ON MARCH 15, 1995, a 4-year-old girl from Lewis County, Washington died of rabies. Family members reported that a bat had been found in her bedroom a month earlier, but there was no evidence of a bite, and public health officials were not consulted. The bat was killed and buried in the yard. The bat was exhumed, and despite trauma, decomposition, and partial consumption by maggots, residual brain tissue tested positive for rabies by direct fluorescent antibody (DFA) and nucleotide sequence analysis (NSA). The viral isolates from the child and the bat were identical by NSA.

This unfortunate case serves as a reminder that rabies, while extremely rare, is an ever-present risk in most of the world, including Oregon. Concern about rabies is widespread, and considerable effort goes into evaluating and managing patients who may have been exposed. In this issue we will review data from recent years of animal testing for rabies, and general guidelines for working with public health experts in managing bite situations.

During 1990-1995, an average of 9% of bats tested have been positive for rabies (see table). This is not representative of the bat population in Oregon, of course; these are almost all bats that were found sick or dead and that bit or otherwise may have contacted humans. The Pacific Northwest remains free of enzootic rabies in terrestrial animals, meaning that rabies has not been established here in any mammals other than bats. In various parts of the country, skunks, foxes, raccoons, and (in South Texas) coyotes are reservoirs.

Even in Oregon, however, other mammals can be bitten by rabid bats, so the risk of rabies from bites by these other species needs to be evaluated on a case-by-case basis. Since 1990, most reported cases of non-bat animal rabies have been in foxes (10 isolates; see table), particularly in southwestern counties. Without exception, NSA indicates a bat origin for these isolates in Oregon. The occasional importation of rabid animals, including pets, from areas where rabies is established in terrestrial animals also remains a potential concern. Who can forget the terrifying story of Pancho, the pugnacious Pekinese?

WHY THE CONCERN?

Because rabies (the disease) is virtually 100% fatal, potential exposures to a rabid animal must be carefully evaluated in order to make an informed decision about the need for postexposure prophylaxis (PEP). PEP is highly effective, in most cases, but it is extremely expensive ($1000-2500) and not without side effects, so it cannot be dispensed casually.

By law, significant exposures to animals susceptible to rabies must be reported within 24 hours to the local health department (LHD). An exposure is a bite, scratch or other laceration that results in contact between saliva and non-intact skin or a mucous membrane. Cerebrospinal fluid and brain tissue from rabid animals may also be infectious. Exposure to animal blood, urine, feces, or skunk sprays should not generally raise concern about rabies.

A number of factors are considered when evaluating other animal bites, including nature of the incident (provoked or unprovoked), time of year (in Oregon, rabies is unlikely in winter, when bats are inactive), offending species, rabies vaccination status, characteristics of the biting animal (if known), etc. The investigator will make an effort to collect all relevant information. Animal bites are considered “provoked” (in this technical sense) when they involve handling or petting, cornering, taking away food, disciplining, falling on, releasing from a trap, intervening in flight or predation, helping after injury (hit by a car),... Unprovoked bites are when animals having one or more open avenues of escape deliberately cross neutral space and attack. Such bites are rare.

CONSIDERATION AND OBSERVATION

Most rabid dogs and cats begin to manifest signs of CNS disease before they become infectious (i.e., begin to shed virus in saliva)—but in some cases clinical onset may lag by two or three days. It is to assess communicability rather than infection per se that a 10-day observation period (“quarantine”) is imposed on apparently healthy dogs and cats that have bitten someone. Most of this period is a margin of safety; any dog or cat that is
eating and drinking normally more than three or four days after biting someone is highly unlikely to have been shedding virus at the time of the bite. Quarantine spares us from having to kill all dogs and cats involved in bite situations, and saves taxpayers the expense of needless rabies testing in low-risk situations. Observation is inappropriate for animals that are sick to begin with.

Data about viral shedding in other species are extremely limited, and thus quarantine is never appropriate for wild animals, including wolves and wolf hybrids. Rabies in livestock is not a big problem in Oregon (only one case—a hybrid for tetanus prophylaxis should also be evaluated. Specific anti-rabies measures, when indicated, consist of human rabies immunoglobulin (HRIG), given as soon as possible, and a vaccine series (5 doses IM in the deltoid over 28 days), initiated at the same time. Forget those hoary tales about big needles in the stomach! There are no contraindications to PEP for persons who have been exposed.

Announcements

HEARING ABOUT proposed rules implementing the Oregon State Cancer Registry (CD Summary; Dec. 26, 1995) will be held in Portland at the State Office Building at 1:30 pm on February 23. For copies of the proposed rules or more information, call 503/731-4273.

OHSU is seeking candidates for 4 general preventive medicine/public health residency positions (PGY2 or above), available in July 1996. Practicum sites include a managed care occupation health setting, local health department, state health department, and an academic research center. For more information, contact: Evelyn Whitlock, MD, MPH (503/494-2550; whitlocke@chr.mts.kpnw.org).