BOTULISM SUMMARY
LOS ANGELES COUNTY, 2006

Botulism is a rare but serious paralytic illness caused by a nerve toxin produced by the bacterium *Clostridium botulinum* (and rarely other species). There are three main kinds of botulism. Foodborne botulism is caused by eating foods that contain the botulism toxin. Wound botulism is caused by toxin produced from a wound infected with *Clostridium botulinum*. Infant botulism (also known as intestinal botulism) is caused by consuming the spores of the botulinum bacteria, which then grow in the intestines and release toxin. All forms of botulism can be fatal and are considered medical emergencies. Foodborne botulism can be especially dangerous because many people can be poisoned by eating a contaminated food.

A total of seven patients were reported with suspected botulism in 2006 to Los Angeles County (LAC) Department of Public Health (DPH), only two of which were confirmed with the disease (Table 1). Most suspects were male (n=6), most were Hispanic (n=6) and ages ranged from 10 to 63 years (mean=45). Four suspect cases were injection drug users (IDUs), including the two confirmed cases. Antitoxin was administered to four suspect cases based on their risk factors and presenting signs and symptoms.

The LAC Public Health Laboratory (PHL) performed analyses on specimens from five suspect cases. After investigation, only two cases were confirmed as wound botulism. This report excludes cases of infant botulism, which is monitored by the California State Department of Health Services (DHS).

CASE REPORTS

Confirmed Wound Botulism (n=2): Two of the four cases of IDUs reported with possible botulism were confirmed; both were Hispanic males, and both were confirmed by demonstration of botulinum type A toxin in serum.

Probable Wound Botulism (n=2): The other two IDUs were domestic partners who presented to hospital together with typical botulism signs and symptoms; both had obvious injection abscesses that were cultured. They were admitted for diagnostic work-up and treatment; wound cultures were obtained, but pre-treatment sera were not submitted for testing. The male was treated with antitoxin; a post-treatment serum sample was negative for botulinum toxin. The female suspect was admitted but not treated with antitoxin. Their wound cultures were negative for clostridia. They left the hospital against medical advice.

Other Central Nervous System Disease (n=3): A 10 year-old boy with cerebral palsy had been receiving periodic therapeutic injections of BoTox® (toxin type A) to relieve muscle spasms. A month prior to report, the brand of toxin was changed to Myobloc® (toxin type B) without knowledge of the treating physician. These products are not bioequivalent (i.e., the same dosage has different physiological effects) and the dosage was not decreased accordingly. After the last treatment, the physician noted the onset of bilateral facial nerve weakness, ptosis, floppy neck, and lax palate, as well as noisy breathing; a full neurological assessment was made difficult by his preexisting disorder. He was being evaluated for sleep apnea when the pharmaceutical oversight was discovered. Serum tested five weeks after the last injection was negative for botulinum toxin; however the findings are consistent with medically induced (iatrogenic) botulism. Confusion between the two forms of therapeutic botulinum toxin has been noted previously, and package inserts for both products draw attention to this point.

Two patients reported with possible botulism were found to have another neurological disorder. A man was assessed for possible botulism but ultimately diagnosed with Guillan-Barré syndrome (GBS) after showing clinical improvement with administration of IVIG; he also had a history of a recent diarrheal illness, not uncommon with GBS. The final suspect had a clinical presentation compatible with botulism and no history of wounds or self injection; he was treated with antitoxin for possible foodborne botulism. Serum and stool were negative for toxin, and stool was negative for clostridia; no suspect foods were found in the home.

Table 1. Suspected Botulism Cases, LAC DPH, 2006

Age/ Sex	Race/ Ethnicity	Month of onset	Injection drug user	Serum test*	Stool test¶	Wound culture	Anti-toxin	Diagnosis
10 M	Asian	Dec. 05	N	Neg.	--	--	No	Cerebral palsy; possible iatrogenic botulism
62 M	Hispanic	Feb.	Y	Type A	--	--	Yes	Wound botulism, type A
47 F	Hispanic	Aug.	Y	--	--	Neg.	No	Probable wound botulism
47 M	Hispanic	Aug.	Y	--	--	Neg.	Yes	Probable wound botulism
43 M	Hispanic	Nov.	N	--	--	--	No	Guillain-Barré syndrome
52 M	Hispanic	Dec.	Y	Type A	--	Neg.	Yes	Wound botulism, type A
57 M	Hispanic	Dec.	N	Neg.	Neg.	--	Yes	Unknown

Pos – test was performed and result was positive
Neg – test was performed and result was negative
* Botulinum toxin screen by mouse bio-assay
¶ Botulinum toxin screen by mouse bio-assay; culture for clostridia.

COMMENTS

Botulism testing using the mouse bio-assay is available only in the LAC PHL and state or Centers for Disease Control and Prevention (CDC) laboratories. Antitoxin is available in California only upon release by designated public health physicians in ACDC or the California DHS. For these reasons, reporting of hospitalized cases is felt to be complete. However, under-detection of mild cases is possible.

Botulism is one of seven biological agents classified as “Category A” for bioterrorism preparedness, requiring the highest priority for reporting. Heightened concern over bioterrorism should lead to increased consultations with Public Health for possible botulism cases.