

T-2 MYCOTOXIN

(Trichothecene Mycotoxin)

Background:

Trichothecene mycotoxin (T-2) may be used to produce morbidity and mortality when dispersed in aerosol form. T-2 also can enter the body through the skin and digestive tract epithelium, without being inhaled, and quickly inhibit protein and nucleic acid synthesis. This toxin may have been used in Laos and Cambodia during the Vietnam War (yellow rain), Afghanistan and during the Iran-Iraq war. Significant T-2 exposure should be considered when multiple patients present with similar clinical syndromes and report exposure to “yellow rain” or if droplets of yellow fluid contaminate clothing or the environment.

Signs/Symptoms:

Acute symptoms:

- 1) Skin: Pruritis, redness, vesicles, necrosis, epidermal sloughing
- 2) CNS: Dysesthesias (distortion of any of the senses), ataxia
- 3) GI: Nausea, vomiting and diarrhea
- 4) Airway: Nose and throat pain, nasal discharge, itching and sneezing
- 5) Pulmonary: Cough, dyspnea, wheezing, chest pain and hemoptysis
- 6) Cardiovascular: Severe poisoning can cause weakness, decreased cardiac output, shock and death
- 7) Heme: Bleeding disorders; may develop neutropenia as longer term sequelae

Laboratory and Diagnostic Testing:

Call the local department of public health and IDPH to inform the state of a possible T-2 exposure(s) and to obtain additional instructions for testing and treatment. Specialized tests utilizing gas-liquid and high pressure liquid chromatography exist for the detection of the toxin.

- 1) Nasal or throat swabs and induced respiratory secretions may be needed for HPLC/GLC/MS and immunoassay.
- 2) Blood for serum may be collected in a tiger-top (SST) or red top tube for toxin assays.
- 3) Urine may be collected with 0.1 ml concentrated hydrochloric acid (HCl) added per 100 ml of urine for recent exposure.
- 4) If several days have elapsed since exposure, a 24-hour urine collection with HCl added may be requested.

Supportive Tests: CBC may show a transient leukocytosis. Leukopenia may occur several days after exposure.

Treatment:

Decontamination:

Outer clothing should be removed and exposed skin should be decontaminated with soap and water. Eye exposure should be treated with copious saline irrigation. There is no specific treatment for T-2 mycotoxin poisoning.

Supportive Care:

There is no antidotal therapy available for this toxin. The cornerstone of treatment is basic supportive care including fluids for management of gastroenteritis and insensible skin losses, as well as airway/pulmonary management for treatment of inhalational exposure.