Equine hepacivirus (EqHV) (Liver Disease)

Disease Name: Equine hepacivirus (EqHV) (Liver Disease)

Disease definition: One of the virus causing liver disease.

Transmission: This virus infects approximately 40% of US horses. Most infections occur through natural routes and do not cause any clinical illness.

Incubation Period: The time from exposure to detectable virus in the blood is 1-3 days. The time from exposure to detectable acute hepatitis can be 1 – 14 weeks.

Clinical Signs: Horses infected with EqHV can develop a wide range of clinical signs, varying from inapparent or very mild illness to fulminant liver failure. It is not currently known why some horses do not develop clinical signs while others are severely affected.

Acute infection: *Most horses infected with EqHV will clear the infection within 20 weeks and will not have clinical signs of liver disease or illness.* Liver enzyme activities on bloodwork may or may not be transiently elevated, and will normalize within 4-16 weeks.

Chronic hepatitis: *Approximately 20% of horses infected with EqHV will develop persistent infection lasting longer than 6 months. A small percentage of those horses will develop hepatitis over months to years.* Affected horses may show one or more of the following:

- Lethargy
- Anorexia
- Weight loss
- Elevated liver enzyme activities on bloodwork
- Elevated blood ammonia and bile acid concentrations
- Jaundice (yellow eyes and gums)
- Photosensitization (sunburn of white skin)
- Neurologic signs (altered behavior, head pressing, staggering, blindness)
- Discolored urine
- Colic
- Recumbency
- Death
- NOTE: EqHV does NOT cause fever

Carrier Status: Horses can be infected with EqHV for months to years with or without liver disease. These horses are presumed to be infectious.

Diagnosis: EqHV should be considered in horses with signs of liver disease. A definitive diagnosis of EqHV infection can be achieved using a PCR test on liver biopsies, serum, EDTA plasma, or whole blood. However, **the presence of the virus does not always mean it is actively causing disease**.

Treatment: There is no approved treatment for EqHV infection. Asymptomatic horses do not require any treatment. Treatment of clinically affected horses relies primarily on supportive care and treatment of liver dysfunction.

Prognosis: The prognosis for horses with no clinical signs (asymptomatic infections) is excellent in the short-term, although the rate of progression is not known. Multiple outcomes have been observed including: progression to liver failure, stable disease for years, clinical recovery with continued infection, and clinical recovery with viral clearance. At this time, it is not possible to predict the progression of individual cases. The prognosis for horses with signs of fulminant liver failure, especially with neurologic signs, is guarded to poor, with a mortality rate of 50-90%.

Prevention: There is no vaccine for EqHV. When administering equine biologic products (e.g., stem cells, plasma), it is best to administer autogenous biologics (made from the patient's own blood), or biologics that have been tested and confirmed free of the virus. The USDA APHIS Center for Veterinary Biologics (USDA APHIS CVB) currently does NOT regulate or test for EqHV in equine biologic products.

Biosecurity: It's the author's opinion that based on the ubiquitous nature of this virus, isolation is not recommended. While not enough is known about transmission of EqHV to recommend a proven biosecurity protocol currently, horses with hepacivirus infection are presumably contagious. Because an insect vector is suspected, if isolation is desired, separation by at least 200 yards from susceptible horses is recommended.

Risk to Humans and Other Animals: None known

