



CASE DEFINITION

Thallium

Clinical description

Ingestion of toxic amounts of thallium might cause gastrointestinal signs and symptoms, most commonly abdominal pain. Subacute symptoms (onset of days to weeks) after a substantial, acute exposure or a chronic exposure to limited amounts of thallium might include severely painful ascending neuropathy, ataxia, seizure, alopecia, and neurocognitive deficits (1-3).

Laboratory criteria for diagnosis

- *Biologic*: A case in which elevated spot urine thallium levels are detected (reference level: $<0.5 \mu\text{g/L}$) (20), as determined by a commercial laboratory.
- OR-
- *Environmental*: Detection of thallium in environmental samples, as determined by NIOSH or FDA.

Case classification

- *Suspected*: A case in which a potentially exposed person is being evaluated by health-care workers or public health officials for poisoning by a particular chemical agent, but no specific credible threat exists.
- *Probable*: A clinically compatible case in which a high index of suspicion (credible threat or patient history regarding location and time) exists for thallium exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed*: A clinically compatible case in which laboratory tests of biologic and environmental samples have confirmed exposure.

The case can be confirmed if laboratory testing was not performed because either a predominant amount of clinical and nonspecific laboratory evidence of a particular chemical was present or a 100% certainty of the etiology of the agent is known.

Additional resources

1. Ferguson TJ. Thallium. In: KR Olson, ed. Poisoning & drug overdose. 4th ed. New York, NY: McGraw-Hill; 2004:352-54.
2. Mulkey JP, Oehme FW. A review of thallium toxicity. *Vet Hum Toxicol* 1993;35:445-53.
3. Mercurio M, Hoffman R. Thallium. In: Goldfrank LR, Flomenbaum ME, Lewin NE, Howland MA, Hoffman RS, Nelson LS, eds. *Goldfrank's toxicologic emergencies*. 7th ed. New York, NY: McGraw-Hill, 2002:1272-80.

This document is based on CDC's best current information. It may be updated as new information becomes available. For more information, visit www.bt.cdc.gov/chemical, or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).