

**Rabies in a Calgary Puppy Adopted From the Arctic**

Dear Editor:

Rabies was recently diagnosed in Calgary in a five-month-old “rescued” husky from Nunavut. Before this case, canine rabies was last diagnosed in Alberta in 1998.<sup>1,2</sup> The recent case raises questions regarding mandatory rabies immunization for pets in Canada, unregulated interjurisdictional and air travel of unimmunized dogs, formal versus informal dog rescue practices, a lack of quarantine facilities in low rabies zones, and best evidence post-rabies exposure management in human contacts.

The puppy had not been vaccinated against rabies, and came from a litter of six. The mother and three littermates are well and in quarantine; the other two littermates were asymptomatic when euthanized in accordance with local bylaws on stray dogs. Five weeks after arriving in Calgary, the rescued puppy abruptly became aggressive, and veterinarians considered rabies among the differential diagnoses. Following consultation with a Canadian Food Inspection Agency (CFIA) Veterinary Officer, the puppy was euthanized and brain tissue sent to the CFIA lab for rabies testing. Characterization of the virus confirmed the arctic fox rabies variant, which aligns with the Arctic’s main host for rabies.<sup>3</sup>

A public health investigation identified 14 individuals who had been in contact with the puppy during the incubation period. Eight people, including an examining veterinarian, were considered to have had high-risk exposures and were thus offered rabies post-exposure prophylaxis (PEP). A new equally effective protocol consisting of 4 instead of 5 doses of PEP vaccine was implemented.<sup>4</sup> An unimmunized dog, which had been bitten by the rabid dog, was also identified. Given an incubation period of rabies in dogs of up to 6 months,<sup>5</sup> and the burdens associated with prolonged quarantine, the owner decided to euthanize the dog. Public health authorities in Alberta alerted counterparts in Nunavut, which led to the owner of the mother dog and of the three remaining littermates receiving a CFIA Order Letter for six months of quarantine.

A communication strategy was developed in anticipation of media attention to this case, and a public health physician handled media inquiries. A higher volume of calls with rabies concerns was noted in the weeks that followed, likely due to heightened public awareness of rabies risk.

Throughout Canada, the prevalence of rabies varies in non-human populations, and the specific species infected has varied by region and over time.<sup>2</sup> Due to low rabies risk, rabies immunization, although recommended, is not a mandatory requirement for dog licencing in Calgary bylaws, nor is it in many other jurisdictions. Indeed, its cost-effectiveness in such circumstances remains to be proven. Nevertheless, whereas restrictions apply to dogs entering Canada from countries with endemic rabies,<sup>6</sup> restrictions do not apply to interprovincial or interterritorial travel.

This case highlights the pernicious potential of the act of well-intentioned individuals and groups engaged in rescuing dogs from places where contact with wildlife and rabies is a possibility. Rescuers should arrange for health check-ups, immunizations, and quarantine of the dogs prior to placing them into new homes. This case also illustrates the importance of following up on unusual behaviour in pet animals, even in low-prevalence environments, given the increasingly common mobility and different origins of pet animals.

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