Medical Xpress

Urinary tract cancer associated with Chinese herbal products containing aristolochic acid

December 21 2009

The carcinogen aristolochic acid, which was found in many prescribed Chinese herbal products including Guan Mu Tong, is associated with an increased risk of urinary tract cancer, according to a new study published online December 21 in the *Journal of the National Cancer Institute*.

Many countries, such as Taiwan, have banned products containing aristolochic acid (Taiwan did in 2003), because of clinical cases of urothelial cancer in association with aristolochic acid use. However, no such associations, to the authors' knowledge, have been documented in herbal products containing aristolochic acid.

To examine this association, Jung-Der Wang, M.D., ScD, of the Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, at the National Taiwan University, and colleagues conducted a population-based case-control study of Taiwanese patients newly diagnosed with urinary tract cancer from January 1, 2001, to December 31, 2002. They also looked at a random sample of the entire insured population from January 1, 1997, to December 31, 2002. There were 4,594 case patients and 174,701 control subjects in the final analysis. The authors examined the association between having been prescribed Mu Tong, an herb that contains aristolochic acid, and urinary tract cancer using data from the National Health Insurance reimbursement database.

Having been prescribed more than 60 g of Mu Tong (possibly adulterated by Guan Mu Tong before banned), or consumption of an

estimated amount of more than 150 mg of aristolochic acid was associated with an increased risk of urinary tract cancer in a dose-dependent manner. The increased risk was independent of arsenic exposure (another risk factor for urinary tract cancer).

"In addition to a ban on products that contain any amount of aristolochic acid, we also recommend continued surveillance of herbs or Chinese herbal products that might be adulterated with aristolochic acid-containing herbs," the authors write. "Finally, patients with a history of aristolochic acid nephropathy or consumption of Mu Tong or Fangchi before they were banned should be monitored regularly for urinary cancer."

Study limitations: Not all of the diagnoses were confirmed by histopathology reports. Subjects may have taken additional nephrotoxic herbs or agents that were not prescribed. Actual intakes of the prescribed herbal products recorded in the National Health Insurance reimbursement database were not validated. Smoking history was not taken into account.

Provided by Journal of the National Cancer Institute

Citation: Urinary tract cancer associated with Chinese herbal products containing aristolochic acid (2009, December 21) retrieved 17 April 2024 from https://medicalxpress.com/news/2009-12-urinary-tract-cancer-chinese-herbal.html

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