Measuring SAA Can Help Identify Health Issues Early

Rose Nolen, DVM, Dipl. ACVIM, associate professor of large animal internal medicine at the University of Pennsylvania School of Veterinary Medicine's New Bolton Center, described its uses during the 2015 American Association of Equine Practitioners Convention, held Dec. 5-9 in Las Vegas.

SAA (amyloid A) is a powerful diagnostic tool for veterinarians, she said. The liver produces it as part of the body’s response to inflammation, and the plasma protein is sensitive to infection and inflammation and can be easily measured.

Historically, veterinarians have relied primarily on another inflammatory marker, the protein fibrinogen, to monitor the rate of improvement, and to mark resolution of disease,” she said.

In a general sense, SAA can be used in most situations to obtain early identification of an inflammatory process, to assess the effectiveness of a chosen antimicrobial or other treatment, to determine a horse’s preparedness for advanced competition, there’s still a lot of research to be done, said Nolen.

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Exercise, they said, causes an increase in SAA concentration in healthy horses, and the magnitude of the rise can help to differentiate between disease and non-disease states. Such vague signs can delay diagnostic and treatment decisions, as the veterinarian opts for these serial blood tests.

Overall, fibrinogen’s diagnostic accuracy is 62%, compared to SAA’s accuracy of 75%. Hence, Nolen said.

Surgical colics are less likely to have high SAA levels, she said, so this finding should make a veterinarian think twice before exploring complications. In animals with postoperative infections, veterinarians will notice a high SAA peak and likely a fever, but in horses with recurrent airway obstruction, SAA levels are often normal.

In the early stages of infection or inflammation, it might be apparent that something isn’t quite right, Nolen said. "If the SAA is increased in a foundered horse, look for a source of infection or inflammation." While SAA measurements cannot necessarily help veterinarians to identify infections, they can be a “wait and see” approach, leaning on serial blood tests for clues.

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