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Rabies Vaccine: Alaska Post-Exposure Prophylaxis Summary and Pre-Exposure Restrictions

POST-EXPOSURE SUMMARY 2002–2007

Introduction

Since the 1970s, the Section of Epidemiology (SOE) has supplied Alaska health care providers with free rabies post-exposure prophylaxis (PEP) for any patient for whom it is indicated.¹ Health care providers can buy PEP directly from manufacturers; however, the cost is considerable. Although not formally assessed, this summary likely represents the vast majority of PEP courses given in Alaska over the time-period examined.

Methods

Data from 2002 to 2007 were abstracted from SOE treatment sheets used to track doses and notes related to the exposure investigations. Persons exposed to a non-Alaska animal were not included.

Results

From 2002 to 2007, SOE supplied rabies PEP for 87 persons who were exposed to Alaska animals for an annual PEP usage rate of 2.2 per 100,000 population.

Among 86 exposures where the animal species was known, dogs were involved in 68 (79%). Other animals involved included foxes (red and arctic), bats, cats, and wolves. Fifty-three different animals were responsible for the 87 exposures; the mean number of persons receiving PEP per animal was 1.6 (median: 1; range: 1–14). Only dogs were involved in multiple exposure incidents.

Most (48/87; 55%) persons received PEP for exposure to a confirmed rabid animal (Table 1). Of those 48 persons, 31 (65%) had nonbite exposures; 13 (27%) had a known bite; and 4 (8%) had a laboratory exposure. Of the 39 persons receiving PEP for exposure to an animal whose rabies status could not be confirmed, 35 (90%) sustained a bite or puncture, 2 (5%) had small marks that could have been attributed to a bat, 1 (3%) had an open wound exposure to an unvaccinated, ill, salivating puppy that died and was unable to be tested, and 1 (3%) was scratched or bitten by a fox that escaped after the event.

Table 1. Indication for Recommending Rabies PEP Courses (n=87) by the Section of Epidemiology, 2002–2007

Indication	Number (% of all)
Bite or nonbite exposure to a confirmed rabid animal	48 (55)
Animal was a stray/unidentifiable dog or cat ^a	22 (26)
Animal was wildlife and escaped after exposure ^a	11 (13)
Unidentified animal (either fox or dog) escaped after exposure ^a	1 (1)
Animal was destroyed and unable to be tested ^a	5 (6)

^aSOE recommended PEP in consultation with the patient's health care provider and in the context of other factors, such as, was the bite provoked, did the incident occur in a rabies enzootic area, what species of animal was involved, etc.

Discussion

During 2002–2007, the average annual PEP usage rate for Alaska exposures was relatively low at 2.2 per 100,000 compared to other state estimates, which ranged from 5–52.^{2–5}

Over 50% of the persons in Alaska who received PEP were exposed to a rabid animal. The remaining persons were exposed to animals for which no follow-up information was available. Many of these were dogs or cats that could not be reliably identified, and some instances involved wildlife that fled after the incident. To reduce these types of exposures, communities should work to develop feasible animal control strategies to decrease stray or loose dogs and nuisance wildlife in close proximity to

residents. One such strategy could be to ensure that animals are restricted from accessing refuse and waste storage areas.

Most animals exposed a single person; however, only dogs were involved in exposures of more than 1 person. This is not surprising since dogs and puppies often have access to entire households of persons and it underscores a central tenant of human rabies prevention: vaccinate pets to prevent them from acquiring rabies from wildlife and transmitting it to humans. Puppies cannot be legally vaccinated until age 12 weeks; however, they should be prevented from interacting with wildlife until they can be immunized.

The Alaska usage rate for PEP was lower and the proportion of persons exposed to confirmed rabid animals was higher when compared to other states. This may have resulted from more thorough investigations conducted by SOE staff and partners, resulting in more efficient use of PEP. Centralization of rabies PEP guarantees SOE participation in all reported exposure evaluations; however, it might not be feasible for a more populous state or jurisdiction given constraints on staff time, or areas with different rabies epizootiology (i.e., prevalent rabies in bats).

PRE-EXPOSURE RESTRICTIONS

There are two manufacturers of human rabies vaccine in the United States, and both are currently restricting distribution of vaccine to instances where PEP is indicated. *Pre-exposure* doses are not available, except in very limited supply. National discussions between vaccine manufacturers, the Centers for Disease Control and Prevention (CDC), and immunization advisory groups are ongoing and restrictions may be eased in Fall 2008. Until then, CDC has requested that health care providers seeking doses for pre-exposure purposes contact their state health department, which will in turn work with national officials to allow for persons at highest risk to receive the limited supply of vaccine. These restrictions are in place to ensure that national PEP needs continue to be met.

Recommendations

- Contact SOE at 907-269-8000 or 800-478-0084 (afterhours) to discuss potential exposures to rabies, to obtain testing at the Alaska State Virology Laboratory, and to obtain rabies PEP.
- Contact SOE to request doses of pre-exposure rabies vaccine. Requests will be forwarded to CDC to determine if doses can be released.
- Visit the CDC rabies website at <http://www.cdc.gov/rabies/> for more information on the status of the current vaccine supply in the United States, and the SOE rabies website at <http://www.epi.alaska.gov/id/rabies/> for more information about rabies in Alaska.

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