State of Alaska Epidemiology Bulletin

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TRICHINOSIS FROM WALRUS MEAT

Walrus meat caused a large outbreak of trichinosis affecting 27 individuals living in three Alaskan villages--Kotlik, Stebbins, and Mountain Village--during May and June.

The index case, a 49-year-old Kotlik female, consulted her Community Health Aide on May 26 with complaints of diarrhea and abdominal pain. She returned on May 29 with fever of 101°F. The next day, she was sent to Bethel PHS Hospital with muscle cramps, headache, and continued high fever. Laboratory analysis showed a white blood cell count of 21,500 with 76% eosinophils. Her sister-in-law, now also ill with similar symptoms, accompanied her to the hospital and had a white blood cell count of 6,500 with 33% eosinophils. A food history revealed that the individuals had eaten dried walrus meat, whale blubber, beaver, and ducks. The diagnosis of trichinosis was suspected, and appropriate blood specimens for serologic testing were drawn.

On epidemiologic investigation we found that a walrus killed in the vicinity of Egg Island by two friends was divided between them and taken to Kotlik and Stebbins in late April. Residents of both villages ate walrus on numerous occasions after the meat arrived in the villages. In addition, two visitors to Kotlik from Mt. Village also ate some dried walrus. Investigation in Kotlik and Stebbins revealed 51 individuals who had eaten walrus meat. Of these 51 individuals, we obtained blood samples from 45 (88%) for bentonite flocculation (BF) and from 43 (84%) for eosinophil count.

Of the 51 individuals, 27 (53%) met the case definition for trichinosis:

> An individual who reported eating the implicated walrus meat who had either clinically compatible symptoms of diarrhea, edema of the face or other body parts, myalgia, fever, or rash; or one of the following laboratory findings: a single diagnostic bentonite flocculation titer >1:5; or eosinophilia >5%.

Onsets occurred between May 26 and June 7 (Figure). Of the 27 cases, 17 (63%) were symptomatic. Symptoms included myalgia (30%), fever/chills (30%), edema of hands and feet (22%), diarrhea (19%), rash (15%), and periorbital edema (11%). Ages of cases ranged from 7 months to 77 years. Three youngsters (ages 6 months, 1 year, and 2 years) ate pre-chewed dried walrus. Of the 27 cases, 13 (48%) were male.

Of the 27 cases, 22 (81%) had either blood eosinophil count >5% or bentonite flocculation titre of >1:5. Five samples of walrus meat collected in Kotlik and Stebbins were positive for Trichinella larvae. A sample of frozen, uncooked walrus meat from Kotlik had >1.8 larvae/gram, while a sample of unfrozen, uncooked meat from Stebbins contained 0.2 larvae/gram.

The attack rate among people who consumed implicated walrus meat in Kotlik was 82% compared to an attack rate of 31% for persons who consumed implicated walrus meat in Stebbins (RR = 2.64, 95% CI. 1.48 - 4.70 Yates corrected Chi square = 10.99, p < .00092).=" the=" difference=" in=" attack=" rates=" between=" villages=" may=" be=" explained=" by=" the=" method=" of=" preparation.=" while=" people=" in=" kotlik=" ate=" dried=" walrus=" meat,=" people=" in=" stebbins=" reportedly=" boiled=" their=" meat,=" although=" sometimes=" for=" only=" 10=" minutes.="">

This outbreak demonstrates the potential for widespread outbreaks of trichinosis due to sharing of infected meat from a large animal among many individuals. Only thorough cooking of walrus meat prior to consumption will prevent arctic trichinosis.

All suspected cases of trichinosis should be reported to the Section of Epidemiology immediately so that investigation can be conducted to identify the source of illness.

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