

Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Botulism

Botulism

1.0 Provincial Reporting

Confirmed, probable and suspect cases of disease

2.0 Type of Surveillance

Case-by-case

3.0 Case Classification

3.1 Confirmed Case

A confirmed case requires definitive laboratory evidence.

3.1.1. Confirmed Case of Foodborne Botulism

Laboratory confirmation of intoxication with clinically compatible signs and symptoms:

- Detection of botulinum toxin in serum, stool, gastric aspirate or food
OR
- Isolation of *Clostridium botulinum* (*C. botulinum*) from stool or gastric aspirate

3.1.2. Confirmed Case of Wound Botulism

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Detection of botulinum toxin in serum
OR
- Isolation of *C. botulinum* from a wound
AND
- Presence of a freshly infected wound in the 2 weeks before clinically compatible signs and symptoms **and** no evidence of consumption of food contaminated with *C. botulinum*

3.1.3. Confirmed Case of Intestinal/Colonization Botulism

- Laboratory confirmation with clinically compatible signs and symptoms in a patient aged ≥ 1 year with severely compromised gastrointestinal tract functioning (i.e., abnormal bowel) due to various diseases such as colitis, or occurring in association with other conditions or procedures (e.g., intestinal bypass procedures) that may create local or widespread disruption in the normal intestinal flora
OR
- Detection of botulinum toxin in stool or serum
OR
- Isolation of *C. botulinum* from the patient's stool, or at autopsy

3.1.4 Confirmed Case of Infant Botulism

Laboratory confirmation with clinically compatible signs and symptoms in a person less than one year of age:

- Detection of botulinum toxin in stool or serum
OR
- Isolation of *C. botulinum* from the patient's stool, or at autopsy

3.2 Probable Case

- Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case of foodborne botulism

3.3 Suspect Case

- Overwhelming clinical evidence of botulism, as determined by a Medical Officer of Health, in the absence of laboratory confirmation or an epidemiologic link

4.0 Laboratory Evidence

4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Botulism:

- Detection of botulinum toxin, with or without culture
- Isolation of *C. botulinum*

4.2 Approved/Validated Tests

- Standard culture for *C. botulinum* with demonstration of neurotoxin where neurotoxin is detected in culture supernatant using mouse bioassay
- *C. botulinum* neurotoxin mouse bioassay

4.3 Indications and Limitations

- *C. botulinum* neurotoxin may not be detectable in serum. Administration of antitoxin prior to withdrawal of blood will result in a negative assay.
- Two other species of the genus, *C. baratii* and *C. butyricum* may produce the neurotoxin and should be entered as a case.
- Culture without toxin assay by mouse bioassay is not useful. Group I *C. botulinum* cannot be distinguished from *C. sporogenes* without toxin assay.
- Isolates and/or clinical specimens should be referred to the Botulism Reference Service for Canada
- Enzyme immunoassay (EIA) for botulinum toxin is not as sensitive as the mouse bioassay and therefore should not replace the mouse bioassay for neurotoxin detection in clinical specimens; however, EIA could be used to detect neurotoxin production from cultures.

5.0 Clinical Evidence

- **Foodborne/Wound/Intestinal:** Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, bulbar weakness, dry mouth and difficulty swallowing and speaking. Descending and symmetric paralysis may progress rapidly, often requiring respiratory support.
- **Infant:** Clinically compatible signs and symptoms in infants are characterized but not limited to the following: constipation, lethargy, loss of appetite, weakness, altered/weak cry, decreased gag reflex, ptosis, hypotonia and loss of head control.

6.0 ICD Code(s)

6.1 ICD-10 Code(s)

A05.1 Botulism

6.2 ICD-9/ICD-9CM Code(s)

005.1 Botulism

7.0 Comments

- One case is considered an outbreak

- Note that infants under the age of one can also be diagnosed with foodborne botulism if the illness is due to toxin in the food
- Botulism toxin can be inhaled or ingested through water. These cases must also be reported.

8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Botulism; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from: http://www.cdc.gov/ncphi/diss/nndss/casedef/botulism_current.htm.
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