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BOTULISM - BREVIG MISSION

A 69-year-old woman suffered a respiratory arrest and was transported from Norton Sound Regional Hospital in Nome to Alaska Native Medical Center, Anchorage, for intensive care September 22, 1981. The high probability of botulism touched off an emergency investigation September 23. A Norton Sound physician went immediately to the patient's village, Brevig Mission. The Section of Communicable Disease Control and the Norton Sound Corporation provided further on-site epidemiologic assistance over the ensuing days.

Brevig Mission residents took a single whale this year, a Grey whale killed and brought ashore in late August. Meat and Muktuk (skin attached to blubber) were divided among all of the households in Brevig Mission. Some was eaten fresh, or frozen fresh for later use. Many residents put muktuk aside to cure, often in plastic bags. Some used jars and others, the traditional seal skin poke. The weather was unseasonably warm and the muktuk cured rapidly - within a week or so in some cases.

Nine people were identified who had symptoms during September consistent with botulism. The three men and six women ranged in age from 21-69 years. Symptoms were abdominal pain (100%), nausea and vomiting (100%), dry mouth or throat (100%), diarrhea (89%), weakness (89%), blurred vision (89%), dizziness (78%), respiratory impairment (44%), dysphagia (33%), hoarseness (33%), throat pain (33%), diplopia (22%), constipation (11%), and urinary retention (11%). Dilated or fixed pupils and ptosis were not noted. All developed illness within 24 hours of eating aged muktuk, an association that was highly significant ($p=.0015$).

The earliest case occurred September 3, 1981. Clusters of cases were associated with three caches of muktuk, aged and stored in plastic bags. One man developed flagrant neurological symptoms including dysphagia, diplopia, difficulty breathing, hoarseness, blurred vision, dizziness and weakness, but recovered without ever seeking medical attention! Illness occurred in Teller and Nome as a result of cured muktuk from Brevig Mission being shared. An air search by the Alaska State Troopers was required to locate one family at risk. Two of three people hospitalized received specific botulinum antitoxin therapy. All of the victims, including the 69-year-old woman index case, are now well and recovering. Multiple laboratory specimens are under analysis at the CDC, including food, serum and stool samples. An initial serum from the index case was positive for botulinum toxin, type E.

A noteworthy lesson from this outbreak is that botulism may present as an indolent and subacute gastrointestinal illness mimicking a viral syndrome. Only the neurologic symptoms - which may range from very subtle to rapidly fatal - distinguish botulism from other gastrointestinal illnesses. The complaint of a very dry mouth was uniform in this outbreak and should trigger a search for less obvious cranial nerve deficits.

Rapid epidemiologic "search and rescue" missions have proved life saving in Alaskan botulism outbreaks in the past. A round-the-clock botulism on-call schedule is maintained by the Section of Communicable Disease Control and the Alaska Investigations Division, CDC, Anchorage. Copies should be posted in all hospital pharmacies and are available to any health care provider. **BOTULISM IS A TRUE PUBLIC HEALTH EMERGENCY.** An immediate call whenever botulism is suspected is mandatory to activate the epidemiologic arm of the health care delivery team. Charles Ryan, M.D. and John Middaugh, M.D. are available during office hours at 272-7534 or after hours and during weekends at home.