Coronavirus in Adult Horses

Historically, coronavirus has been responsible for causing severe acute respiratory syndrome (SARS) in humans, but Vin said it is emerging as a significant GI disease in adult horses across the United States. Since 2011, fecal samples from 560 horses of all ages older than one year of age have been examined for coronavirus. The presenters recommended combining the use of PCR panels with quantitative toxin gene analysis. Taking feces and nasal mucosa for up to two weeks significantly associated with risk of disease. Slovis said, "Just because a test shows positive for an infectious agent does not mean this is the primary cause of the illness."

Take home message: Beyond being a pain in the gut, equine gastrointestinal (GI) diseases are expensive to deal with. Take time and money.

Infectious Agents Detected in the Feces of Diarrheic Foals: A Retrospective Study of 233 Cases (2003-2012). Nathan Slovis, DVM, Dipl. ACVIM, is infectious disease specialist and equine emergency response director at Hagyard Equine Medical Institute, among other roles at the Lexington, Kentucky, and he's presented on the topic at the American Horse Veterinary Association convention. Slovis said that GI disease can be difficult to manage, particularly in foals. The National Veterinary Services Laboratory (NVSL) was able to confirm the presence of coronavirus in 71% of diarrheic foals but in none of the healthy foals. Researchers report that coronavirus was the single pathogen detected in 55% of foals with diarrhea, but this begs the question: Does that infectious agent cause the diarrhea?

In a different study, more than 20% of 59 foals born on one farm had diarrhea. Most cases developed within 48 hours of birth, many beginning at two days old despite foals living in different stalls. Testing revealed a potpourri of organisms in both healthy and sick foals but pointed to Rotavirus as the cause of disease. Another study revealed a high percentage of rotavirus in foals with diarrhea. The researchers identified enteropathogens in 78% of diarrheic foals, 73% of which included rotavirus, E. coli, and coronavirus in both healthy and sick animals. Slovis, an author on the study, said, "The overall prevalence for any infectious agent was 63% in the diarrhea group and 43% in the healthy group, but just because a test identifies an infectious agent in the feces may not indicate that's the cause of disease." In other words, in terms of degree of illness and the speed of resolution, PCR is also useful for identifying genes from bacteria that produce toxins. Qualitative RT-PCR can detect the presence of coronavirus in feces, although not for most enteropathogens. PCR is the gold standard for qualitative detection of pathogens in the stool. The load of virus in the sample is the best indicator of disease outcome, both in terms of degree of illness and the speed of resolution. PCR is also useful for identifying genes from bacteria that produce toxins. Qualitative RT-PCR can detect the presence of coronavirus in feces, although not for most enteropathogens.

The presenters recommended combining the use of PCR panels with quantitative toxin gene analysis. Identifying which pathogens are involved in a horse's GI illness is essential determining the cause of disease. Veterinarians can perform a rapid diagnostic test on fecal samples using a PCR (polymerase chain reaction) test that is the cause of disease. Veterinarians can perform a rapid diagnostic test on fecal samples using a PCR (polymerase chain reaction) test.

Foal Diarrhea

The presenters said that GI disease can be difficult to manage, particularly in foals. The National Veterinary Services Laboratory (NVSL) was able to confirm the presence of coronavirus in 71% of diarrheic foals but in none of the healthy foals. Researchers report that coronavirus was the single pathogen detected in 55% of foals with diarrhea, but this begs the question: Does that infectious agent cause the diarrhea? In a different study, more than 20% of 59 foals born on one farm had diarrhea. Most cases developed within 48 hours of birth, many beginning at two days old despite foals living in different stalls. Testing revealed a potpourri of organisms in both healthy and sick foals but pointed to Rotavirus as the cause of disease. Another study revealed a high percentage of rotavirus in foals with diarrhea. The researchers identified enteropathogens in 78% of diarrheic foals, 73% of which included rotavirus, E. coli, and coronavirus in both healthy and sick animals. Slovis, an author on the study, said, "The overall prevalence for any infectious agent was 63% in the diarrhea group and 43% in the healthy group, but just because a test identifies an infectious agent in the feces may not indicate that's the cause of disease." In other words, in terms of degree of illness and the speed of resolution, PCR is also useful for identifying genes from bacteria that produce toxins. Qualitative RT-PCR can detect the presence of coronavirus in feces, although not for most enteropathogens. PCR is the gold standard for qualitative detection of pathogens in the stool. The load of virus in the sample is the best indicator of disease outcome, both in terms of degree of illness and the speed of resolution. PCR is also useful for identifying genes from bacteria that produce toxins. Qualitative RT-PCR can detect the presence of coronavirus in feces, although not for most enteropathogens.