題名:Ischemic heart disease induced by ingested inorganic arsenic.

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摘要:BACKGROUND AND PURPOSE: Circulatory diseases such as ischemic heart disease and peripheral vascular disease induced by long-term arsenic exposure have been well documented in previous studies, but the dose-response relationship between cerebrovascular disease and ingested inorganic arsenic remains to be elucidated. The prevalence of cerebrovascular disease among residents of the Lanyang Basin on the northeast coast of Taiwan was surveyed to examine its association with exposure to arsenic in well water. METHODS: A total of 8102 men and women from 3901 households were recruited in this study. The status of cerebrovascular disease of study subjects was identified through home-visit personal interviews and ascertained by review of hospital medical records according to the World Health Organization criteria. Information on consumption of well water, sociodemographic characteristics, cigarette smoking, and alcohol consumption habits, as well as personal and family history of diseases, was also obtained. Arsenic concentration in the well water of each household was determined by hydride generation and atomic absorption spectrometry. Logistic regression analysis was used to estimate multivariate-adjusted odds ratios and 95% confidence intervals for various risk factors of cerebrovascular disease. RESULTS: A significant dose-response relationship was observed between arsenic concentration in well water and prevalence of cerebrovascular disease after adjustment for age, sex, hypertension, diabetes mellitus, cigarette smoking, and alcohol consumption. The biological gradient was even more prominent for cerebral infarction, showing

multivariate-adjusted odds ratios of 1.0, 3.4, 4.5, and 6.9, respectively, for those who consumed well water with an arsenic content of 0, 0.1 to 50.0, 50.1 to 299.9, and > 300 micrograms/L. CONCLUSIONS: Long-term exposure to inorganic arsenic from well water was associated with an increased prevalence of cerebrovascular disease, especially cerebral infarction.