Equine Enteric Coronavirus

Overview: Coronaviruses comprise a large group of RNA viruses that can cause both respiratory and enteric signs of disease in various species. They are further grouped based on genetic and serologic differences into alpha, beta and gamma coronaviruses. The equine coronavirus, a beta coronavirus, has been recently isolated from a number of outbreaks across the country. This is an enteric disease of the equine. At this time there has been no association with a respiratory component although in cattle enteric and respiratory disease is common.

Transmission: Fecal-oral route  Survival in environment: Unknown
Age distribution: Most often diagnosed in adults, usually older than 2 years of age.
Seasonality: Seen during the cold weather months (in the Northeast areas), December through May.

Common Clinical Signs/Blood test changes
- Anorexia
- Lethargy
- Fever (usually \(\leq 104.0\))
- Changes in fecal character; diarrhea not routinely seen
- Mild colicy-like signs (laying down; looking at sides)
- Neurologic abnormalities (ataxia, depression, recumbency) secondary to hyperammonemia
- Leukopenia (neutropenia, lymphopenia)
- Hypoalbunemia

Morbidity ranges from about 20-57% (Pusterla et al., 2013) and mortality is typically rare, but secondary complications including dehydration, diminished perfusion, and gastrointestinal translocation, can occur (Pusterla et al., 2013). Hyperammonemia and associated neurological signs may be cause for mortality.
Duration: Signs generally resolve in 1-4 days with supportive care and outbreaks typically last for about 3 weeks (Pusterla et al., 2013).

AHDC Sample Submission/Requirements
The sample is fresh feces submitted in an unbreakable leak-proof container to the laboratory by overnight courier on ice packs. Samples must be kept chilled to prevent overgrowth of bacteria that may cause inhibition in the PCR testing. Feces are tested by: Equine Enteric Corona PCR. Lag Time: 3-days. Any questions contact the lab and speak to the VSS, Drs. Mittel, Goodrich and Thompson at 607.253.3900.

Biosecurity/ Control measures:
- If beta coronavirus is on your differential list, encourage the barn to practice appropriate biosecurity measures to control the spread of the virus.
- Horses can continue shedding the virus in their feces for a few weeks (anecdotal reports have shown up to 21 days) from the onset of clinical signs. The virus is shed in the manure. Encourage the farm to take precautions by using footbaths, individual thermometers, and disposable gloves between horses. Attempt to isolate affected animals and handle them last and use separate manure handling equipment from the rest of the barn. Minimize traffic into/out of barn.

Recommended references: