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Fatal Botulism - Fermented Walrus Flipper

On July 28, a 53-year-old Point Hope resident shared a meal of pickled walrus flipper with his father, his brother and his brother's wife. On the following day the patient saw the community health aide with complaints of nausea, vomiting, dry mouth, weakness, and constipation. The health aide immediately contacted Kotzebue PHS physicians by radio traffic to report possible food poisoning. A physician prescribed Phenergan® for the patient.

On July 30, the patient was weak and still had nausea and vomiting, and the decision was made to medivac him to Kotzebue. On arrival, he was found to have unequal (L>R), enlarged, sluggishly reactive pupils; shortness of breath; and dry mouth. Vital signs included the following: blood pressure 90/60, pulse 84, respiratory rate 20. He had general abdominal tenderness but no rebound tenderness. Catheterization yielded 800 cc of urine.

On July 31, the patient's weakness and shortness of breath increased, and at 4:05 p.m., arterial blood gases on room air showed pO₂ 54, pCO₂ 43, pH 7.38. Oxygen was started. Chest x-rays showed bilateral patchy infiltrates. At 8:45 p.m., the patient developed increasing respiratory distress, and he arrested at 8:48 p.m. He was successfully resuscitated; endotracheal and nasogastric tubes were placed. The patient then developed seizures and was given IV Dilantin® and dopamine.

At this time, the diagnosis of botulism was considered, and two vials of botulinum antitoxin were given, one IV over a period of one hour (starting at 12:05 a.m. on 8/1) and the second given IM. Penicillin and a cephalosporin were also administered. The patient was then transported to ANMC in Anchorage; he had one episode of ventricular tachycardia during transport. On arrival at ANMC, the patient was flaccid, showed no response to pain, and had a negative Dolls eye and Babinski reflex. He arrested again at 7:00 a.m. on 8/1. The patient remained unresponsive and expired on 8/4.

The three other family members who shared the meal of walrus flipper denied any symptoms of botulism. The walrus flipper had been taken from a walrus killed three weeks earlier in July. The walrus flipper was "pickled" by placing a portion of it in a white cotton and plastic mesh bag and storing the bag inside a warm storage shed behind the main house.

Sera from the index case and the three family members were all negative for botulinum toxin. Type E botulinum toxin was identified in an enrichment culture of a stool specimen from the index case, and *C. botulinum* type E organisms were isolated from a stool specimen from the index case's father. Type E botulinum toxin and *C. botulinum* type E organisms were isolated from two samples of fermented walrus flipper.

This case represents the second case of fatal botulism in Alaska since 1975. In 1988, an adult male died of botulism after a meal of fermented whale flipper (See Epidemiology Bulletin Number 20, September 23, 1988).

Physicians and other health care providers working in Alaska must maintain a high index of suspicion of botulism when evaluating any Native Alaskan who has an acute gastrointestinal illness and signs or symptoms of neurologic impairment. The 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 past 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.

Community health aides have an intimate knowledge of their Native culture and of the residents of their villages; they are a valuable resource for assessing early symptoms of botulism in patients they see in the villages. Physicians working in regional hospitals should be made aware of the vital role of community health aides in early identification of possible cases of botulism. Procedures to be followed when a suspected case of botulism occurs are found in Epidemiology Bulletin Number 12 (June 19, 1988). Copies are available from the Section of Epidemiology.

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