



# THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

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2007 Alert #: 4

## **Adult Lead Poisonings Associated With Ingestion of Contaminated Imported Health Remedies**

- There have been three recent NYC cases of adult lead poisoning associated with ingestion of contaminated herbal remedies imported from China and India.
- DOHMH recommends that health care providers ask patients about their use of prescription as well as non-prescription or imported health remedies. Providers should consider using translation services and probing questions to ascertain use of imported herbal medicine products. **If a patient reports using imported health remedies, providers should consider the possibility of product contamination and test the patient's blood lead level.**
- DOHMH requests health care providers to report cases of lead and other poisoning immediately to DOHMH at 212-788-4290 during business hours, or to the NYC Poison Control Center at 1-800-222-1222 during non-business hours and weekends.
- New resources for health care providers regarding "Lead Poisoning" and "Mercury Poisoning" are available at <http://www.nyc.gov/html/doh/html/lead/lead-herbalmed.shtml>. Information about exposures, signs and symptoms, diagnostic tests, and treatment of lead and mercury poisonings are provided. In addition, a list of some of the implicated imported health remedies associated with heavy metal poisonings is included.

**Please Distribute to All Clinical Staff in Emergency Medicine, Family Medicine, Gastroenterology, Internal Medicine, Laboratory Medicine, Neurology, Pediatrics, Primary Care, Psychiatry, and Occupational and Environmental Health Clinics, Allergy, Complementary or Alternative Medicine**

May 24, 2007

Dear Colleagues,

This alert is intended to increase your awareness about imported health remedies that may contain lead, mercury, or other heavy metals. Many patients consult traditional, complementary and alternative medicine practitioners who may prescribe various health remedies. According to the U.S. National Nutritional Health Interview Survey, approximately 38 million adults in the U.S. used herbs and supplements in 2002.<sup>1</sup> As suggested by a study conducted in 2005, the number of people using herbal or mineral medicine products is rising.<sup>2</sup> The increasing popularity is of concern as some imported health remedies have been found to contain high levels of heavy metals deliberately added for perceived therapeutic benefits or contaminated during preparation and/or manufacturing.

## Case Reports

A number of published reports have documented the presence of high levels of lead, mercury, and arsenic in imported health remedies from Mexico, the Middle East, China, India and other South Asian countries.<sup>3,4,5,6,7,8,9,10,11,12</sup> The Centers for Disease Control and Prevention has documented several cases of serious metal poisonings from 1983 through 2003, including one resulting in the death of an infant.<sup>5,6,13,14,15</sup> Three recent NYC cases of adult lead poisonings associated with use of imported health remedies follow:

- **Case 1.** A 25-year-old Indian male construction laborer presented to an emergency department in Brooklyn with severe abdominal pain. Basophilic stippling found on the blood smear prompted a blood lead test revealing a blood lead level (BLL) of 192 µg/dL. The patient reported using "hand-made" health remedies brought from India by a family member for his diabetes. One product, an unlabeled reddish powder, contained ~ 90,000 parts per million (ppm) lead. After discontinuing use of the product and receiving chelation with calcium disodium ethylenediaminetetraacetic acid (CaNa<sub>2</sub>EDTA), his BLL dropped to 33 µg/dL three months later.
- **Case 2.** A 46-year-old Caucasian male presented to an emergency department in Manhattan with abdominal pain. His BLL was 91µg/dL. The patient reported using **Mahayogaraj Guggulu (enriched with silver)**, prescribed by and obtained from a New York State (NYS) licensed acupuncturist for relief of joint pain. The product, manufactured in India by Baidyanath, was found to contain 47,000 ppm lead, 4,800 ppm mercury, and 4,300 ppm arsenic. A similar product manufactured by the same company, **Mahayograj Guggulu with silver and Makardhwaj**, was reported to contain 37,000 ppm lead, 22,800 ppm mercury, and 8,100 ppm arsenic.<sup>3</sup> After discontinuing use of the product and receiving chelation with dimercaptosuccinic acid (DMSA), his symptoms improved and his BLL was 39 µg/dL four months later.
- **Case 3.** A 62-year-old Caucasian male presented to his allergist with insomnia, numbness, dizziness, memory loss, nausea, and weight loss. He requested a blood lead test because of possible occupational lead exposure more than 40 years ago. His BLL of 27 µg/dL was indicative of more recent exposure. The patient reported using Chinese health remedies prescribed by a NYS licensed acupuncturist and purchased from a Manhattan herbal shop. Two of the remedies were found to contain high levels of lead and mercury: **Emperor's Tea Pill** contained 5,400 ppm lead and 950 ppm mercury; **Hepatico Extract** contained 1,100 ppm lead and 3,600 ppm mercury. Both products were made in China by Lanzhou Traditional Herbs. After discontinuing use of these products, his BLL declined to 18 µg/dL three months later.

## What Providers Should Do

DOHMH recommends that health care providers ask patients about their use of prescription as well as non-prescription health remedies including supplements, vitamins, tonics, and other herbal or mineral products. Keep in mind that imported health remedies may be manufactured or home-made, and may be available for purchase in NYC or obtained outside the U.S. If a patient reports using imported health remedies, providers should consider the possibility of product contamination and test for lead and other heavy metals.

To report heavy metal poisonings or products that may contain heavy metals, providers should call DOHMH at 212-788-4290 during business hours, or the NYC Poison Control Center at 1-800-222-1222 during non-business hours and weekends.

## **Resources**

Several new resources for health care providers are now available at <http://www.nyc.gov/html/doh/html/lead/lead-herbalmed.shtml> containing information regarding “Lead Poisoning” and “Mercury Poisoning”. This includes information about exposures, signs and symptoms, diagnostic tests, and treatment of lead and mercury poisonings which are provided in the following fact sheets: “*Lead Poisoning in Adults - Information for Health Care Providers*” and “*Mercury Poisoning - Information for Health Care Providers*”. In addition, fact sheets are available containing information on various Chinese and Indian herbal remedies found in NYC stores to contain high levels of lead or mercury. The link also provides a list of some implicated imported health remedies associated with heavy metal poisonings - “*Imported Herbal Medicine Products Known to Contain Lead, Mercury or Arsenic*”.

As always, we appreciate our ongoing partnership with NYC healthcare providers in reporting and investigating unusual disease manifestations or clusters.

Sincerely,

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<sup>1</sup>Kennedy J. Herb and supplement use in the U.S. adult population. Clin Ther 2005;27(11):1847-58.

<sup>2</sup>Tindle HA, Davis RB, Phillips RS, Eisenberg DM. Trends in use of complementary and alternative medicine by U.S. adults: 1997-2002. Altern Ther Health Med 2005;11(1):42-9.

<sup>3</sup>Saper RB, Kales SN, Paquin J, et. al. Heavy metal content of Ayurvedic herbal medicine products. JAMA 2004;292(23):2868-73.

<sup>4</sup>Baer RD, Ackerman A. Toxic Mexican folk remedies for the treatment of empacho: the case of azarcon, greta, and albayalde. J Ethnopharmacol 1988;24(1):31-9.

<sup>5</sup>Centers for Disease Control and Prevention. Lead poisoning associated with Ayurvedic medications – five states, 2000-2003. MMWR Morb Mortal Wkly Rep 2004;53(26):582-4.

<sup>6</sup>Centers for Disease Control and Prevention. Adult lead poisoning from an Asian remedy for menstrual cramps – Connecticut, 1997. MMWR Morb Mortal Wkly Rep. 1999;48(2):27-9.

<sup>7</sup>McElvaine MD, Harder EM, Johnson L, et. al. Lead poisoning from the use of Indian folk medicines. JAMA 1990;264(17):2212-3.

<sup>8</sup>Kang-Yum E, Oransky SH. Chinese patent medicine as a potential source of mercury poisoning. Vet Hum Toxicol 1992;34(3):235-8.

<sup>9</sup>Espinoza EO, Mann MJ, Bleasdel B. Arsenic and mercury in traditional Chinese herbal balls. N Engl J Med 1995;333(12):803-4.

<sup>10</sup>Ernst E, Thompson Coon JT. Heavy metals in traditional Chinese medicines: a systematic review. Clin Pharmacol Ther 2001;70(6):497-504.

<sup>11</sup>Treleaven J, Meller S, Farmer P, et. al. Arsenic and Ayurveda. Leuk Lymphoma 1993;10(4-5):343-5.

<sup>12</sup>Al Khayat A, Menon NS, Alidina MR. Acute lead encephalopathy in early infancy – clinical presentation and outcome. Ann Trop Paediatr 1997;17(1):39-44.

<sup>13</sup>Centers for Disease Control. Nonfatal arsenic poisoning in three Hmong patients – Minnesota. MMWR Morb Mortal Wkly Rep 1984;33(24):347-9

<sup>14</sup>Centers for Disease Control and Prevention. Lead poisoning-associated death from Asian Indian folk remedies – Florida. MMWR Morb Mortal Wkly Rep. 1984;33(45):638, 643-5.

<sup>15</sup>Centers for Disease Control. Lead poisoning associated with use of traditional ethnic remedies – California, 1991-1992. MMWR Morb Mortal Wkly Rep. 1993;42(27):521-4.