Leptospirosis

The organism (bacteria) is maintained in the kidneys of chronically infected wildlife, domestic animals, amphibians, and reptiles. Upon urinary excretion, the organism can survive for hours to months in fetal membranes, soil, and water. Occurrence of leptospirosis is higher in temperate to subtropic climates based on the organisms ability to survive in the environment. Warm stagnant water remains to be an important environmental factor for survival of leptospires and explains the increased incidence of disease in times of increased rainfall.

Infection most commonly occurs through invasion of mucus membranes and abraded skin. Additional documented routes of exposure include ingestion, inhalation, transplacental infection, venereal infection, and through animal bites. Incidence of disease is influenced by route of exposure, infectious dose, host immunity, and the associated serovar. Serovars vary in pathogenicity based on the presence of different virulence factors and the host in which they infect.

The most common wildlife that appears to be responsible for disease in the horse are skunks and raccoons in Central Kentucky.

Equine leptospiral abortion has been identified as an important and emergent cause of placentitis and abortion. Reports have indicated that Leptospira sp. account for approximately 1.5-5.9% of equine abortions. Infected mares do not generally exhibit signs and may abort the fetus, deliver a stillborn fetus, or may give birth to a weak foal. Abortions most often occur from 6 months of gestation to full term. Recurrent uveitis and kidney disease can also be associated with leptospirosis.

Diagnosis is obtained with either serology or PCR/florescent antibody test assessment of the urine /Tissue samples.

Penicillin, Oxytetracycline, Enrofloxacin, and doxycycline are some antimicrobials that have been used to treat this infection.

Hagyard Equine Medical Institute has been a leader in regards to educating veterinarians about leptospirosis. Our internal medicine department has submitted numerous articles in veterinary journals about this disease. Some recent articles and presentations include:


Alan T. Loynachan, DVM, PhD, DACVP and Nathan M. Slovis, DVM, DACVIM, CHT. LEPTOSPIROSIS: FUNDAMENTAL PRINCIPLES OF DISEASE. (2010)Presentation given at the American College Veterinary Internal Medicine Conference

L. FRELLSTEDT and N. M. SLOVIS. Acute renal disease from Leptospira interrogans in three yearlings from the same farm. Equine Vet Educ;(2009);21;9:478