FOX VALLEY EQUINE PRACTICE

1N303 LaFox Rd, La Fox, IL 60147
FVEP@foxvalleyequine.com
(630) 365-5600

Rabies

Dr. Emily Weathered

Definition

Rabies is viral neurologic disease that is zoonotic, meaning it can be transmitted between animals and humans. The virus causes a fatal encephalomyelitis, or inflammation of the brain and spinal cord. In the United States, bats, skunks, raccoons, fox, and mongoose are the primary reservoirs for the rabies virus. In Illinois, the primary reservoir is the bat population, however any mammal can become infected and transmit the virus regardless of location. Every year, rabies causes about 59,000 human deaths worldwide, with 99% of the cases being from the bite of a rabid dog. Fortunately, rabies is very uncommon in the horse population, with an average of only 30-60 confirmed rabies cases per year.

Pathophysiology

Rabies is transmitted in the saliva by the bite of an infected animal, although any contact of skin or mucosa with infected saliva has the potential to transmit the virus. Animals infected with rabies often behave abnormally and may walk up to another species when it normally would not. For example, a skunk may approach a horse who inquisitively sniffs the skunk and becomes bit. Once bitten, the virus replicates at the site of the bite wound. Then, the virus travels to the spinal cord where it replicates further before ascending to the brain. At that point, the virus travels to the salivary glands where it can then be transmitted by a bite. The incubation period, or the time from exposure to the virus to clinical signs, can be anywhere from two weeks to several months.

Clinical Signs

Clinical signs of rabies in horses is variable but can be divided into three main categories: furious (aggression, hyper-sensitivity, convulsions, circling, self-mutilation), dumb (anorexia, depression, ataxia, head tilt, difficulty swallowing/hyper-salivation, blindness, incontinence) and paralytic (weight shifting, lameness, weakness, paralysis, hypersensitivity). Colic, blindness, and head-pressing have also been reported.

Diagnosis

There is no test that can be performed in a living animal to diagnose rabies. A CSF tap may show lymphocytic pleocytosis, elevated protein, and a yellow color to the CSF, however this is not definitive for diagnosis. A definitive diagnosis of rabies can only be made by fluorescent antibody virus neutralization testing on brain tissue of a deceased animal.

Treatment
Unfortunately, there is no treatment for rabies, and it is a 100% fatal disease in unvaccinated horses. Unvaccinated horses who have been bitten by a potentially rabid animal, where the animal cannot be caught and tested, should be immediately vaccinated and quarantined for up to 6 months or immediately euthanized and tested. Horses vaccinated for rabies within the past year, who have been bitten by a potentially rabid animal, should be revaccinated and closely observed for 45 days. Humans exposed to the saliva of a horse diagnosed with rabies, must follow post-exposure immunization protocols.

Prognosis
Rabies infection in unvaccinated horses is uniformly fatal. Once clinical signs develop, horses inevitably die within three to five days. Vaccinated horses are very well protected from contracting the virus if bitten by a rabid animal.

Prevention
Rabies vaccines are considered “core” vaccines for horses by the American Association of Equine Practitioners. A core vaccine, is a vaccine that should be given to all horses. A young horse can first receive its rabies vaccine at 4-6 months of age. A booster vaccine should then be administered once yearly for the remainder of the horse’s life. The equine rabies vaccine is very effective in inducing protective immunity for one year.