

烏腳病病患及盛行地區健康對照下泌尿道癌之長期世代追蹤研究

A cohort study on lower urinary tract cancers in the endemic area of blackfoot disease

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摘要

本研究為長期世代追蹤研究，於民國七十四年自北門、學甲、布袋、義什四鄉鎮選取烏腳病病例 257 名及健康對照 753 名為研究對象，以探討無機砷及其他危險因子和下泌尿道癌症的關係；並且分析烏腳病和皮膚砷病變（包括色素沉著症、角化症、皮膚癌）患者罹患下泌尿道癌症的危險性是否高於健康對照。經七年的追蹤調查，結果發現烏腳病及健康對照之膀胱癌死亡率顯著高於台灣地區一般人口，其年齡性別標準化死亡比為台灣地區的 49 倍和 14 倍。居住於烏腳病高盛行里年數愈長，飲用深井水年數愈長以及累積砷暴露量愈高者，罹患下泌尿道癌的危險性愈高。烏腳病病患、皮膚砷病變患者罹患下泌尿道癌症的危險性，顯著的高於其健康對照，其年齡性別調整後相對危險性分別為 5.40、2.61。吸菸、飲酒、喝茶、蔬菜攝食頻率和職業與罹患下泌尿道癌無顯著相關。

Abstract

This prospective study was followed-up BFD-control cohort including 257 blackfoot disease cases and 753 age-sex-residence matched healthy controls. This study was carried out to examine the relationship between long-term exposure to ingested inorganic arsenic and lower urinary tract cancers. This cohort had a significantly higher age-sex-standardized mortality ratio (SMR) from bladder cancer than the general population in Taiwan. Compared with the general population in Taiwan as the standard population (SMR=100), the SMR from bladder cancer was 4897 for the BFD cases. Cox's proportional hazards regression analyses of multiple risk factors associated with bladder cancer showed a statistically significant association between arsenic exposure and risk of lower urinary tract cancers. A significant dose-response relationship was observed between lower urinary tract cancers and arsenic exposure indices including duration of residing in the BFD-endemic area, duration of consuming artesian well water, and cumulative arsenic exposure dose in ppm-years. BFD patients had a significantly increased risk of lower urinary tract cancers than non-BFD controls with age-sex-adjusted relative risk of 5.40. Patients affected with arsenic related skin lesions including hyperpigmentation, hyperkeratosis and skin cancers also had an increased lower urinary tract cancers risk showing an age-sex-adjusted relative risk of 2.61 compared with unaffected controls. None of cigarette smoking, alcohol drinking, tea drinking, vegetable

consumption frequency and occupation was significantly associated with the risk of lower urinary tract cancers.