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.

VNews

VETPATH LABORATORY SERVICES

AUGUST 2018

Vetpath Equine Inflammatory Prolife

The early detection and the monitoring of an inflammatory response can be challenging in the equine patient. In some instances systemic inflammation can proceed unrecognized which can lead to serious and potentially fatal outcomes for the patient.

The leukocyte response in horses is insensitive and the evaluation of acute phase proteins such as serum amyloid A (SAA) and fibrinogen has been commonly used. Following the onset of an inflammatory response, fibrinogen values increase by 24 hours but may not peak for 2-3 days. Similarly detectable levels of SAA occur by 24 hours and peak by 48 hours. Because of its short half-like, SAA levels decrease rapidly once inflammation has resolved.

The estimation of serum/plasma iron has also been shown to be a useful biomarker of inflammatory disease in horses and foals where levels rapidly decrease in response to an inflammatory stimulus. In one study, measurement of iron better reflected acute inflammation than did fibrinogen concentration, which is not surprising given iron concentration decreases as soon as 5 hours after induction of inflammation.

Vetpath now offers an additional panel to accompany the suite of equine panels already available. **The Equine Inflammatory Panel includes a CBC, total protein (and albumin and globulins) and estimation of SAA (serum), fibrinogen (plasma) and iron (serum).** Together, estimation of SAA, fibrinogen and iron provide sensitive and specific methods to both signal the presence and evaluate the intensity of an inflammatory response, as well as providing useful prognostic information for the clinical response to treatment.

References:
S Taylor. *Equine Vet J* (2015); 27(2):99-109.
Borges AS, *et al*. *J Vet Intern Med* (2007); 21:489-494.
Hooijberg EH, *et al*. *J Vet Intern Med* (2014); 28:1587-1593.
Jacobsen S and PH Andersen. *Equine Vet Educ* (2007); 19(1):38-46.
Smith JE and JE Cipriano. *Vet Pathol* (1987): 24:354-356.

Hypoadrenocorticism in brief

Last month, VNews discussed the pathophysiology and clinical features of hypoadrenocorticism. The second installment will feature diagnostic testing.

A presumptive diagnosis of Addison's disease is based on the clinical history and supportive laboratory abnormalities, including hyponatraemia, hyperkalaemia, a sodium:potassium ratio of <25:1, azotaemia, mild acidosis, normocytic, normochromic anaemia, +/- hypoglycaemia. The absence of a stress/steroid leukogram or presence of lymphocytosis +/- eosinophilia in a sick/stressed dog raises suspicion for the disease.

Confirmation of all forms of the disease requires an ACTH stimulation test, with pre- and post-stimulation values of cortisol <55nmol/L in both typical and atypical cases. Baseline (resting) cortisol concentration of >55nmol/L effectively excludes a diagnosis of Addison's disease. It is best to test cortisol concentrations before treating with steroids, though if immediate treatment is required in severely ill dogs, dexamethasone can be administered for 24-48 hours before testing if required.

In dogs suspected of having atypical hypoadrenocorticism, endogenous ACTH concentration can be tested to rule out secondary hypoadrenocorticism (ACTH should be low with pituitary dysfunction and high with atypical Addison's). Samples for this must be collected before any corticosteroid administration is started, as even small amounts of steroids (including dexamethasone) may alter ACTH secretion and produce misleading results.

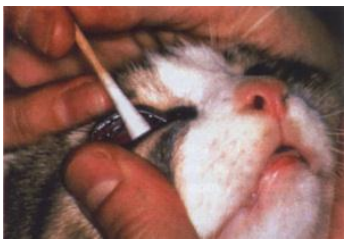
Hypoadrenocorticism can be life-threatening, however with timely diagnosis, treatment and adequate monitoring, the prognosis is good.

Reference:
Bovens C et al. JVIM 2014; 28 (5): 1541 - 5.

Swabs for PCR

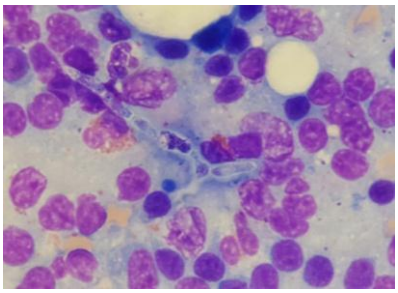
PCR tests can be performed on a variety of samples including body fluids, faeces or swabs.

If you are submitting a swab for PCR testing, do not place the swab in culture media. Instead, cut the tip of the swab off and place it into a sterile urine pot.



What's your diagnosis?

A 1 year old desexed female German shepherd presented to the submitting vet with peripheral lymphadenomegaly. Fine needle aspirates from multiple lymph nodes were submitted for cytology (see pic below). What's your diagnosis?



The lymph node smears revealed a reactive lymphoid population with eosinophilic inflammation. Numerous branching, septate fungal hyphae were identified. In a German shepherd dog, systemic aspergillosis is considered most likely, however fungal culture of aspirated material would be required to definitely identify the fungal species present.

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