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Ecthyma Contagiosum in Musk Ox

In the past two months there has been widespread publicity about the infection of the 160 head Unalakleet musk ox herd with a viral infection, ecthyma contagiosum, known as Orf. Widespread interest has resulted for many reasons, including the unusual animal infected, the association with the village-based quiviut knitting industry, and the fact that little is known about the virus which has caused the infection. Following is a summary of information obtained from a thorough epidemiologic investigation.

Infection of the Unalakleet musk ox herd with ecthyma contagiosum (ORF) is confirmed. The virus which causes Orf is a member of the poxvirus family, and is related to chickenpox and smallpox. While possibly new to Alaska, Orf has a worldwide distribution and occurs in sheep and goats all over the United States. The outbreak in the Unalakleet musk ox herd is over; the last case occurred in December, 1977.

While primarily a disease of sheep and other ovine species, Orf can occur in people, and is a common infection among sheepherders. Humans are relatively resistant to infection. No human cases are known to have occurred in Alaska. When human infection occurs, it is almost invariably benign. Illness in people is characterized by skin sores usually of fingers, hands, forearms, and rarely on the mouth or other sites. Healing occurs by itself in about three weeks. Systematic illness rarely, if ever, occurs. No human death has ever been known to occur as a result of infection with Orf.

The disease is spread by direct contact with the Orf virus which is present in infected material. Human to human transmission of the virus can occur, but is extremely rare. Because the virus can persist in the environment for many years, it is impossible to eradicate the virus from the musk ox herd.

It is possible that a human case of Orf may occur in Alaska in people who care for the musk ox herd. However, the disease is not serious and is not a serious public health threat. There is no danger of spreading the disease through the quiviut industry. The soft underwool is knitted into hats, shawls, and other garments which are marketed in Alaska and sold by mail order throughout the world. Quiviut is treated commercially before it is knitted - the treatment kills the virus. Human health concerns warrant no specific restrictions on the musk ox herd.

The Division of Public Health, Communicable Disease Control Section, is maintaining surveillance to identify any human cases, should they occur in the future. Blood testing of the workers in charge of the Unalakleet musk ox herd was done to reveal subclinical infection. The results are pending.