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2006 Animal Rabies in Northwestern Alaska: Foxes, Dogs, and a 3-Month-Old Puppy

Introduction

Rabies is enzootic among the fox populations of northern and western Alaska, with periodic epizootics (epidemics among animals) documented every 3 to 5 years. The last epizootic in Alaska was in 2003. Cases of rabies usually occur during early fall through early spring. In early spring, foxes tend to move inland off the sea ice, increasing the likelihood that they come into contact with domestic animals or humans. Dogs can readily serve as a transmission vehicle of rabies virus from wildlife to humans; therefore, it is especially critical during these seasons to ensure that adequate rabies prevention and control measures are in place.

Recent cases of animal rabies

Of the 39 animals evaluated for rabies from December 15, 2005 through March 10, 2006 at the Alaska State Virology Laboratory (ASVL) in Fairbanks, 10 were positive (Table 1). Four were foxes and six were dogs; one of the dogs was a 3-month-old puppy. All rabid animals came from northwestern Alaska. In three of these scenarios, a total of five humans exposed to the rabid animals subsequently received rabies post-exposure prophylaxis.

Table 1. Animal Rabies, Dec. 15, 2005 – Mar. 10, 2006

Animal	Date tested positive	Location
Red fox	Dec 15	Wales
Dog	Dec 20	Napakiak
Dog	Dec 23	Napakiak
Arctic fox	Jan 20	Diomedes
Red fox	Feb 6	Wales
Red fox	Feb 16	Shishmaref
Dog	Feb 22	Wales
Dog	Feb 22	Wales
Dog	Feb 22	Wales
Dog	Feb 24	Newtok

Because eliminating rabies from fox populations in Alaska is impractical, the mainstays of preventing cases of human rabies are to ensure prompt administration of rabies post-exposure prophylaxis to all humans potentially exposed to rabies virus and to vaccinate domestic animals against rabies.

Rabies in puppies

One of the dogs with rabies was a 3-month-old puppy that had not yet been vaccinated against rabies. The source of virus for this puppy remains unknown; rabies could have been directly contracted from a wild animal or from another dog, including the puppy's mother. The whereabouts and the rabies vaccination status of the puppy's mother were unknown. This puppy bit two persons and died 3 days later. At the time of the biting, the puppy was reportedly drooling

and having trouble walking. This scenario underscores the importance of reporting and following up **all** dog bites, and of vaccinating puppies as early as possible after 12 weeks (3 months) of age. While there are many causes of illness and death in puppies, **any animal that has bitten someone and that dies without an obvious cause in a rabies enzootic area should be immediately evaluated for rabies.**

Recommendations for rabies prevention and control

- All dogs and cats must be appropriately vaccinated against rabies; unvaccinated animals can be confiscated or euthanized [7AAC 27.020 (b)6]. This regulation exists to protect both human and animal health. Dogs should be vaccinated against rabies at the first opportunity after 12 weeks (3 months) of age. The first rabies vaccine given, regardless of the dog's age at the time, must be followed 12 months later by a booster dose. Thereafter, a booster dose should be given every 3 years for most vaccines, according to the manufacturer's instructions.
- Animal rabies vaccinations may be given by veterinarians or certified lay vaccinators. The Section of Epidemiology's Lay Vaccinator Program certifies local personnel from public service agencies or organizations to provide animal rabies vaccinations in communities without regular access to veterinary care.
- After animal rabies is found in a village or region, control measures must be instituted **immediately** to minimize spread of rabies among susceptible animals and exposure of humans to rabid animals. In addition to vaccinating animals as indicated above, other measures include:
 - Immediately euthanizing unvaccinated animals that are exposed to a rabid animal. Because rabies testing is performed on brain tissue, animals should be euthanized in a manner that preserves their heads, i.e., do not shoot in the head.
 - Immediately revaccinating vaccinated animals exposed to a rabid animal and then confining them for a minimum of 45 days. If vaccinated animals cannot be adequately confined or quarantined, they should be euthanized.
 - Tying-up or otherwise preventing all outdoor dogs from running free in the community.
- Regardless of vaccination status, any animal that bites a human and is displaying signs of illness compatible with rabies should be immediately euthanized and tested for rabies. Rabid animals may display obvious neurologic impairment (a staggering gait or inappropriate response to stimuli) but also may display subtle signs (mild drooling or reluctance to move).
- Persons who see wildlife, such as foxes, acting inappropriately should contact their local wildlife authority or public safety officer.

Rabies is considered a **public health emergency**. Any animal bite to a human that occurs in a rabies enzootic area should be reported to the Section of Epidemiology where staff are available 24-hours a day for consultation in determining what constitutes a rabies exposure, for assistance in submitting an animal head for testing, and for obtaining rabies post-exposure prophylaxis for humans exposed to a rabid animal. Animal bites may also be required to be reported to local agencies depending on municipal or regional ordinances.

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