



Bulletin No. 17
July 19, 1991
Botulism in Juneau
Prompt Action Saves Lives

On June 19, 1991 at 3:30 am, an alert emergency room physician in Juneau reported to the Section of Epidemiology that two Alaska Native women (33- and 38-years old) were ill with botulism. The two individuals had shared fermented salmon eggs, or "stink eggs," at 4:00 p.m. on June 18. Four hours later, the 33-year old woman complained to her family of blurred vision. By 2:30 am on June 19, she had developed dizziness and shortness of breath. On admission to Bartlett Memorial Hospital at 4:00 am, she had also developed dry mouth and diarrhea. Her pupils were dilated and responded sluggishly to light. By 10:30 am, she had developed dysphagia and dysarthria. Her peak expiratory flows had decreased from 340 liter/min at admission to 110 l/min (normal: 400-500 l/min). Her pupils were 8 mm and non-reactive to light; she had decreased muscle strength in all four extremities. She was electively intubated at this time. She received two vials of trivalent botulinum antitoxin, one IV and the other IM.

The 38-year old woman reported abdominal pain and vomiting at 9:30 p.m. on June 18. During the next hour, she developed shortness of breath, double vision, and dizziness. By 1:00 am on June 19, when seen at Bartlett Memorial Hospital emergency room, she had developed dry mouth and muscular weakness. By 6:00, she had dysarthria and dysphagia; her pupils had become dilated and reacted sluggishly to light. By 6:30 am her peak flows had decreased from 140 l/min on admission to 90 l/min; her blood pressure had decreased from 114/70 mmHg on admission to 84/46 mmHg. She had become lethargic; her pupils were 6 mm and non-reactive to light. She was intubated at this time and received two vials of trivalent botulinum antitoxin, one IV and the other IM.

The 33-year old woman had received two cups of fresh frozen salmon eggs from a friend on June 13. On June 14, she thawed the salmon eggs and transferred them into two jars. She covered the jars with cellophane, screwed on metal rims, and then stored the jars under the sink. On June 16, she opened the jars. Because the salmon eggs had not fermented enough, she resealed the jars with cellophane and the metal rims and placed them back under the sink. On June 18, one of the individuals consumed one-third of a cup of stink eggs from both jars, and the other individual consumed one-half of a cup from both jars. The salmon eggs were shared with no one else. Both individuals had not consumed any other fermented foods during the past week.

The stink eggs; pre-treatment serum and stool from both patients; and gastric aspirate from one of the patients were positive for type E botulinum toxin. A second stool specimen from one of the patients contained non-specific toxicity. Post-treatment serum from both patients and gastric aspirate from one patient were negative for toxin. *C. botulinum* cultures are pending.

As of June 23, one patient had been extubated while the other patient remained on a ventilator. Both are regaining their muscular strength.

Early diagnosis by an emergency room physician secured prompt intensive medical care for these individuals with botulism, enabled early administration of antitoxin and led to prompt epidemiologic investigation.

Physicians and other health care providers working in Alaska must maintain a high index of suspicion of botulism when evaluating any Alaska Native who has an acute case of gastrointestinal illness and signs or symptoms of neurologic impairment, especially if there is a recent history of eating Native traditional foods that have been fermented. Most frequent complaints are profuse vomiting, diarrhea, dry mouth, dysphagia, diplopia, or muscular weakness. Some cases may present with very subtle symptoms and signs. Eliciting a history of consumption of fermented foods is often difficult but must be vigorously pursued. All outbreaks of botulism in Alaska have been traced to traditional Native fermented foods, such as salmon heads, salmon eggs, beaver tail, white fish, seal blubber, whale, and walrus.

All suspected or diagnosed cases of botulism should be immediately reported to the Section of Epidemiology (561-4406).

(Reported by Dr. James Thompson, and Dr. Drue Wagner, Bartlett Memorial Hospital, Juneau. Contributed by Carl Li, M.D., Epidemic Intelligence Service, Centers for Disease Control, Section of Epidemiology)