Investigation of genetic polymorphisms and smoking in a bladder cancer case-control study in Argentina

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RESUMEN

We investigated the role of glutathione S-transferase (GST) enzymes (M1, T1), methylenetetrahydrofolate (MTHFR) 677 and 1298, and the NAD(P)H:quinone oxidoreductase (NQO1) polymorphisms in a population-based bladder cancer case-control study in Argentina. Buccal cell DNA was obtained from 106 cases and 109 controls. The strongest evidence was for an interaction between NQO1 genotype and smoking. For ever smoking vs. never smoking the odds ratio was 8.6 (95% confidence interval (CI) 2.7-27), in the CC genotype, and 1.3 (95% CI 0.5-3.5) in the CT and TT genotypes combined. Also, elevated bladder cancer risks associated with GSTM1 and GSTT1 null genotypes were found in smokers. Having both null polymorphisms conferred the highest risks. The MTHFR 677 CT and TT polymorphisms appeared protective against bladder cancer.

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