



CASE DEFINITION

Trichothecene Mycotoxins

Clinical description

Trichothecene mycotoxins might be weaponized and dispersed through the air or mixed in food or beverages. Initially, route-specific effects are typically prominent. Dermal exposure leads to burning pain, redness, and blisters, and oral exposure leads to vomiting and diarrhea. Ocular exposure might result in blurred vision, and inhalational exposure might cause nasal irritation and cough. Systemic symptoms can develop with all routes of exposure and might include weakness, ataxia, hypotension, coagulopathy, and death (1).

Laboratory criteria for diagnosis

- *Biologic*: Selected commercial laboratories are offering immunoassays to identify trichothecenes or trichothecene-specific antibodies in human blood or urine (2, 3). However, these procedures have not been analytically validated and are not recommended.
- *Environmental*: Detection of trichothecene mycotoxins in environmental samples, as determined by FDA.

As a result of indoor air-quality investigations involving mold and potentially mold-related health effects, mycotoxin analyses of bulk environmental samples are now commercially available through environmental microbiology laboratories in the United States (4). Studies have not been done to determine the background level of trichothecenes in non-moldy homes and office buildings or nonagricultural outdoor environments. Therefore, the simple detection of trichothecenes in environmental samples does not invariably indicate an intentional contamination.

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 trichothecene mycotoxins exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed*: A clinically compatible case in which laboratory tests of 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.

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Additional resources

1. Wannemacher RW Jr, Wiener SL. Trichothecene mycotoxins. In: Zajtchuk R, Bellamy RF, eds. Textbook of military medicine: medical aspects of chemical and biologic warfare. Washington, DC: Office of the Surgeon General at TMM Publications, Borden Institute, Walter Reed Army Medical Center; 1997:655-77.
2. Croft WA, Jastromski BM, Croft AL, Peters HA. Clinical confirmation of trichothecene mycotoxicosis in patient urine. *J Environ Biol* 2002;23:301-20.
3. Vojdani A, Thrasher HD, Madison RA, Gray MR, Heuser G, Campbell AW. Antibodies to molds and satratoxin in individuals exposed in water-damaged buildings. *Arch Environ Health*. 2003;58:421-32.
4. Tuomi T, Reijula K, Johnsson T, et al. Mycotoxins in crude building materials from water-damaged buildings. *Appl Environ Microbiol* 2000;66:1899-904.

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).

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