

Equine Coronavirus

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ECoV (Equine Corona Virus) is a gastrointestinal virus that only became recognized in adults within the last 8 to 10 years. Most cases of ECoV are mild and self-limiting. Transmission of the disease occurs via fecal-oral route, meaning horses acquire the disease by ingesting contaminated feed and water. Both adults and foals are susceptible but clinical foals are usually affected by ECoV and another gastrointestinal pathogen whereas adults only have to have ECoV to experience signs. Despite the recent summer outbreak, most cases occur from October to April. For those of you with cows, this may sound familiar to winter dysentery - that's because it's in the same virus family!

Clinical Signs

Clinical signs are non-specific and most commonly include fever, lethargy, and decreased appetite. Colic and diarrhea can also be seen. In rare cases, disease can be severe. Coronavirus attacks the mucosa layer in the gastrointestinal tract, disrupting the barrier that normally separates gastrointestinal contents (bacteria, ammonia, etc) from the systemic circulation. Severe disease - septicemia, endotoxemia, hepatic encephalopathy - occurs when there is extensive damage to this barrier. Septic and endotoxic horses will have a dark pink line called a toxic line on their gums adjacent to their teeth. Horses with hepatic encephalopathy will exhibit neurological signs including circling, head pressing, ataxia, excess laying down, and seizures.

Blood work will often reveal that two types of white blood cells, neutrophils and lymphocytes, are low. In mild cases, blood chemistry is usually normal. In more severe cases, electrolyte abnormalities and elevation of liver and kidney enzymes can be seen. Elevated blood ammonia is also present in cases of hepatic encephalopathy.

Diagnosis

Diagnosis is generally made by clinical signs, ruling out other causes of disease, and detection of ECoV in manure. Fecal reverse transcription quantitative polymerase chain reaction (PCR) is the gold standard for identifying ECoV.

Treatment

Horses often recover within a few days to one week and require no to minimal supportive care (fluids, non-steroidal anti-inflammatories such as bute and banamine). Those exhibiting more severe signs will need more intensive treatment, sometimes in a hospital setting.

Prevention

Unlike bovine coronavirus, no vaccine for ECoV exists. One of the best ways to prevent your horse from acquiring ECoV is having good biosecurity practices at home and at horse shows. Monitoring rectal temperature twice daily can catch a fever early. Just be sure to wipe off thermometers between horses! If outbreak does occur, ECoV is inactivated by common disinfectants such as diluted bleach. Implementing protocols such as isolating febrile horses, working with infected or suspect infected horses last, and wearing personal protective equipment (gloves, shoe covers) can prevent the disease from spreading.