



Causative Agent

Hospital Precautions

Transmission

Botulism

Information for Healthcare Facilities

Adapted with permission from the Kansas Poison Control.

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Botulinum toxins (Types A-G) produced by the anaerobic bacterium called *Clostridium botulinum*. *C. botulinum* is gram-positive and rod-shaped.

Standard precautions.

The toxin is not dermally active and secondary aerosols do not pose a threat to other patients or healthcare providers. Common sources of foodborne botulism are homemade foods that have been improperly canned, preserved, or fermented.

Decontamination – Inhalational

If the patient presents for care wearing the same clothes as at the time of inhalational exposure and within 24 hours of an exposure, the clothes except for wallet, keys, eyeglasses/ contact lenses, and hearing aids should be removed and stored in sealed plastic bags which should then be re-bagged and labelled. Bagged clothing should NOT accompany the patient to the health care facility. The patient's wallet, keys, eyeglasses, contact lenses, and hearing aids should remain with the patient.

Mechanism

Botulism toxins exhibit their effect by binding to the presynaptic nerve terminal at the neuromuscular junction and at cholinergic autonomic sites. These agents then act to prevent the release of acetylcholine presynaptically and block neurotransmission.

Routes

Inhalation, ingestion, or injection.

Symptoms/ Onset

Symptoms are dose-dependent and include blurred vision, mydriasis, diplopia, ptosis, dysphagia, dysphonia, photophobia, and paralysis (descending). Respiratory difficulties like dyspnea with or without obvious extremity weakness are common and possibly dry mouth and/or sore throat. The patient also may have postural hypotension. Gag reflex may be absent. For foodborne botulism other symptoms might include nausea, vomiting, stomach pain, and constipation.

Onset of symptoms following exposure to the toxin can be rapid. Following inhalation of the infectious agent, the incubation period is usually 24 hours to several days. For ingestion of the infectious agent, symptoms typically appear after 18 to 36 hours. For wound botulism, symptoms usually appear 4 to 14 days post-injury.

Treatment

Treatment consists mainly of symptomatic support. Intubation and ventilatory assistance are required for respiratory failure. HBAT (Heptavalent Botulism Antitoxin) is available from the CDC-State health department for inhalational, wound, or foodborne botulism. HBAT binds to circulating neurotoxins and prevents their binding to the neuromuscular junction, potentially preventing progression to respiratory failure if administered soon enough. However, the antitoxin does not reverse established paralysis and because of that early administration is critical on preventing the progression. Request antitoxin and begin treatment immediately if clinical status and scenario support diagnosis (prior to lab/assay testing results). CDC clinical botulism service: 770-488-7100. BabyBIG® is recommended for all suspected cases of infant botulism. Consultation with the California Department of Public Health Infant Botulism Treatment and Prevention Program (510-231-7600) is available for suspected cases.

The pentavalent toxoid vaccine is no longer available and there are no replacements.

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