

论著

## DNA修复基因XRCC1密码子194多态性与肺癌易感性研究

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摘要

目的 研究DNA修复基因XRCC1密码子194多态性与肺癌易感性的关系,并探索其与吸烟可能的交互作用。方法 采用病例-对照研究,收集原发性肺癌患者396例为病例组,同时抽取465名当地健康居民作为对照组,进行流行病学调查。运用PCR-RFLP方法分析XRCC1基因Arg194Trp位点的多态性。应用Logistic回归模型分析该位点多态性与肺癌易感性的关系。结果 等位基因Arg和Trp在病例组的频率分别为69.82%和30.18%,在对照组中则分别为74.30%和25.70%,两组间有显著差异(P=0.0386)。携带纯合突变基因型Trp/Trp者患肺癌的风险显著高于携带野生型Arg/Arg者,其OR值为1.72(95%CI:1.05-2.80)。携带纯合型Trp/Trp的吸烟者患肺癌的风险约为携带野生型Arg/Arg的非吸烟者的7倍(OR=7.18,95%CI:3.09-16.66);是携带野生型的吸烟者的2倍(OR=2.02,95%CI:0.92-4.43)。结论 DNA修复基因XRCC1密码子194的多态性可能与肺癌的易感性有关,且在吸烟者中,Trp/Trp基因型可使肺癌发病风险显著提高,提示XRCC1可能通过遗传因素及遗传因素与环境致癌因素的交互作用影响肺癌的危险性。

关键词 [XRCC1 194密码子; 基因多态性, 肺癌](#)

分类号

## The study on polymorphisms of DNA repair gene XRCC1 codon194 and susceptibility to lung cancer

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Abstract

Objective To explore the relationship between the polymorphisms of DNA repair gene XRCC1 codon194 and the susceptibility to lung cancer. The possible interaction between XRCC1 and tobacco smoking with the risk of lung cancer was also evaluated. Methods A case-control study including 396 newly diagnosed lung cancer cases and 465 healthy resident controls was conducted. We employed the PCR-based restriction fragment length polymorphism (RFLP) techniques to analyze the XRCC1 polymorphisms at Arg194Trp loci. Logistic regression was used in the analysis of the relationship of this polymorphism to lung cancer susceptibility. Results The frequency of allele Arg and Trp was 69.82% and 30.18% in case group, and 74.30% and 25.70% in the control group, respectively; a statistical significant difference was observed (P=0.0386). The carriers of Trp/Trp had higher risk of lung cancer than Arg/Arg carriers, adjusted OR: 1.72 (95% CI: 1.05-2.80). Smokers carrying Trp/Trp genotype have higher risk than nonsmokers with Arg/Arg genotype (OR=7.18, 95%CI: 3.09-16.66). Among smokers, the Trp/Trp carriers also possessed higher risk relative to Arg/Arg carriers (OR=2.02, 95% CI: 0.92-4.43). Conclusions The results suggest that genetic polymorphism of DNA repair gene XRCC1 codon194 might play an important role in lung cancer susceptibility. Furthermore, XRCC1 may interact with tobacco smoking and increase the risk of lung cancer.

Key words [XRCC1 codon194](#) [gene polymorphism](#) [lung cancer](#)

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