Botulism

The bacteria that causes botulism can be naturally present, but it usually does not lead to illness. Surprisingly, the bacteria alone do not cause botulism, the bacteria produce spores, this provides a special cover for the bacteria. The spores are what can grow and produce the toxin that causes botulism. Conditions that help spores grow and make toxins are: low-oxygen, low acid, low sugar, low salt. Home canning if not done properly can lead to botulism.

Botulism mainly falls into five different kinds; foodborne, wound, infant, adult intestinal toxemia, and iatrogenic. Symptoms associated with botulism are a double or blurred vision, drooping eyelids, slurred speech, difficulty swallowing, a thick-feeling tongue, dry mouth, and muscle weakness. In infants, the symptoms may include poor feeding, diminished suckling or crying ability, poor muscle tone, constipation and respiratory failure. This illness left untreated may lead to paralysis of the respiratory muscle, arms, and legs.

Ingesting food contaminated with botulism toxin could cause foodborne botulism. Home canning, if not done properly is a good recipe for botulism. Symptom from foodborne botulism can begin as quick as 6 hours or as long as 10 days later. Some signs and symptoms from this illness may include abdominal pain, nausea, vomiting, and diarrhea. Honey is a big culprit for infant botulism. Some cases of infant botulism can be from the ingestion of infected dust or soil.

Wound botulism is a form of infection within a wound. This type of infection is more prevalent amongst people who inject an illicit drug, such as black tar heroin. Signs and symptoms of wound botulism may include: redness, swelling and pain to the area, warm or hot to touch, pus or other drainages, this is usually accompanied with fever. These symptoms can be parallel with other infectious wounds. Anyone with these symptoms should seek medical care even if botulism is not suspected.

Iatrogenic botulism can happen if a patient is injected with excessive amounts of botulinum toxin. The injections are given for such cosmetic treatment as wrinkles. These toxins are also used in medical treatment, such as migraine headaches. The toxins are also used in many other avenues of the medical field. Botulism is a serious and potentially dangerous toxin; some doctors are finding ways for the patient to benefit from such toxins.

Botulism is frequently misdiagnosed for other diseases of the central nervous system. Initial diagnosis is usually made by clinical symptoms only to be confirmed later by a lab test.

The diagnosis can be confirmed by lab test confirming the botulism toxin, such test may include testing the stool or foods involved. Other routine tests that are helpful are complete blood count to include electrolytes and a urinalysis. Sometimes it is necessary to look at the cerebrospinal fluid, even CT's and MRI's can be helpful to rule out other neurological disorders such as a CVA.

 Treatment for botulism should be aggressive in nature to help stop the progression of the toxins. A usual treatment may include the administering of a botulism antitoxin. Each patient would be responding differently, however, extreme care should be taken to monitor the individuals. When treating wound botulism, it will be necessary to treat with antibiotics. Careful selection of antibiotic should be taken, sometimes the toxin is resistant to multiple antibiotics. This could pose a significant problem if the would infection is not treated effectively. Recovery from botulism can be slow, sometimes the effects last for years. Over the years treatment for botulism has been more effective than in the past. This could be due to trial and error of the previous cases. Once a case is discovered it must be reported to the CDC.

References:

Blitzer A, Brin MF, Keen MS, Aviv JE. Botulinum Toxin for the Treatment of Hyperfunctional Lines of the Face. *Arch Otolaryngol Head Neck Surg.* 1993;119(9):1018–1022. doi:10.1001/archotol.1993.01880210108015

CARRUTHERS, J. D., and CARRUTHERS, J. A. (1992), Treatment of Glabellar Frown Lines with C. Botulinum‐A Exotoxin. The Journal of Dermatologic Surgery and Oncology, 18: 17-21. doi:[10.1111/j.1524-4725.1992.tb03295.x](https://doi.org/10.1111/j.1524-4725.1992.tb03295.x)

Scott, A B. “Botulinum Toxin Injection of Eye Muscles to Correct Strabismus.” *Transactions of the American Ophthalmological Society* 79 (1981): 734–770. Print.