

# **Arsenic methylation and skin cancer risk in southwestern**

**Taiwan**

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摘要

## **Abstract**

Arsenic is a known carcinogen, but data are especially lacking on the health effects of low-level exposure, and on the health significance of methylation ability. We conducted a case-control study (76 cases and 224 controls from 1996 to 1999) in southwestern Taiwan to explore the association among primary and secondary arsenic methylation index (PMI and SMI, respectively), cumulative arsenic exposure (CAE), and the risk of skin cancer. As compared with the controls, the skin cancer group reported more sun exposure ( $P = 0.02$ ) and had a lower BMI ( $P = 0.03$ ), as well as lower education level ( $P = 0.01$ ). Skin cancer patients and controls were similar with regard to age, gender, smoking and alcohol consumption. Given a low SMI ( $\leq 5$ ), CAE  $> 15$  mg/L-year was associated with an increased risk of skin cancer (OR, 7.48; 95% CI, 1.65-33.99) compared to a CAE  $\leq 2$  mg/L-year. Given the same level of PMI, SMI, and CAE, men had a higher risk of skin cancer (OR, 4.04; 95% CI, 1.46-11.22) when compared to women. Subjects with low SMI and high CAE have a substantially increased risk of skin cancer. Males in all strata of arsenic exposure and methylation ability had a higher risk of skin cancer than women.