

## Heavy metal poisoning from Ayurvedic medicines

**A**yurveda is a frequently practised form of traditional medicine originating in India. It uses a combination of remedies and lifestyle modification to treat disease and maintain health. Ayurvedic medicines, known as *bhasmas*, commonly incorporate adjuvant heavy metals into primary herbal formulations, usually for their ascribed therapeutic properties and to enhance potency.<sup>1</sup> Heavy metals often found in Ayurvedic remedies include lead, arsenic, and mercury.

Heavy metal toxicity following the use of Ayurvedic remedies is well documented in the literature.<sup>1-4</sup> During the traditional preparation of *bhasmas* the metal is “purified-out” through multiple cooling and heating cycles and by addition of specific “mineral herbs.” In modern formulations, however, the concentration of heavy metals may be excessive because poor quality control allows for contamination, adulteration, or improper purification. Two recent British Columbia cases highlight the possible danger of taking Ayurvedic remedies.

An adult male presented to hospital feeling very ill with vomiting and diarrhea. His blood work showed electrolyte abnormalities and anemia with basophilic stippling of his red blood cells. For some years he had been taking one tablet daily of an Ayurvedic medicine purchased in India to “increase vigor” (Figure 1). His blood lead level was 5.2 ( $\mu\text{mol/L}$ ) (threshold for action: 1.90 ( $\mu\text{mol/L}$ )).<sup>6</sup> Heavy metal analysis showed that each tablet contained approximately 28 mg of lead, 0.70 mg mercury, 0.11 mg arsenic, and negligible amounts of cadmium. He responded well to succimer chelation with no apparent sequelae.

In the second case a young adult diabetic male presented to hospital

with complaints of nausea, vomiting, and abdominal pain of three weeks’ duration. His hemoglobin was 77 g/L (two months previously it was 160 g/L). He had no evidence of neuropathy or encephalopathy and his blood lead level was 3.7  $\mu\text{mol/L}$ . For the previous six weeks the patient had been taking three teaspoonfuls twice daily of a “herb” to manage his diabetes. The compound was an unlabeled coarse grey-colored powder purchased at a temple in India (Figure 2). The patient’s symptoms improved during a 19-day course of succimer chelation. Analysis of the powder showed that each 5 g (approximately 5 mL) contained 179.5 mg lead. The presence of other heavy metals was insignificant.

Consumption of folk remedies or Ayurvedic products purchased from India may cause heavy metal intoxication. These compounds are available as liquids, capsules, tablets, or powders. Medical toxicologists at the BC Drug and Poison Information Centre may be consulted regarding assessment and management. Call 800 567-8911.

—Rob Gair, BSc (Pharm), CSPI  
BC Drug and Poison Information  
Centre

### References

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**Figure 1.** Ayurvedic medicine containing lead, mercury, and arsenic.



**Figure 2.** Herb used to manage diabetes, containing 179.5 mg lead per 5 g.

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