



INFORMATION ABOUT RABIES FOR HEALTH CARE PROVIDERS

FACT SHEET 13-002-0911

Rabies is a zoonotic disease caused by RNA viruses in the family Rhabdoviridae, genus Lyssavirus. Virus is transmitted through contact with the saliva of infected, or rabid, warm-blooded animals, such as dogs, cats, bats, foxes, skunks, raccoons, mongooses and jackals. Mice, rats and other small rodents are almost never found to be infected with rabies. It is not always possible to tell if an animal has rabies. Not all animals infected with rabies appear sick or display abnormal behavior, such as foaming at the mouth or aggressive behavior. After entry to the central nervous system, these viruses cause an acute, progressive encephalomyelitis. The incubation period usually ranges from 1 to 3 months after exposure, but can range from days to years. Rarely does rabies develop more than one year after exposure. The incubation period varies depending on the amount of virus introduced into the body and the distance the virus has to travel from the site of exposure to the central nervous system (CNS). The closer the bite is to the CNS, the shorter the incubation period. Bites to the head and neck are usually associated with shorter incubation periods.

POST-EXPOSURE PROPHYLAXIS (PEP)

For unvaccinated persons, the combination of Human Rabies Immune Globulin (HRIG) and vaccine is recommended for both bite and nonbite exposures, regardless of the time interval between exposure and initiation. For previously vaccinated persons, only vaccine is recommended, again regardless of the time interval between exposure and initiation. Observational studies indicate that PEP is universally effective in preventing human rabies when administered promptly and appropriately. Of the >55,000 persons who die annually of rabies worldwide, the majority either did not receive any PEP, received some form of PEP (usually without RIG) after substantial delays, or were administered PEP according to schedules that deviated substantially from current ACIP or WHO recommendations.

SIGNS AND SYMPTOMS OF CLINICAL RABIES

The first symptoms of rabies may be very similar to those of the flu, including general weakness or discomfort, fever, or headache. These symptoms may last for days. There may be discomfort or a prickling or itching sensation at the site of bite, progressing within days to symptoms of cerebral dysfunction, anxiety, confusion, and agitation. As the disease progresses, the person may experience delirium, abnormal behavior, hallucinations, and insomnia. The acute period of disease typically ends after 2 to 10 days. Once clinical signs of rabies appear, the disease is nearly always fatal, and treatment is typically supportive. To date less than 10 documented cases of human survival from clinical rabies have been reported and only 2 have not had a history of pre- or post-exposure prophylaxis.

Several tests are necessary to diagnose rabies ante-mortem (before death) in humans; no single test is sufficient. Tests are performed on samples of saliva, serum, spinal fluid, and skin biopsies of hair follicles at the nape of the neck. Saliva can be tested by virus isolation or reverse transcription followed by polymerase chain reaction (RT-PCR). Serum and spinal fluid are tested for antibodies to rabies virus. Skin biopsy specimens are examined for rabies antigen in the cutaneous nerves at the base of hair follicles.

Refer to the following sources for more detailed information:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm>

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>

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