

**Determinants of inorganic arsenic methylation
capability among residents of the Lanyang Basin, Taiwan:
arsenic and selenium exposure and alcohol consumption**

薛玉梅

**Hsueh YM;Ko YF;Huang YK;Chen HW;Chiou
HY;Huang YL;Yang MH Chen CJ**

摘要

Abstract

The objective of this study was to assess individual variation in inorganic arsenic methylation capability and the association between selenium levels in urine and blood, and inorganic arsenic methylation capability among residents of the Lanyang Basin who drank groundwater and were exposed to high concentrations of inorganic arsenic. According to the arsenic concentration of their drinking water, they were equally and randomly classified into four groups of 252 persons. It turned out that the higher the concentration of arsenic in well water was and thus the cumulative arsenic exposure, the higher the total inorganic arsenic metabolites in urine (total As(i)) and the overall inorganic and organic arsenic in urine (overall As(i+o)) were. The percentage of inorganic arsenic significantly decreased and the DMA percentage significantly increased as the concentration of urinary selenium and serum alpha-tocopherol increased. It appeared that urinary selenium levels increased the metabolism by methylation of arsenic, a finding that requires further investigation.