

**Multiple risk-factors associated with arsenic-induced
skin-cancer: Effects of chronic liver-disease and
malnutritional status**

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摘要

Abstract

In order to evaluate the prevalence and multiple risk factors of arsenic-induced skin cancer among residents in Taiwanese villages in which chronic arseniasis is hyperendemic, a total of 1571 subjects aged 30 or more years were recruited between September 1988 and March 1989. All of them were interviewed personally by a public health nurse using a structured questionnaire, and 1081 interviewed study subjects, including 468 men and 613 women, participated in physical examination, giving a participation rate of 68.8%. The overall prevalence of skin cancer was as high as 6.1%, showing an increase with age in both men and women. There was a significant dose-response relation between skin cancer prevalence and chronic arsenic exposure as indexed by duration of residence in the endemic area, duration of consumption of high-arsenic artesian well water, average arsenic exposure in parts per million (p.p.m.) and cumulative arsenic exposure in p.p.m.-years. Chronic carriers of hepatitis B surface antigen with liver dysfunction had an increased prevalence of skin cancer. Undernourishment, indexed by a high consumption of dried sweet potato as a staple food, was also significantly associated with an increased prevalence of arsenic-induced skin cancer. All these risk factors remained statistically significant in the multiple logistic regression analysis. Consistent with animal experiments, the findings imply that liver function and nutritional status may affect the metabolism of inorganic arsenic and the development of subsequent skin cancers.