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• 英文關鍵字	--
• 中文摘要	探討泌尿上皮細胞癌與砷甲基化能力與香菸代謝相關酵素 CYP1A1、mEH、SULT1A1、HSP-70-hom、eNOS、MPO 基因多形性之相關性。自民國九十一年五月到九十六年五月間，至臺大醫院與台南縣奇美醫院泌尿科門診就診或複診之泌尿上皮細胞癌患者共 323 人(臺大醫院 201 人，奇美醫院 122 人)爲病例組。由醫師轉介，訪員進行患者面訪，同時採取血液及尿液加以冷凍儲存。所有研究對象皆有簽署同意書。自臺大醫院與奇美醫院泌尿科門診就診無癌症之年齡與性別配對的對象經由醫師轉介，此外並從台北醫學大學附設醫院與萬芳醫院健康住院檢查者之年齡與性別配對之健康對照爲對照組，由訪員面訪並收集其血液尿液。所有研究對象皆有簽署同意書。九十一年五月到九十六年五月間共收案 465 人。每位研究對象由受過標準化訪視訓練的訪員利用結構式問卷進行訪視。問卷內容包括社會人口學資料、職業史、居住史、抽菸與喝酒等生活習慣、個人及家族疾病史等。CYP1A1、mEH、SULT1A1、HSP-70-hom、eNOS 基因多形性利用 PCR-RFLP 進行分析。泌尿道上皮癌危險對比值與教育程度呈負相關，父母親氏族爲外省人者危險性比閩南人顯著偏低。抽菸者泌尿道上皮癌危險對比值顯著比非抽菸者偏高，農藥暴露者泌尿道上皮癌危險對比值顯著比非暴露者偏高，偶而喝酒者有較低的危險性。隨著抽菸年樹、包數與年包數的增加泌尿道上皮癌危險對比值顯著增加。在調整年齡後，男性、戒菸、接觸農藥、服用止痛劑者罹患泌尿道上皮細胞癌的危險性顯著增加。偶爾有飲酒習慣、偶爾喝茶、有習慣及偶爾喝咖啡者罹患泌尿道上皮細胞癌的危險性顯著下降。若以兩股皆爲野生型爲基準值，HSP70-hom 基因型單股變異和單股以上變異 TC+CC 者罹患泌尿道上皮細胞癌危險性顯著偏低。在調整干擾因子後，若以 eNOS 基因型爲野生型且 HSP70-hom 基因型爲單股以上變異且未曾抽菸且未曾接觸農藥及未曾服用止痛劑者定義爲危險性較低者，則越多變項爲危險性較高者其罹患泌尿道上皮細胞癌的危險性顯著增加。累積抽菸量小於中位數時，SULT1A1、CYP1A1、mEH 任一基因型泌尿道上皮細胞癌危險對比值與不抽菸者無顯著差異，但若累積抽菸量達中位數以上，無論何種基因型其危險對比值均比不抽菸者顯著

	增加。此研究結果顯示抽菸是泌尿道上皮細胞癌的重要危險因子。以 SULT1A1、CYP1A1、mEH 基因型與抽菸四項變項，在調整年齡、性別、父母親氏族、喝酒、喝咖啡、農藥、止痛劑及教育程度後，比較其聯合效應之危險對比值，隨著暴露的因子愈多，泌尿道上皮細胞癌的危險性就顯著愈高。
• 英文摘要	This study is to examine the potential role and interaction among the genetic polymorphisms of p53, p21 and CCND1, arsenic methylation capability, cigarette smoking, oxidative damage 8-OHdG levels and urothelial carcinoma (UC). There were 172 pathologically proven UC patients were recruited from the Department of Urology, National Taiwan University Hospital between September 2002 and December 2005. Age-gender frequency matched 405 study subjects without UC were recruited from senior citizen health examination at Taipei Medical University Hospital and adult health examination at Taipei Municipal WanFang Hospital. Well-trained interviewers did the standardized personal interviews for study subjects who gave their consent based on structural questionnaire and collected their blood and urine samples. Obtained information including the demographic characteristics, cigarette smoking and alcohol drinking habits, occupational exposure history, and personal and family disease history. Urine samples were examined by high-performance liquid chromatography to separate arsenite, arsenate, monomethylarsonic acid (MMA), and dimethyarsinic acid (DMA) and then quantified by hydride generator combined with atomic absorption spectrometry. The urinary concentration of 8-OHdG was assayed by enzyme-linked immunosorbent assays. DNA was extracted from buffy coat to analyze the genetic polymorphism of p53, p21 and CCND1 utilizing the polymerase chain reaction and restriction fragment length polymorphism assay. We found that UC cases had a significantly higher MMA, total arsenic level and MMA percentage and lower DMA percentage and secondary methylation capability index than controls. The UC risk of p21 codon 31 Arg/Arg genotype was 1.59 (95% confidence interval, 1.00 - 2.53) compared to Ser/Ser and Ser/Arg genotype after adjusting other potential confounders. There were no associations among p53 codon 72, CCND1 polymorphisms and UC. The mean concentration of urinary 8-OHdG for cases was significantly greater than controls. Urinary 8-OHdG were significantly increased with urinary MMA and total arsenic level. Study subjects who had more kinds of risk factors i.e. cigarette smoking, worse arsenic methylation capability, p21 codon 31 Arg/Arg genotype and high urinary 8-OHdG levels are at a significantly higher risk of UC.