• 系統編號	RN9305-2513
• 計畫中文名稱	膀胱移形細胞癌之個案、健康對照及一等親之慢性砷中毒相關酵素基因多型性之比較(子計畫五)
• 計畫英文名稱	Comparison on Genetic Polymorphism of Arseniasis Related Enzymes among Bladder Transitional Cell Carcinoma Patients, Healthy Controls and First Degree Relatives
• 主管機關	行政院國家科學委員會
• 計畫編號	NSC91-3112-B038-001
• 執行機構	台北醫學院公共衛生系
• 本期期間	9105 ~ 9204
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• 研究人員	薛玉梅; 黃金鼎 Hsueh, Yu-Mei; Huang, Jin-Ding
• 中文關鍵字	砷中毒; 甲基化能力; 泌尿上皮癌; 一等親親屬; 基因多型性; 膀胱移形上皮細胞癌
• 英文關鍵字	Arsenic intoxication; Methylation capability; Urothelial carcinoma (UC); First degree relative; Gene polymorphism; Bladder transitional cell carcinoma
• 中文摘要	查無中文摘要
• 英文摘要	Our study is to explore arsenic methylation capability and genetic polymorphism of arsenic methylation related enzyme cystathionine synthase (CBS), 5,10 methylene-tetrahydrofolate reductase (MTHFR) and methionine synthase (MS) of baldder/kidney urothelial carcinoma (UC) patients. A total of 1563 residents, aged 30 or older, were recruited from three arseniasis- hyperendemic villages from January to February 1993. By year 2000, cross-examination of household registration and cancer registry profile revealed 32 diagnosed UC cases and 873 controls (endemic area community based). Another, 37 UC cases from Chi-Mei Hospital and 80 community based controls (arseniasis area) as well as 113 UC cases and 28 hospital based controls from National Taiwan University Hospital (non-arseniasis area) were recruited from September, 2002 to April, 2003. Urine samples were measured for arsenic species level by HPLC and HGAAS. DNA was extracted from buffy coat to analyze MTHFR, MS and CBS genetic polymorphism utilizing PCR and RFLP. We found urinary arsenic species of 32 UC cases in arseniasis area (82.7 ？？6.6 mg/L) was significantly different from 106 UC cases in non-arseniasis area (22.1 ？？2.74 mg/L). In multivariate models, the higher cumulative arsenic exposure was the higher UC risk. UC patients had higher MMA percentage and lower DMA percentage than healthy controls after age and gender adjustment. Hetero and variant genotype of methylation related enzyme MTHFR and MS had lower UC risk (OR=0.55 and 0.46, respectively) in arseniasis area, but it had inconsistency in non-arseniasis area. It needs further study.