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Epidemiologic Notes and Reports

Toxic Occupational Neuropathy — Texas

In October 1980, a medical toxicologist in Dallas, Texas, reported to the National Institute for Occupational Safety and Health (NIOSH) that he had examined 4 persons, ages 25-33 years, who had dysfunction of central and peripheral nervous systems. All 4 persons were employed in the manufacture of reinforced plastic bathtubs at Lasco Industries in Lancaster, Texas. Symptoms had been of subacute onset and included mixed motor-sensory peripheral neuropathy, loss of memory, decreased attention span, and loss of color and peripheral vision.

The first patient had onset in October 1979, 1 month after the introduction to the Lasco plant of a new foaming agent, Lucel-7 (2-t-butylazo-2-hydroxy-5-methylhexane). All the other patients had onset by late December. As spray applicators, the 4 affected workers had direct contact with Lucel-7. The interval from the first exposure to this chemical to onset of symptoms ranged from approximately 2 to 4 weeks. Gloves and paper face masks were made available to workers at the plant by Lasco management from the beginning of Lucel-7 use, but wearing them was not required. Protective clothing was not generally available until after January 1980, and air-supplied respirators (which were recommended by the manufacturer) were not provided. Use of Lucel-7 was discontinued at Lasco in April 1980.

A NIOSH physician interviewed and examined the 4 affected workers on October 24. He confirmed the presence of the residual neurologic findings recorded by the medical toxicologist. Nerve conduction studies and electromyography documented the presence of distal, patchy peripheral neuropathy in all 4 workers.

Reported by T Kurt, MD, St. Paul Hospital and University of Texas Health Science Center at Dallas; CR Webb Jr, MD, State Epidemiologist, Texas State Dept of Health; and the Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, CDC.

Editorial Note: While it is not certain that Lucel-7 was responsible for the symptoms encountered in this outbreak, the temporal association of onset of symptoms with the introduction of the foaming agent and the fact that all affected workers had heavy direct contact with Lucel-7 strongly support its causal role.

Lucel-7 is closely related structurally to n-hexane, a potent neurotoxin which causes neurologic damage following its metabolic degradation to 2 known neurotoxic metabolites—2,5-hexanediol and 2,5-hexanedione (*1*).

To prevent the occurrence of any further cases of neurologic dysfunction related to Lucel-7 exposure, NIOSH is currently:

1. Alerting the Lucidol Division, Pennwalt Corporation, the manufacturer of Lucel-7, to the findings at Lasco,
2. Obtaining from Pennwalt a list of former and current purchasers of Lucel-7,

Toxic Occupational Neuropathy — Continued

3. Notifying these purchasers and users, and unions representing people who work with the product, of the potential hazard,
4. Notifying the Occupational Safety and Health Administration (OSHA) of the NIOSH findings, and
5. Preparing to conduct additional occupational health studies, as necessary, at facilities using Lucel-7.

Lucidol has informed NIOSH that it has withdrawn Lucel-7 from the market.

Reference

1. Spencer PS, Bischoff MC, Schaumburg HH. On the specific molecular configuration of neurotoxic aliphatic hydrocarbon compounds causing central-peripheral distal anonopathy. Toxicol Appl Pharmacol 1978;44:17-28.

Current Trends

Influenza — United States, Worldwide

United States: In the period October 10-22, an outbreak of influenza occurred in San Francisco among residents and staff of a nursing home. About 10% of the more than 300 nursing home residents and 20% of the staff became ill, and 5 virus isolates have been typed as influenza A(H3N2) strains. This outbreak began coincidentally with the initiation of a vaccine program in the facility, and after influenza A virus was established as the cause of illness, amantadine treatment was initiated on October 22 for most residents at a dosage of 100 mg twice a day. However, the treatment was discontinued after 5 days because some of this elderly population reportedly experienced undesirable side effects (ataxia, confusion, and tremor). No further influenza activity has been reported in the facility.

Elsewhere in the United States, influenza A(H1N1) virus, similar to A/Brazil/11/78 in hemagglutination-inhibition tests, was isolated from 1 person in Puerto Rico in September. An outbreak had previously been detected there by serologic diagnosis (*1*).

Worldwide: Influenza activity in South America continued to be reported in September with the isolation of an H3N2 strain in Bogota, Colombia. The isolate has been confirmed as resembling A/Bangkok/1/79. Some A/Bangkok/1/79-like strains were also identified among isolates from outbreaks earlier in the year in Argentina, Brazil, Chile, French Guiana, and Panama, although the majority of isolates were highly reactive with both A/Texas/1/77 and A/Bangkok/1/79.

Reported by L Adrew, MD, Mt. Zion Hospital, San Francisco, California; State Epidemiologist and State Laboratory Director, California; Bur of Epidemiology, Immunization Div, Bur of State Services, WHO Collaborating Center for Influenza, Bur of Laboratories, CDC.

Reference

1. MMWR 1980;29:503-4.