Fecal Porphyrins in Patients with Endemic Chronic Arsenic Poisoning Caused by Burning Coal in China

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To evaluate the effect of arsenic on fecal porphyrins, fecal samples from patients with endemic chronic arsenic poisoning were examined. The subjects were 16 patients, who had been exposed to arsenic from burning coal for 8 to 25 years, and 16 healthy individuals living in the same region in Guizhou Province in southwest China as controls. Porphyrin concentrations in feces were determined by high-performance liquid chromatography (HPLC) with a reversed-phase column and a fluorescence detector; arsenic concentrations in feces were determined by microwave-induced plasma mass spectrometry (MIP-MS). The average concentration of total porphyrins in feces of the patients (76.6 \( \mu \)g/g of dry feces) was significantly higher than that of the controls (41.7 \( \mu \)g/g of dry feces) \((p < 0.05)\). The average concentration of arsenic in feces of the patients (2.07 \( \mu \)g/g of dry feces) was significantly higher than that of the controls (0.83 \( \mu \)g/g of dry feces) \((p < 0.05)\). Exposure to arsenic from burning coal influences fecal porphyrins.