



QUESTIONS & ANSWERS ON BOTULISM

1. What is botulism?

Botulism is a disease caused by toxins of the bacterium *Clostridium botulinum*. It is a disease that occurs very sporadically, when people ingest improperly prepared home-preserved foods or contaminated meals, such as canned vegetables, smoked or salted fish, and processed meats. The spores of the bacteria are found throughout the world in soil, and marine sediments. Under special conditions, these spores may germinate inside the preserved foodstuff and produce the toxin. Epidemics affecting family groups occur especially in countries where home canning is widespread.

The characteristic symptoms and signs are transient stomach upset without fever, followed by muscular weakness and paralysis. The patients have dry mouth, blurred vision, and trouble swallowing and speaking. The onset of disease generally occurs 12 hours to 36 hours (within a minimum to maximum range of four hours to eight days) after exposure, and may be severe.

2. What is the current situation?

Botulism is a rare disease about which WHO receives sporadic reports. There has been concern about deliberate use of the toxin, but no incidents have been reported.

3. Is there just one type of botulism?

There are several types of botulism and toxins: Foodborne (the most common type), wound (that can occur in penetrating injuries), and intestinal botulism (that can occur in infants). There are several neurotoxins produced by the bacterium, but only types A, B, E, and F cause illness in humans. Purified, these toxins are among the most toxic substances known, but all are heat-sensitive and may be destroyed with adequate heating as described below.

Foodborne botulism is caused by the ingestion of the toxins produced by the bacteria that grow in food. A normal healthy adult may consume a small number of spores with no effect. However, if spores germinate in preserved food, the bacteria produce the toxin, which may then cause disease. The spores are resistant to heat. The toxin is inactivated by the normal treatment of water supplies and by heating at 80°C for ten minutes or boiling for a few minutes.

Wound botulism is very rare. It occurs when penetrating injuries are contaminated with soil where spores may be present. The intestinal form of botulism is also very rare. It affects infants under six months of age that ingest the spores in contaminated food.

Mothers are warned not to feed raw honey to their infants, as it can contain botulism spores.

4. How is it treated or prevented?

There is a specific treatment, based on the administration of an anti-toxin. Treatment is mainly supportive. In cases of severe botulism, the patient usually requires intensive care and mechanical ventilation. Antibiotics are not indicated, except in the case of wound botulism.

The disease due to ingestion of the toxin can be prevented if food is properly preserved at home and prepared under strict rules of hygiene and good manufacturing practice commercially.

In case of suspected deliberate release of the toxin and surface contamination, clothing and objects should not be handled or exposed. Contaminated surfaces should be washed with sodium hypochlorite. Individuals exposed to the toxin should shower with soap and water.

5. Is there a vaccine?

Vaccines are not recommended because they may have some side effects. A toxoid vaccine is available only for personnel who work with the organism or toxin. There are specific antitoxins that are administered by health personnel.

6. Can I catch botulism from someone else?

No. There is no patient to patient transmission. It is important to distinguish between infection and intoxication. In most cases, botulism results from ingestion of the toxin (intoxication). In other cases (e.g. infant botulism, wound botulism), the disease results from the ingestion of spores or infection of an open wound with spores which then germinate and produce the bacterial cells that release the toxin.

7. I feel like I have stomach upset and weakness, could it be botulism?

Only people who have ingested contaminated food, have a wound infected with the bacterium, or have been directly exposed to the toxin may suffer botulism. If you feel ill, weak, have difficulties in swallowing, talking or have double vision, you should get medical advice as you would normally do. If you suspect that food has been contaminated, do not throw it away. Bring it to the hospital in the original container, inside a second good quality container sealed up and labelled.

8. Do I have to go to the hospital to get tests?

Any doctor or medical practitioner will be able to request the necessary tests (isolation and typification of the toxin).

9. I am worried about botulism. Should I take antibiotics, just in case?

No. Antibiotics are not indicated.

10. What should I do if I suspect I may have been exposed to the toxin?

In case of suspected exposure, consult a doctor or medical practitioner.

11. What constitutes a suspected source of exposure?

The highest risk of exposure to toxin is the ingestion of inadequately processed preserved foods. Home-preserved foods have been most often associated with botulism. If botulinum toxin has been developed as a biological warfare agent, exposure through other routes such as water and aerosols could result.

12. Is the botulinum bacterium the same bacterium that is used in Botox injections? Is this dangerous?

The bacteria *Clostridium botulinum* is the same, but what is being used is the purified and diluted A neurotoxin. The neurotoxin is commercially available for clinical and cosmetic use. Treatment is administered in the medical setting, tailored according to the needs of the patient and is usually well tolerated. Occasionally there may be some side effects.

For further information, journalists can contact the Communications Office of the Director-General's Office, WHO, Geneva. Telephone +41 22 791 2222; Fax +41 22 791 4858; Email: inf@who.int. All WHO Press Releases, Fact Sheets and Features as well as other information on this subject can be obtained on Internet on the WHO home page <http://www.who.int/>.