

**Weekly**

December 11, 1998 / 47(48);1041-1043

# Lead Poisoning Associated with Imported Candy and Powdered Food Coloring -- California and Michigan

Although the most common source of pediatric lead poisoning is dust within the home that contains deteriorated lead-based paint from walls and windowsills, other less common sources (1-3) can result in excess exposure among children (i.e., blood lead levels {BLLs} greater than or equal to 10 ug/dL). This report describes two cases of pediatric lead poisoning associated with eating imported candy and food stuffs and underscores the importance of thorough history-taking to identify unusual sources of lead exposure. Case 1

In 1993, a 6-year-old boy in California was identified by routine screening during a well-child examination as having a BLL of 59 ug/dL. During 1993-1997, he underwent chelation therapy seven times to reduce his BLL. His five siblings, ranging in age from 11 to 17 years, also were tested within 9 months of their brother and had BLLs of 35-46 ug/dL; the mother had a BLL of 26 ug/dL. In 1995, two cousins, aged 3 and 7 years, were identified with BLLs of 50 ug/dL and 57 ug/dL, respectively. In addition, a ninth child (a niece of the index case patient) was born in 1996 and had a BLL of 26 ug/dL at age 1 year.

No potential source of exposure was identified for the children and mother. However, on review of serial BLLs, elevations coincided with the return of the maternal aunt from visits to Mexico.

In 1997, repeated questioning of family members revealed that the aunt had transported in her personal baggage tamarindo candy jam products, produced in Mexico and restricted from importation into the United States since 1993, and had given it to the children. Although the family had been cautioned about the ingestion of ethnic remedies, they were unaware of the potential dangers of ingesting candy packaged in ceramic jars from Mexico.

No product was available from the family for analysis. The California Department of Health Services issued a health alert on April 3, 1998, warning consumers to avoid eating these products. In addition, the Food and Drug Administration (FDA) initiated administrative actions to prevent future importation of these products into the United States (4). Case 2

In May 1997, a 3-year-old boy in Michigan had a BLL of 27 ug/dL. His 2-year-old brother had a BLL of 36 ug/dL. Subsequently, their home was cleaned professionally with a trisodium phosphate solution and a high-efficiency particulate air (HEPA) filter vacuum; interior dust samples were found negative for lead. Despite extensive history-taking and several environmental investigations of both the home and the father's workplace, no source of lead was determined.

By January 1998, the two brothers and both parents had BLLs of 50 ug/dL to 60 ug/dL. The brothers' BLLs increased after chelation therapy. In April 1998, samples of household spices were analyzed; no significant lead levels were found in any spice except lozeena, a bright orange powder used by Iraqis to color rice and meat, which contained 7.8%-8.9% lead.

Nine of 18 extended family members subsequently tested had elevated BLLs ranging from 25 ug/dL to 84 ug/dL.

Elevated BLLs were found only among maternal relatives who had eaten food prepared with a single supply of lozeena. The lozeena had been purchased in Iraq and brought into the United States by the maternal grandmother. The contaminated lozeena was removed from the affected households, and the family was encouraged to destroy any frozen foods made with this supply of lozeena.

Customs officials were notified about the possibility of travelers bringing contaminated lozeena into the United States from Iraq. Educational materials were translated into Arabic, and health alerts were sent to local physicians. The Oakland County Health Department screened 212 persons in the community for lead, and no other elevated BLLs were identified.

Reported by: JS Dorfman, MD, Childhood Lead Poisoning Prevention Br, A Quattrone, PhD, Food and Drug Br, California Dept of Health Svcs; RM Jacobs, PhD, San Francisco District Office, Food and Drug Administration. N Batarseh, CW Bird, MD, WT Carlson, MPH, ER Dorshow-Gordon, MPH, MR James, EV Reinke, MSN, R Rowney, MPH, Oakland County Health Div; KD Butler, JD Park, MPH, Michigan Dept of Agriculture; D Johnson, MD, State Epidemiologist, Michigan Dept of Community Health. Lead Poisoning Prevention Br, Div of Environmental Hazards and Health Effects, National Center for Environmental Health, CDC.

## Editorial Note

Editorial Note: Because lead poisoning in children can result from multiple sources, successful case management requires a systematic review of all potential sources of lead exposure. This review includes thorough history-taking and home inspection to prevent further lead exposure or clinical lead poisoning and to avoid increased lead absorption should chelation therapy be required.

When a child's BLLs are persistently elevated and case-management efforts fail to identify a source, screening other members of the index household for blood lead should be considered. Detecting excess lead exposure in more than one family member of the same household can be important to directing the investigation toward a shared source of exposure. Blood from other household contacts, extended family, or visitors that may regularly share this exposure source also should be screened for lead.

Several commercial retail lots of the tamarindo jellied fruit candy were embargoed by California in 1993 because of high lead levels in the product. The tamarindo products still are being sold in California through ethnic markets, swap meets, and itinerant vendors. Persons frequently bring these products into the United States in small quantities while traveling from Mexico. These products can be found under the brand names Margarita-brand Tamarindo Pulpa (with and without chili), Licona-imported Tamarindo, Picarindo-brand jellied tamarindo candy, and Jarrita Chonita-brand jellied tejocote candy with chili. All four fruit-derived products are packaged in stoneware or terra cotta ceramic jars. The lead-based glazing applied to the jars appears to be the major source of lead in these products. Improperly fired lead-glazed pottery is a well-known source of food adulteration (1,3,5). Candied jam in green jars had the highest lead levels. Both tamarindo and tejocote fruits are acidic, which increases lead leaching. However, some jams from plastic-lined jars contain substantial amounts of lead and may have been contaminated with lead from another source. Chili, an ingredient in some of these products, can be contaminated by lead through the practice of air-drying or fuel-assisted drying in Mexico, where leaded gasoline is used as fuel (R. Jacobs, PhD, FDA, San Francisco District Office, personal communication, 1998).

FDA recommends a 6-ug per day tolerable limit for dietary intake of lead for children aged less than 6 years to prevent the more subtle adverse neurologic and behavioral effects of lead exposure (6). A typical serving of 60 g of the tejocote product could expose a child to 6.7-1956.0 ug of lead; the same serving of the tamarindo products would provide 11.4-36.0 ug of lead.

Spices occasionally have been implicated as lead sources in other countries (T. Venkatesh, St. Johns Medical College, Bangalore, India, personal communication, 1998). Lead is sometimes added to certain ethnic foods or food supplements to impart a yellow or orange color or a sweet taste or to increase weight (7).

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This page last reviewed 5/2/01