

TRICHINOSIS IN ARCTIC ANIMALS

[Note by Hans Roth, Hygienic-Bacteriological Department, Royal Veterinary and Agricultural College, Copenhagen. Reprinted by permission of the editors from *Nature*, Vol. 163, No. 4151, 1949, p. 805-06.]

In the spring of 1947 a series of outbreaks of a disease, which at first was considered to be a paratyphoid fever, spread among the native population along the coast of north-western Greenland, particularly in the settlements around Disko Bugt. More than three hundred cases with thirty-three deaths occurred. The main clinical symptoms were exanthema, generalised oedema, fever, muscular pain, gastro-intestinal symptoms and myocarditis. A special investigation was made by the State Serum Institute in Copenhagen, and it was proved that the disease was, in fact, trichinosis.^{1,2} The diagnosis was verified by the positive reaction of the sera to microscopic precipitin tests with living larvæ of *Trichinella spiralis*,^{3,4} by demonstration of eosinophilia in the blood picture, by positive skin tests with trichina antigen, and, finally by the finding of the parasites in the musculature of a patient who had succumbed to the infection. Most of the cases were apparently due to the consumption of walrus meat. Thus, at the settlement of Sukkertoppen, where only two cases occurred, both patients had eaten walrus meat, which had been sent to them from Holsteinsborg, which was one of the centres of the epidemic.

It was, moreover, now possible to ascertain that some outbreaks which had previously occurred in these districts and at the time had been considered as 'typhoid' or as 'meat poisoning' had also been trichinosis, presumably also due to walrus meat.

In order to find the sources of infection as well as the frequency of trichinosis in the Greenland fauna, the Greenland government started a collection of meat samples from different mammals in north-western and in eastern Greenland. The samples were dry-salted and were sent to Copenhagen to be examined microscopically for the larvæ of *Trichinella spiralis*. Of dogs and arctic foxes the forelegs were used as samples, of Greenland hares the masseters and of the other animals the diaphragms. For examination the meat was softened in boiling water. Then about one gram of each sample was cut in thin pieces, which were treated with 5 per cent potassium hydroxide and compressed in a 'compressor' between two thick glass plates. The preparations were examined under a low-power microscope.

Up to date the results given on the next page have been obtained.

The finding of nearly 70 per cent of trichinosis animals among sledge dogs is the highest incidence of this parasite ever observed. Next is the frequency of nearly 30 per cent encountered in polar bears, both from north-western and from eastern Greenland. The arctic foxes, with 3 per cent of positive individuals, do not seem to be infected in the same high degree.

Particularly interesting is the find of a heavy infestation with *T. spiralis* in a bearded seal from Thule, the extreme northern district of West Greenland. This is the first observation of the parasite in a marine mammal, making it very obvious that the walrus, too, can occasionally be infected, even though

no positive sample has been traced in the walrus material examined up to date.

As was already predicted by Parnell⁵ in 1934 and by Leiper⁶ in 1938, trichinosis is to be considered as a major problem in the Arctic, and has a direct bearing on the health of the tribes inhabiting those regions as well as on that of explorers and sealers; the infection is moreover a danger by incapacitating the sledge dog, so indispensable to man in polar countries.

Examined	Infected with <i>T. spiralis</i>
66 dogs (<i>Canis familiaris</i>)	46
19 polar bears (<i>Thalarcos maritimus</i>)	6
101 arctic foxes (<i>Alopex lagopus</i>)	3
4 Greenland hares (<i>Lepus arcticus groenlandicus</i>)	0
18 rats (<i>Rattus norvegicus</i>)	0
133 walruses (<i>Odobærnus rosmarus</i>)	0
28 bearded seals (<i>Erignathus barbatus</i>)	1
2 bladder-nosed seals (<i>Cystophora cristata</i>)	0
17 other seals	0
27 white whales (<i>Delphinapterus leucas</i>)	0
1 narwhal (<i>Monodon monoceros</i>)	0
416 samples	Positive 56

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RECENT SOVIET INTEREST IN BELLINGSHAUSEN'S ANTARCTIC VOYAGE OF 1819-21

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In the U.S.S.R. there has recently been a revival of interest in Bellingshausen's voyage of 1819-21 to the Southern Ocean, in an effort to show that Bellingshausen discovered the antarctic mainland. This revival, which started in February 1949 and draws attention to Russia's first and only voyage of exploration in antarctic waters, apparently aims to foster public support for Soviet