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BOTULISM IN NAPASKIAK

On May 8, the Epidemiology Office was notified by an alert physician at the Yukon-Kuskokwim Regional Hospital in Bethel, Alaska of a case of suspected botulism in a 44-year-old Eskimo male from Napaskiak. The patient was admitted to the Bethel hospital with a history of nausea, vomiting, diarrhea, diplopia, hoarseness, dysphagia and weakness. On physical examination, he was found to have dilated and fixed pupils, dysconjugate gaze, and weakness. The patient reported that he had eaten fermented salmon eggs prior to the onset of his illness. A combined investigation was initiated by the Centers for Disease Control, Arctic Investigations Laboratory, and by the Epidemiology Office.

Field investigation in Napaskiak revealed that the patient had ingested a bowl full of fermented salmon eggs. Two days later, the patient noted the onset of lethargy, nausea, vomiting, and diarrhea. The following day these symptoms continued in addition to the onset of hoarseness and abdominal pain. On May 6, the patient was evaluated by the community health aide and referred to the Bethel hospital where he was treated for gastroenteritis. The patient returned to Napaskiak where his symptoms worsened over the next two days. He again was seen at the Bethel Hospital on May 8 when the diagnosis of suspected botulism was made. After appropriate serum specimens were obtained, the patient was treated with two vials of trivalent botulinal antitoxin. Because of respiratory insufficiency, the patient was intubated and air evacuated to the Alaska Native Medical Center in Anchorage.

Village investigation revealed that the stink eggs had been prepared by the patient's sister. The eggs were from king salmon which had been caught in August, 1982. The eggs, after removal from the fish, had been air dried on a board for three days and then placed in a plastic garbage bag. The bag was twisted at the top and placed in a plastic bucket which was sealed shut with a lid. The bucket was placed inside the house in a corner of the living room (estimated temperature, 70-80°F) from August to April. In April, the bucket was moved from inside the house to the front porch, (40-45°F). On approximately April 25, the bucket was moved to the family food cache. Environmental temperatures since that time have varied between 30-50°F.

Family members ate small portions of the stink eggs in February without apparent illness. Four persons ate small amounts (1-2 bites) of the eggs, taken from the top of the bucket, between April 11 and 25; none experienced any illness. In addition to the index case, the patient's wife also ate a small amount (less than 1 bite) of the eggs on May 2. She experienced a loose stool on May 3, but no other symptoms. The patient obtained the portion of eggs eaten by himself and his wife from the bottom of the plastic bag. One other person ate 3 small bites of eggs on May 5 (obtained from the middle of the bucket), but experienced no symptoms.

Specimens of food and clinical specimens from the patient were sent to the Centers for Disease Control in Atlanta, Georgia for laboratory analysis. Serum specimens from the patient were reported positive for Type B botulinum toxin on May 13. Other specimens are pending.

In summary, a single case of Type B botulism occurred in this outbreak from Napaskiak. The most likely vehicle was fermented salmon eggs. No other persons in the family or village were found to have illness compatible with botulism, although several individuals ate food from the implicated batch of salmon eggs - not an infrequent occurrence. Only eternal vigilance and a high degree of clinical suspicion will allow early detection of future cases of botulism. Prompt diagnosis, prompt therapy, and aggressive epidemiologic investigation to identify the implicated foods are essential.

(Reported by Ruth Egoak, Community Health Aide, Napaskiak; Sean Stitham, M.D., Medical Officer, Yukon-Kuskokwim Regional Hospital Bethel; Robert Kapolka, Sanitarian, Office of Environmental Health, Yukon-Kuskokwim Regional Hospital Bethel; William L. Heyward, M.D., Acting Director, Arctic Investigations Laboratory, Centers for Disease Control)