



Err on the side of caution when it comes to botulism

When there is any potential for food contamination, state and federal health officials take it seriously. The consequences can be deadly, so erring on the safe side is always the default action.

One of the most serious and potentially deadly food contaminants is the extremely powerful microbial neurotoxin that causes botulism. This neurotoxin damages nerve function in a way that may even cause death from respiratory failure due to paralysis of lung function.

Question: What is botulism?

Answer: This is the name for the illness caused by the neurotoxin produced by the microorganism *Clostridium botulinum*. This "botulinum toxin" primarily impairs nerves that stimulate muscle function, resulting in a number of possible symptoms. Victims report feeling weak and achy all over their body. Dizziness, tingling, double vision, impaired swallowing, difficulty speaking, and other symptoms may develop. The toxin can even slow down intestinal function, causing constipation. There are three main types of botulism: 1) foodborne, 2) infant and 3) wound botulism.

The botulism microbe is anaerobic, meaning that it thrives without oxygen. Consequently, it can grow in foods that are improperly canned. It does not grow in acidic foods, like most canned fruits, jams and jellies. However, it thrives well in low-acid foods such as canned vegetables, meats, fish, etc. Pickled foods are generally safe due to the acidity of the vinegar used.

Oils that contain added herbs, garlic and chili peppers can support anaerobic microbial growth and require proper heat processing before sale and refrigeration after opening.

Infants are especially susceptible to having the botulinum bacteria thrive in their immature intestine, poisoning them from within. This is why infants should never be fed honey or corn syrup. These concentrated sugar foods can harbor the dormant spore form of the bacteria. Fortunately, these sweets are safe for older children and adults.

If a wound is infected by botulinum bacteria, the neurotoxin can enter the body and cause botulism. Treatment can require surgery to remove infected tissue.

Q: How common is botulism?

A: Typically, just over 100 cases a year are reported in the U.S. About 25 percent of these cases are due to food-borne sources, just over 70 percent of the reports for infant botulism and only about 3 percent are for wound botulism.

Q: How is botulism diagnosed?

A: Diagnosis is complicated because the symptoms are similar to a variety of other ailments. A process of elimination of other possible problems is the first step. Complex lab tests are used to confirm the diagnosis.

Q: How is botulism treated?

A: If diagnosis is rapid, an anti-toxin can be injected that blocks the effects of neurotoxin still in the blood. However, for infants a product that contains special immune proteins (globulins) is used. For severe botulism, patients may need breathing assistance and be on a ventilator for several weeks.

Q: How long does it take to recover from botulism?

A: Recovery depends on the dose of the toxin. However, those who survive the toxin may have nervous system problems for as long as a year.

The moral of the story: When in doubt, throw it out.

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