초록번호 23-3

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	영 문	A Molecular Epidemiologic Study of Bladder Cancer In Korean Men
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1. Background/Objectives

Null genotypes of glutathione S-transferase M1 (GSTM1) and glutathione S-transferase T1 (GSTT1), N-acetyl transferases (NAT) 1 and 2 (NAT2) gene deficiency have been associated with increased risk of several cancers. Although a few studies suggested the relationship between GSTM1 null genotype and bladder cancer, limited numbers of studies have been conducted to assess the relationship between GSTM1 and GSTT1 null genotype, NAT1 and NAT2 deficiency and increased risk of bladder cancer. This study evaluates the association between genetic polymorphism of GSTM1, GSTT1, NAT1, and NAT2 and bladder cancer in Korean men.

2. Methods

A hospital based case-control study was conducted. One hundred and eighty five histologically confirmed bladder cancer cases and 154 controls with no present or previous history of cancer were recruited from three teaching hospitals in Seoul during 1997 - 1998. Information on demographic characteristics, occupational history, life style habits including smoking and alcohol consumption was collected by interviewed questionnaire. GSTM1 and GSTT1 genetic polymorphism were determined for 174 bladder cancer cases and 147 controls by multiplex PCR. Twenty samples were genotyped twice to evaluate the assay reliability.

NAT1 genetic polymorphism were determined for 174 bladder cancer cases and 147 controls by nested PCR followed by restriction fragment ength polymorphisms (RFLP) after MboII enzyme digestion. Adjusted odds ratios and 95% confidence intervals were estimated by unconditional logistic regression model.

3. Results

Either smoking or occupation is not related to increased risk of bladder cancer in this study. The frequency distribution of GSTM1 null genotype (65 in cases, 53% in control) in Korean men was similar with previous reports from Western countries. However, the frequency distribution of and GSTT1 null genotype (58% in cases, 50% in control) in Korean men is different from the previous reports from Western countries. In univariate analysis, GSTM1 null genotype has a significant association with bladder cancer (odds ratio [OR]: 1.64, 95% confidence interval [CI]: 1.05-2.57). However, there was no significant association between GSTT1 null genotype and bladder cancer (OR: 1.33, 95% CI: 0.85-2.07). There was no significant association between NAT1 genotype and an elevated risk for bladder cancer (OR: 0.90, 95% CI: 0.55-1.50). However, both GSTM1 and GSTT1 null type synergistically increases the risk of bladder cancer when compared to both present types (OR: 2.39, 95% CI: 1.18-4.84).

4. Conclusions

These results confirm that men with GSTM1 null genotype is associated with increased bladder cancer. Our findings suggest that both GSTM1 and GSTT1 null genotype synergistically increases the risk of bladder cancer in men.