

CLIENT EDUCATION HANDOUT

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Rabies

Overview

Rabies virus is an important cause of acute viral encephalomyelitis in ruminants with public health implications. Cattle are most frequent domestic ruminant in which rabies cases are reported. Once clinical signs appear, the disease is consistently fatal. Exposure most commonly occurs after a bite, usually from an infected feral or wild animal. After infection in CNS neurons, the virus travels to salivary gland where the virus may be transmitted to other mammals. Prevention and control of the disease involves vaccination; however, vaccination is not commonly performed in livestock. Humans risk exposure by reaching into the mouth of an infected ruminant when a foreign body is suspected due to inability to swallow or hypersalivation.

Species and Animal Groups Affected

Any mammal can acquire rabies. Rabies cases in cattle are usually less than 100 cases per year in the U.S. (approximately 1.0% of all rabies cases), although a spike in rabies cases in cattle was reported in 2012 (115 cases, 1.87% of all rabies cases). Rabies cases among sheep and goats in the U.S. average less than 0.25% of all cases, and numbers of cases have ranged between 6-13 individual cases reported annually from 2009-2013. The relative contributions of the major groups of animals reported to have rabies in 2013 were: raccoons (32.3%, 1898 cases), bats (27.2%, 1598), skunks (24.7%, 1447), foxes (5.9%, 344), cats (4.2%, 247), dogs (1.5%, 89), and cattle (1.5%, 86).

Signs

Early clinical signs are nonspecific and highly variable between individuals. In cattle, disease may manifest as different forms (furious or paralytic), although clinical signs associated with each form are not mutually exclusive. Oropharyngeal paralysis is considered one of the most common clinical signs of cattle, and rabid cattle can present with clinical signs indistinguishable from choke (esophageal obstruction).

Causes

Rabies is a disease caused by RNA viruses in the genus *Lyssavirus* (family *Rhabdoviridae*).

Risk Factors

Exposure most commonly occurs after a bite by an infected animal. Shedding of the virus in saliva and nasal secretions may precede clinical signs. Humans risk exposure by reaching into the mouth of an infected animal when a foreign body is suspected due to inability to swallow or hypersalivation. Antigenic variations in the rabies virus result in different reservoir species depending on geographic area, although extension to other species is common

Treatment

No effective treatment. Any animal suspected of being exposed to rabies must be securely quarantined as required by state public health department.

Management Considerations

Rabies suspect cases must be securely quarantined. Monitor for changes in behavior and attitude, or clinical signs suggestive of rabies. Check state regulations on specific requirements. Rabies is

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a reportable zoonosis. Inactivated vaccines are the only licensed product for prevention of rabies in livestock in the United States. The modified-live vaccines that are available for use in domestic dogs and cats may potentially produce fatal allergic or viral encephalitis when injected in ruminants.

- Due to the extreme public health concerns, state, provincial, and local regulations have been put in place and must be followed completely.
- The Compendium of Animal Rabies Control is compiled and updated annually by the National Association of State Public Health Veterinarians (NASPHV) and summarizes the most current recommendations for the United States and lists all USDA-licensed rabies vaccines.
- Environmental disinfection can be accomplished with household bleach in a 1:32 dilution (4 ounces per gallon).

Expected Course and Prognosis

Incubation period varies from a few weeks to a year. The average incubation period is 2–6 months. Animals bitten near the head have shorter incubation periods than those bitten on an extremity or on the trunk. Death usually occurs within 10 days of the first symptoms.

Notes

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