

Vetpath is a specialist veterinary laboratory dedicated to providing our clients with the finest laboratory diagnostic service. A team of veterinary pathologists and medical scientists with extensive experience in veterinary diagnostic pathology forms the core of the Vetpath team.

VN News

JULY 2020

Vale Tony

It is with great sadness that we let you know that Vetpath courier Tony passed away suddenly on the 20th of June.

Tony worked at Vetpath Laboratory Services for two years. In that time he became a respected co-worker and friend. Tony will be remembered for his easy smile and his love of caramel lattes and soccer.

Tony leaves behind his wife and adult children. We will miss him greatly.



Factor VII deficiency

Occasionally we see cases of Beagles with prolonged prothrombin time (PT) despite adequate vitamin K therapy for suspected rodenticide intoxication.

These patients are suspected to have a heritable factor VII deficiency causing prolonged PT. Factor VII deficiency has also been reported in Australian Miniature Schnauzers and Alaskan malamutes. This disorder is often a coincidental finding, however affected individuals may have bruising or prolonged bleeding following surgery.

A genetic test is available, and testing before breeding in affected dog breeds may help to reduce the prevalence of affected dogs.

Reference: MSD Manual, Bleeding Disorders of Dogs, Susan M. Cotter, *Tufts University*

Dr Flaminia Coiacetto

You may have noticed a new name on the bottom of your histopathology reports recently.

Dr Flaminia Coiacetto has joined Vetpath Laboratory Services as a consultant histopathologist. Flaminia primarily works in the pathology department at Murdoch University where she heads the diagnostic service, coordinates the residency program, lectures students and is completing a PhD in avian pathology. After graduating from veterinary science at UQ in 2013, Flaminia completed a residency in anatomic pathology at Murdoch University and achieved board certification in 2018.

Flaminia will be reporting histopathology cases for Vetpath when our full-time histopathologists are on leave.

Equine serum amyloid A

Serum amyloid A (SAA) is the only major acute phase protein that can be tested in the horse.

Acute phase proteins are blood proteins synthesized mainly by hepatocytes as part of the acute phase response of the innate immune system. Concentrations rapidly increase after an inflammatory stimulus and rapidly decrease once the inflammation has ceased. The SAA concentration will increase again with relapse/recurrence of the inflammatory process.

SAA is not specific for a certain disease and can increase due to inflammation both with and without infection. However, it is more sensitive at detecting inflammation than other commonly used markers such as fibrinogen and white cell count. In studies to differentiate between normal horses and those with inflammatory disease such as colitis, SAA measurement had a sensitivity of 53% and specificity of 94% for detecting inflammation. In horses where SAA increased 24-72 hours after admission, the prognosis was generally poorer.

Inflammation secondary to surgical procedures can cause elevated SAA concentration. In horses undergoing exploratory coeliotomy surgery, serum SAA

increases from 48-96 hours after surgery compared to 12-24 hours for those undergoing minor procedures, with a greater increase in those often seen in cases with complications.

Even relatively minor procedures such as castration can result in elevated SAA concentration. Serum SAA concentrations usually peak at day 3, and should be much lower by day 8 in uncomplicated surgery cases. Cases with post-surgical complications such as infections will have persistently elevated SAA concentrations.

SAA concentrations have also been evaluated in peritoneal fluid and synovial fluid. Increased SAA concentrations have been found in the peritoneal fluid of horses with colic compared to control horses, though it has not been found useful to differentiate between surgical and non-surgical cases. Increased SAA in synovial fluid can occur with septic arthritis, whereas horses with other causes of synovial disease have undetectable synovial SAA concentrations.

Serum SAA concentration in newborn foals should be interpreted in light of the fibrinogen concentration and CBC findings as colostrum contains SAA. Serum SAA concentration was also found to be a poorly sensitive screening test for *Rhodococcus equi* pneumonia in foals despite this condition causing increased

fibrinogen concentration. The cause of the discrepancy is uncertain.

Testing for SAA is available at Vetpath, and can be performed on serum or synovial fluid. SAA is stable at room temperature, making measurement easier in samples travelling from rural areas. SAA can be performed as a standalone test or as part of the Equine Inflammatory Prolife (CBC, SAA, iron, total protein, albumin and globulins).



Reference:

Vet Clin Equine 36 (2020) Equine Inflammatory markers in the Twenty-First century: A Focus on Serum Amyloid A, Alicia Long, Rose Nolen-Walston, p147-160.



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