CASE DEFINITION

Phosphine

Clinical description

The majority of exposures to phosphine occur by inhalation. Severe poisoning might result in multiorgan involvement (e.g., convulsions, cardiac dysrhythmias, and shock). If one of the following lower respiratory signs and symptoms is reported, the clinical description for phosphine poisoning has been met (1-4): chest tightness or cough, dyspnea, or pulmonary edema, which might have a delayed onset.

Laboratory criteria for diagnosis

- *Biologic*: No biologic marker for phosphine exposure is available. Finding measurable amounts of urinary phosphorus and phosphorus-containing compounds is not a reliable indicator of exposure.
- *Environmental*: Confirmation of phosphine in environmental samples is not available.

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 phosphine exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed*: A clinically compatible case in which laboratory tests (not available for phosphine) 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. Baselt RC, Cravey RH, eds. Phosphine. In: Disposition of toxic drugs and chemicals in man. 4th ed. Foster City, CA: Chemical Toxicology Institute; 1995:628.
2. Harbison RD. Phosphorus. In: Harbison RD, ed. Hamilton and Hardy's industrial toxicology. 5th ed. St Louis, MO: Mosby-Year Book; 1998:194-7.
3. Hathaway GJ, Proctor NH, Hughes JP, eds. Phosphine. In: Proctor and Hughes' chemical hazards of the workplace. 4th ed. New York, NY: John Wiley; 1996:516-7.
4. Carter DE, Sullivan JB Jr. Intermetallic semiconductors: arsine, phosphine, and inorganic hydrides. In: Sullivan JB Jr, Krieger GR, eds. Clinical environmental health and toxic exposures. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2001:958-63.

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