What is SAA and How is it Used?

SAA (Serum Amyloid A) is a protein that is made in the liver in response to infection. We can now test for SAA stall side in a matter of minutes to determine if a horse has an infection. The test has many beneficial applications in equine medicine from extremely early detection of infection to real time monitoring of the progression of an infection in response to antimicrobial therapy. It can be used as well for screening purposes prior to an equestrian event, shipping or in high risk situations such as foals in high risk environments.

SAA is released by the body immediately when an infection is present which makes the early detection possible. In addition, the protein drops quickly as an infection improves. This is what allows for real time monitoring of the success of antimicrobial therapy.

Stablelab has developed a portable testing unit that can be used stall side to give results in the field in 10 minutes. We have been using our unit for a couple of months and have found so many applications for the unit that I feel it is the best innovation since the development of portable digital radiographs.

Recent examples of cases with MEVP:

Example 1: Horse presented for a swelling in the jaw that involved the bone of the mandible. The swelling was acute in onset and the horse had no other significant symptoms. Radiographs revealed a large amount of reactive bone. SAA testing revealed a negative level of SAA indicating that this was not a bone infection but rather another cause, such as bone cancer.

Example 2: The owner noted that their horse was depressed and they felt it was mildly colicky. They treated the horse with banamine. The next day the horse was not improved and during the exam the horse was noted to have a fever. SAA was elevated at >600. We sent the horse to the hospital for further diagnostics and within 3 hours of our SAA it had increased to over 1200. The horse was treated for peritonitis at the hospital. SAA was used to follow the status of the infection while on antimicrobials.

Example 3: A horse presented for coughing. The concern by the owner was that the horse had pneumonia. Following the exam the horse was noted to have a normal temperature. SAA was (0) negative which suggested that an infection was not present. This allowed the tentative diagnosis of COPD (allergic bronchitis) and immediate treatment. Blood submitted that evening came back the following day to support the diagnosis. We were able to start treatment 24 hours sooner with the stall side test.

I feel we are going to find many more instances where testing for SAA will be advantageous to our patients. I see testing prior to shipment across the country to detect a problem before it manifests. We can use the test in times of outbreaks of contagious diseases such as a farm with strangles. We can use the test when a horse has a swollen leg and we are attempting to determine if this is simply a swollen leg or a swollen leg secondary to cellulitis.

I am very excited about what this field test can provide to us and our patients.