

Androgen receptor gene polymorphism may affect the risk of urothelial carcinoma

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摘要

Abstract

The study sought to explore if androgen receptor gene (AR) polymorphisms are associated with the risk of urothelial carcinoma (UC) which is male-predominant. AR CAG and GGN repeat lengths were analyzed in 277 UC cases and 280 age and sex-matched controls by direct sequencing of leukocyte DNA. Smoking habits were obtained using a structured questionnaire interview. Relative risks were compared between groups categorized by all possible cutoffs of AR CAG and GGN repeat lengths. Men and women who had 23 and 44 (cumulative) CAG repeats had a significantly greater risk of UC, respectively (OR 2.09, 95% CI: 1.05-4.17, $p = 0.036$ and OR 4.95, 95% CI: 1.56-15.73, $p = 0.007$). Amongst males who were medium-dose cigarette smokers, those who had 23 CAG and shorter GGN (<22) repeats, had an elevated risk than those with longer CAG and GGN (OR 4.32 and 4.57, $p = 0.034$ and 0.042, respectively). However, neither CAG nor GGN affected the UC risk in non-smokers or heavy smokers (> or =25 packs per day-years). AR CAG polymorphism may affect the risk of UC in both genders. In addition, AR polymorphisms may influence carcinogenic effect of medium-dose of cigarette smoking in men.