



VESICANTS

EXAMPLES: Battlefield agents—mustard, lewisite, phosgene oxime. These are chemical warfare agents and are unlikely chemical terrorism agents.

MECHANISM OF ACTION:

- **Dermal**—produce destruction of the epidermal-dermal junction resulting in the characteristic development of huge coalescing blisters.
- **Inhalation**—profound irritant of the respiratory tract and lungs. Mustard possesses mild cholinergic activity which may be responsible for the GI effects and miosis.

CLINICAL EFFECTS: The evolution of clinical symptoms is dependent on the amount and concentration of the vesicant, ambient temperature (warmer temperatures = more rapid onset) and the site exposed (sensitive areas of warm, moist, and thin skin are the most vulnerable).

- **Dermal**
 - Erythema—resembles sunburn, with initial pruritus and stinging/burning pain
 - Small vesicle formation
 - Vesicle coalescence into large blisters
- **Pulmonary**
 - Effects begin in the upper respiratory tract and progress to the lower respiratory tract
 - Irritation
 - Sinus pain
 - Sore throat
 - Dyspnea
 - Severe cough
 - Pulmonary edema is rare
- **Eyes**
 - Miosis
 - Conjunctivitis
 - Photophobia
 - Blepharospasm
- **Bone marrow damage (Mustard)**
 - Neutropenia
 - Sepsis risk

Vesicants like mustard bind irreversibly to tissue within several minutes after contact. Immediate decontamination is the only way to prevent injury. The clinical effects are delayed and their presentation is largely amount dependent—2-48 hours (the higher the amount, the more rapid the onset).

TREATMENT: Termination of exposure, immediate decontamination and supportive care for the victim. Provide personal protection for the caregiver. Tissue damage, without the presence of symptoms develops within minutes and aggressive decontamination is essential. **In general, therapeutic intervention is symptomatic and supportive.**

Granulocyte colony-stimulating factor (G-CSF) or granulocyte-macrophage colony-stimulating factor (GM-CSF) may be effective in treating the leukopenia.

For 24/7 assistance in the emergency management of an actual or suspected chemical terrorism exposure, contact a Certified Regional Poison Information Center at 1-800-222-1222.

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