Botulism, Facts

Botulism is a rare, but serious illness. It can paralyze muscles. It is caused by a nerve toxin that is produced by bacteria (*Clostridium botulinum*). This bacteria is often found in soil. The bacteria form spores (*protective bodies*). These spores allow them to live in an inactive (*dormant*) state, until they are exposed to conditions that can support their growth. All forms of botulism can be fatal. They are considered to be medical emergencies. None are considered contagious (*passed from one person to another*).

CAUSES

There are 3 main kinds of botulism:

- **Food-borne botulism:** The bacteria that produce the poison can grow and live in places with little oxygen, such as canned food. The disease is caused by eating foods that contain the botulism toxin.
- **Wound botulism:** This type is caused when the toxin is produced from a wound infected with Clostridium botulinum.
- **Infant botulism:** This is caused by consuming the spores of the botulinum bacteria. The spores then grow in the intestines, and release toxin.

Food-borne botulism can be very dangerous. Many people can be poisoned by eating a contaminated food.

SYMPTOMS

In food-borne botulism, symptoms can begin 18 to 36 hours after eating a contaminated food. Symptoms can also occur as early as 6 hours or as late as 10 days after eating contaminated food. Wound botulism starts about 10 days after infection.

The classic symptoms of botulism include:

- Double vision.
- Difficulty swallowing.
- Nausea.
- Drooping eyelids.
- Dry mouth.
- Vomiting.
- Blurred vision.
- Muscle weakness.
- Abdominal cramps.
- Slurred speech.
- Trouble breathing.

Symptoms of infants with botulism include:

- Being tired or sluggish.
- Weak cry.
- Feeding poorly.
- Poor muscle tone.
- Constipation.
- Drooping eyelids.

These are all symptoms of the muscle paralysis caused by the toxin. Seek medical care if you develop these symptoms. If not treated, these symptoms may cause paralysis of the arms, legs, trunk, and respiratory muscles.

DIAGNOSIS

Caregivers may consider diagnosis if the patient's history and physical exam suggest botulism. However, these clues are often not enough to diagnose botulism. The most direct way to confirm the diagnosis is to find and test botulinum toxin in the patient's blood or stool. Other diseases (Guillain-Barré syndrome, stroke, myasthenia gravis) can appear similar to botulism. Special tests may be needed to rule out these other conditions. The tests may include: blood tests, a brain scan, spinal fluid exam, nerve conduction test and/or electromyography, and special tests for myasthenia gravis disease.

TREATMENT

Hospital care is the main treatment for all forms of botulism. Respiratory failure and paralysis that happen with severe botulism may require:

- A breathing machine (*ventilator*) for weeks, plus intensive medical and nursing care. After several weeks, the paralysis slowly improves.
- Treatment with an antitoxin. If diagnosed early, food-borne and wound botulism can be treated with an antitoxin. A different, specific antitoxin for treatment of infant botulism is also available. Both antitoxins block the action of toxin in the blood. This can prevent patients from getting worse. But recovery still takes

many weeks.

- Removing contaminated food that is still in the gut. Wounds should be treated, to remove the source of the toxin-producing bacteria. This often requires surgery.

PREVENTION

Botulism can be prevented.

- Food-borne botulism has often come from home-canned foods with low acid content (asparagus, green beans, beets, corn). But outbreaks of botulism have also come from more unusual sources (chopped garlic in oil, chili peppers, tomatoes, improperly handled baked potatoes wrapped in aluminum foil, home-canned or fermented fish).
- People who do home canning should follow strict hygiene procedures. This can reduce contamination of foods. Refrigerate oils infused with garlic or herbs. Keep potatoes that have been baked while wrapped in aluminum foil hot until served, or refrigerated.
- The botulism toxin is destroyed by high temperatures. To be safe, people who eat home-canned foods should boil the food for 10 minutes before eating it.
- Honey can contain spores of Clostridium botulinum. This has been a source of infection for children. Infants less than 12 months of age should not be fed honey. Honey is safe for people 1 year of age and older.
- Wound botulism can be prevented by promptly seeking medical care for infected wounds. Do not use street drugs or dirty needles.

Information courtesy of CDC.

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