Meta-analysis of correlation between the \textit{CYP1A2} -3860 G > A polymorphism and lung cancer risk

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ABSTRACT. The aim of this meta-analysis was to assess the association between a polymorphism (-3860 G > A) in the cytochrome P450 1A2 (\textit{CYP1A2}) gene and lung cancer susceptibility. Relevant studies were retrieved from the PubMed and EMBase databases, and additionally evaluated for conformance with the inclusion criteria. The odds ratios (ORs) and their 95% confidence intervals (95%CIs) in all selected studies were used to assess the relationship between the \textit{CYP1A2} -3860 G > A polymorphism and lung cancer risk. The data was pooled using Stata v.11. Six studies, comprising 1168 lung cancer patients and 1598 controls, were included in this meta-analysis. We found no correlation between the \textit{CYP1A2} -3860 G > A polymorphism and lung cancer risk in any of the models (AA vs GG: OR = 4.79, 95%CI = 0.03-702.67; GA vs GG: OR = 1.33, 95%CI = 0.74-2.39; dominant model: OR = 1.41, 95%CI = 0.69-2.90; recessive model: OR = 4.07, 95%CI = 0.04-368.35). Moreover, we observed no statistically significant association between \textit{CYP1A2} -3860 G > A and lung cancer susceptibility when stratified by the ethnicity of the sample populations, sample size, and study quality, except in a low-quality study. Our findings indicated that
the -3860 G > A polymorphism in CYP1A2 might not be a risk factor for lung cancer.

**Key words:** Lung cancer; Meta-analysis; Cytochrome P450; Polymorphism; Risk