



CASE DEFINITION

Interim document, 9-2-03

Arsine or Stibine Poisoning

Clinical description

Unless immediately fatal (i.e., with a high-dose exposure), exposure to the poisonous gas arsine or stibine typically results in signs and symptoms due to massive hemolysis that occurs anywhere from 1 to 24 hours after exposure. Generalized weakness, dark urine, jaundice, and delirium are common signs and symptoms after arsine exposure. Subacute symptoms (1–3 weeks) are notable for a painful peripheral neuropathy and neuropsychological symptoms (e.g., memory loss, irritability, and confusion).

Laboratory criteria for diagnosis

- Elevated blood or urinary arsenic levels for an arsine exposure (24-hour urine collection preferred), or elevated urinary antimony level for a stibine exposure, OR
- Detection of arsine or stibine in environmental samples

Case classification

- *Probable*: a clinically compatible case with a high index of suspicion (reliable intelligence or patient history) for arsine or stibine exposure
- *Confirmed*: a clinically compatible case with laboratory confirmation or with an epidemiological link to a laboratory-confirmed case

Additional resources

Goldfrank LR, Flomenbaum ME, Lewin NE, et al., editors. Goldfrank's Toxicologic Emergencies. 7th ed. McGraw-Hill; 2002.

Fowler BA, Weissberg JB. Arsine poisoning. NEJM 1974 Nov 28;291(22):1171–4.

Hatlelid KM, Brailsford C, Carter DE. Reactions of arsine with hemoglobin. J Toxicol Environ Health 1996 Feb 9;47(2):145–57.

Pinto SS. Arsine poisoning: evaluation of the acute phase. J Occup Med 1976 Sep;18(9):633–5.

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