

Brief Communication

CONTAGIOUS ECTHYMA (ORF) IN THE MUSK OX
(OVIBOS MOSCHATUS)

In 1969 25 musk ox calves were captured in Greenland and brought to Norway. The animals were kept on a farm at Bardu in the northern part of the country. In this herd a serious outbreak of contagious ecthyma occurred. This disease has quite recently been observed in musk ox also in Alaska (*White*, personal communication 1978).

Disease history. The first case occurred in December 1974, and during the winter and the following spring 8 adult males and 1 adult female contracted the disease. Four of the males died, while the female survived. In the rest of the females the infection caused just the formation of small warts on the nose without general clinical illness. The warts disappeared later. The females seemed to have a better natural resistance to the infection than the males. In the spring of 1975 5 musk ox calves were born. They all got papillomas when they were about 4 weeks old, and all of them died or were sacrificed in a very poor condition. No case of naturally occurring ecthyma was seen in 1976. In 1977 3 adult males and 1 female had minor attacks of the disease, while the calves remained healthy.

Clinical picture. The lesions were characterized by cauliflower-like papillomas on the lips, muzzle and nostrils, and to a lesser extent on the neck, eye lids, chest, and in the perineal region. The papillomatous growth was heavy, and the animals suffered from painful eating and breathing, and from secondary bacterial infections.

Pathology. The papillomas were grossly and histologically similar to common warts, and they were at first thought to be caused by a wart virus like those causing papillomatosis in other species.

Diagnosis. Samples from the musk ox papillomas were examined by negative staining electron microscopy. Virus particles typical of the parapoxviruses were found. A lamb inoculated on the lips with material from the musk ox papillomas developed

typical orf lesions with pustules, granulomas, ulcera and crust formations. Parapoxvirus particles were identified in these lesions. Intracutaneous inoculation of musk ox material in 2 bovine calves caused no reaction.

Vaccination. A musk ox calf born on May 8 was vaccinated with a live sheep orf vaccine on a small area of scarified skin inside the thigh on June 1. About 4 weeks later a large papillomatous area was discovered on the site of vaccination. The whole neoplastic mass was tried removed by surgery, but the animal died in connection with the operation.

Source of infection. Contagious ecthyma is very common in sheep and goats in Norway. Even if pseudocowpox and bovine papular stomatitis occasionally occur, and orf has been diagnosed in a reindeer herd (own observation), it is believed that the infection in the musk ox herd was of ovine or caprine origin. The results from the transmission and vaccination experiments support this theory. The period of 5 years without any signs of orf prior to the outbreak, makes a genuine musk ox parapoxvirus infection unlikely.

Knut Kummeneje

The State Veterinary Laboratory for Northern Norway, Harstad and

Johan Krogsrud

The National Veterinary Institute, Oslo, Norway.

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Reprints may be requested from: Knut Kummeneje, the State Veterinary Laboratory for Northern Norway, P. O. Box 652, 9401 Harstad, Norway.