Chinese National Knowledge Infrastructure, VIP, and Wan Fang Med Online were searched. Pooled odds ratios (ORs) with 95% confidence intervals (95%CIs) were calculated using fixed-effects or random-effects models. Heterogeneity among studies was assessed using the Cochran Q test and I^2 statistics. Twelve articles including 1925 oral cancer patients and 2335 controls were ultimately included in the meta-analysis. Overall, the meta-analysis showed that the *CYP1A1 Msp*I polymorphism was associated with oral cancer risk in Asians (m1/m1 *vs* m2/m2: OR = 0.46, 95%CI = 0.30-070, P_{OR} = 0.000; m1/m1 *vs* m1/m2+m2/m2: OR = 0.70, 95%CI = 0.51-0.98, P_{OR} = 0.037; m1/m1+m1/m2 *vs* m2/m2: OR = 0.48, 95%CI = 0.35-0.65, P_{OR} = 0.000). Subgroup

analyses showed that the control source (hospital-based or population-based), the genotyping method [polymerase chain reaction (PCR) or PCR-restriction fragment length polymorphism], the country in which the study was conducted, and Hardy-Weinberg equilibrium (Yes or No) were positively related to the association. Sensitivity analysis suggested that the overall results showed no significant change in three genetic models when any one study was removed, and publication bias was undetected by the Egger test. The *CYP1A1 Msp*I polymorphism may be associated with oral cancer risk in Asian populations.