

Urinary arsenic speciation in subjects with or without restriction from seafood dietary intake

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Abstract

In order to understand whether ingestion of seafood affects the urinary arsenic metabolites. About 42 women and 36 men were recruited from the students, parents and teachers in Taipei Medical University and National Taiwan University. The study subjects were interviewed about dietary habits, cigarette smoking habits, drug and vitamin intake, and consumption of seafood. Urine samples were collected from study subjects before and after refraining from eating seafood for 3 days, respectively. The urine samples were frozen at -20 degrees C separated by high-performance liquid chromatography (HPLC), and on line linked to hydride generator atomic absorption spectrometry (HGAAS) to quantify the levels of various species of inorganic arsenic and its metabolites. The levels of arsenite (AsIII), arsenate (AsV), monomethylarsonic acid (MMA), dimethylarsinic acid (DMA), total inorganic arsenic metabolites, inorganic arsenic percent, MMA percent and DMA percent were similar before and after refraining from eating seafood for 3 days. The frequencies of fish, shellfish and seaweed dietary intake were not significantly correlated with urinary arsenic species.