CASE DEFINITION

Bromine

Clinical description

The majority of exposures to bromine occur by inhalation and typically lead to symptoms of ocular, nasal, and respiratory irritation. Signs and symptoms of poisoning include eye redness and lacrimation, nose and throat irritation, cough, and dyspnea. Ingestion of liquid bromine can cause abdominal pain and hemorrhagic gastroenteritis with secondary shock. Signs and symptoms might also include brown discoloration of mucous membranes and the tongue (1, 2).

Laboratory criteria for diagnosis

- *Biologic*: No specific test for bromine is available; however, detection of elevated bromide levels in serum (reference level is 50-100 mg/L) might indicate that an exposure has occurred.
- *Environmental*: Detection of bromine in environmental samples, as determined by NIOSH.

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 bromine exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed*: A clinically compatible case in which laboratory tests on environmental samples are confirmatory.

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. Shannon MW. Bromine and iodine compounds. In: Haddad LM, Shannon MW, Winchester JF, eds. Clinical management of poisoning and drug overdose. 3rd ed. Philadelphia, PA: W.B. Saunders; 1998:803-12.
2. Morabia A, Selleger C, Landry JC, Conne P, Urban P, Fabre J. Accidental bromine exposure in an urban population: an acute epidemiological assessment. Int J Epidemiol 1988;17:148-52.

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