



# AMERICAN JOURNAL OF PHARMTECH RESEARCH

Journal home page: <http://www.ajptr.com/>

## Poisoning Due to Herbal Medications

**Sanjeev Chetri**

*Scientific Research Officer (Toxicology), Taylor Consulting Services, Dr. B. Barooah Road  
Ulubari, Guwahat 781001, Assam*

### ABSTRACT

People believe ‘Herbal’ and ‘Ayurvedic’ medicines are safe for use without medical advice. However, it is evident in the literature that due to toxicity associated with metals that are used in such preparations; these formulations are not safe for human consumptions. Government agencies should put more stringent safeguards to deal with heavy metal toxicity in Herbal and Ayurvedic medicines to protect its population at large.

**Keywords:** Heavy metal poisoning; lead poisoning; arsenic poisoning; mercury poisoning; herbal medicines; Ayurvedic medicines.

\*Corresponding Author Email: [taylorconsultingservices12@gmail.com](mailto:taylorconsultingservices12@gmail.com)

Received 09 May 2017, Accepted 20 May 2017

Please cite this article as: Chetri S *et al.*, Poisoning Due to Herbal Medications. American Journal of PharmTech Research 2017.

## INTRODUCTION

'Herbal' medicines and for that matter 'Ayurvedic' drugs, which are in some cases herbal therapy are perceived by majority of its users as safe for use not only in India but throughout the world. A recent article 'Poison in Ayurvedic drugs' published in a leading newspaper of India highlighted the toxicity of heavy metals in Ayurvedic medicines. However, it is evident in the literature that due to toxicity associated with metals that are used in such preparations that these formulations are not safe for human consumptions worldwide. There are several patient cases that led to poisoning reported in the literature globally for lead, arsenic and mercury due to frequent use of Herbal and Ayurvedic preparations. There are number of studies that have estimated the amount of heavy metals presents in such preparations is beyond the safe limits of human consumption<sup>1-2</sup>.

According to the leading news paper Times of India report, A highly educated and retired high ranking government official who was on the Ayurvedic course for 10 month for the treatment of diabetes found critically ill with severe weigh loss (17 kilos in 10 months), alarming low hemoglobin levels, and neurological weakness. On lot of medical consultations, this patient was diagnosed with lead poisoning presumably caused by Ayurvedic diabetes medication that he has started for better sugar control. Publication of several case reports in recent years and this newspaper report once again brought this issue to the forefront of heavy metal toxicity in Herbal and Ayurvedic preparations among scientific community and people at large.

In one case report, a 51-year-old man developed perianal gangrene and a high fever after a 2-week anal use of hong-dan, a Chinese herbal mixtures used for anal fistula. Patient was presented with gastrointestinal and constitutional symptoms, followed by skin rash, anemia, hair loss, peripheral neuropathy, and muscle atrophy. Elevated urine arsenic and mercury confirmed the heavy metal poisonings with the hong-dan mixture, which reportedly contained lead tetraoxide, arsenic, and mercury. Patient was treated with 2, 3-dimercapto-1-propanesulfonic acid, with partial improvement, but peripheral neuropathy persists 4 years later. A 75-year-old man developed anorexia, weight loss, headache, dizziness, nausea, vomiting, constipation, weakness, and anemia after a 3-month use of an herbal patch for chronic leg ulcer. Patient's blood lead concentration was 226µg/dL, and the lead content of the herbal patch was 517 mg/g<sup>3</sup>.

Similar cases were reported with Arsenic poisoning. Seventy-four patients in Singapore over a 15-month period had a chronic form of poisoning (70%) and 64% of the cases were caused by a local anti-asthmatic herbal preparation containing 12,000 ppm of inorganic arsenic sulphide. The other patients were poisoned by six other brands of herbal preparations used for the treatment of asthma

and a variety of other illnesses. Subsequent investigations revealed another 22 other brands of Chinese herbal preparations containing high concentrations of inorganic arsenic ranging from 25 to 107,000 ppm, of which most were imported in Singapore <sup>4</sup>.

Herbal medicine, sometimes referred to botanical medicine or phytomedicine, refers use of a plant's seeds, berries, roots, leaves, bark, or flowers for medicinal purposes. They are also used as a traditional form of Ayurvedic medicine in India. There is long history of plants being used for medicinal purposes,

In a study on Ayurvedic medicines in India found that 41% of the products tested contained arsenic, and that 64% contained lead and mercury <sup>1</sup>. In another study, conducted in Boston area in the United States 20% of Ayurvedic preparations sold in this area had toxic levels of heavy metals <sup>5</sup>. Approximately 20% of remedies (and 40% of *rasashastra* medicines) purchased over the Internet from US and Indian suppliers contained lead, mercury or arsenic in a study on more than 230 products<sup>5</sup>. These findings should have alerted and motivated us to consider means of protecting consumers from such risks long before. However, recent case reports and article in one of the leading Indian news paper showed that we have failed to address this public health issue continuously.

Medicinal preparations labeled, as 'Herbal' or 'Ayurvedic' does not necessarily mean they are safe for use without healthcare professionals' advice<sup>1,2</sup>. Even though protecting people from heavy metal poisoning due to Herbal and Ayurvedic medicines is certainly not an easy task, but, in the interest of public health, we must tackle this problem with some urgency.

#### REFERENCES:

1. Gogtay NJ, Bhatt HA, Dalvi SS, Kshirsagar NA. The use and safety of non-allopathic Indian medicines. *Drug Safety* 2002; 25:1005-1019.
2. Itankar PR, Sakharkar PR, Chandewar AV, Patil AT. Estimation of arsenic content in some Ayurvedic formulations. *Hamdard Medicus* 2001; 19: 95-7.
3. Wu ML, Deng JF, Lin KP, Tsai WJ. Lead, mercury, and arsenic poisoning due to topical use of traditional Chinese medicines. *Am J Med* 2013; 126(5): 451–454. doi: 10.1016/j.amjmed.2013.01.001.
4. Tay CH, Seah CS. Arsenic poisoning from anti-asthmatic herbal preparations. *Med J Aust* 1975; 13: 2(11): 424–428.

5. Saper RB, Kales SN, Paquin J, Burns MJ, Eisenberg DM, Davis RB, Phillips RS. Heavy metal content of Ayurvedic herbal medicine products. JAMA 2004; 292:2868-2873.

***AJPTR is***

- Peer-reviewed
- bimonthly
- Rapid publication

Submit your manuscript at: [editor@ajptr.com](mailto:editor@ajptr.com)

