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

MAY 2011

HAVE YOU BOOKED YOUR TABLE YET?

The Vetpath trivia night is fast approaching and time is running out to book your table. The trivia night will be a great opportunity to socialize with your colleagues over a light dinner and drinks. There will pathology and general knowledge questions, and all members of your practice are welcome to attend. Book your tables of 6 now by calling Vetpath at 9259 3600.

Date: Wednesday 18th May.

Time: 6:30pm for 7pm start.

Location: Ascot Quays, 150 Great Eastern Hwy, Ascot.

RSVP: Deanne Broughton by the 11th May.

WHAT DOES "POIK" MEAN?

Every complete blood count should include evaluation of erythrocyte morphology. A common term used in the RBC comments on complete blood counts at Vetpath is "poik". Poik is short for poikilocytosis or poikilocytes, which are erythrocytes with an abnormal shape.

Some poikilocytes are specific for a particular pathology, while other forms are very non-specific. Identification of the poikilocytes is helpful (e.g. acanthocytes, keratocytes, echinocytes), as this may help clarify the disease process present. The age and species of the patient should be taken into account; healthy goats and young ruminants commonly have significant poikilocytosis.

It should be noted that blood from clinically normal animals will usually have low numbers of misshapen red cells. Some species (see above) have misshapen red cells in health. Evaluation for significant shape abnormalities requires a well-made blood film prepared from fresh blood, so that artifactual shape changes are not superimposed upon any of potential pathologic significance.

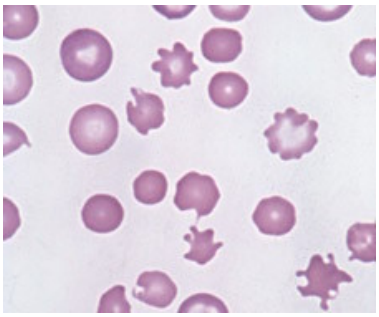

Figure 1: Poikilocytes in a blood smear from a dog.

Each month, V News will be discussing a different poikilocyte. Can you identify the poikilocytes present in Figure 1 and list the possible disease states that can cause these morphology changes? The answer is over the page…

THE EFFECT OF BODY WEIGHT ON SERUM FRUCTOSAMINE

Serum fructosamine (SF) concentration is commonly used to assess diabetic control in dogs and cats.

Serum fructosamine reflects the mean blood glucose concentration over the past 2 – 3 weeks and is influenced by glucose concentration and average half-lives and glycation rates of serum proteins. A recent study published in Veterinary Clinical Pathology also found body weight influences SF concentration.

Eighty four healthy, non-diabetic DSH cats were selected for the study. Body weight was found to be weakly, but significantly correlated with SF concentration, however body condition score was not found to be correlated. Cats weighing greater than 5.4kg had higher mean SF concentration (280.8 ± 46.5 µmol/L) compared with cats weighing less than 5.4kg (258.2 ± 42.4 µmol/L). The study concluded that normal to obese DSH cats had higher mean SF concentrations compared with cats categorized as lean. The study also found that male cats had a significantly higher SF concentration (285.1 ± 45.3 µmol/L) compared with female cats (244.5 ± 33.9 µmol/L).

Hypoproteinaemia is known to be associated with decreased SF concentrations. However, there is no evidence that serum protein concentrations are different between cats of different breeds, sexes, body weights or adiposity. Malnourished cats likely have increased protein catabolism, which may be the cause of the lower SF seen in thinner cats in this study.

Further research needs to be completed to assess the association between obesity and pre-diabetic conditions in cats. SF concentration may have future use as a screening test for pre-diabetic states in obese cats.

Reference: Gilor C et al. The effects of body weight, body condition score, sex and age on serum fructosamine concentrations in healthy cats. 2010. Vet Clin Path. 39(3): 322-328.

The cells are….

Acanthocytes.

Acanthocytes are erythrocytes with irregularly spaced, variably sized spicules. These cells form alterations in membrane lipid content secondary to changes in plasma lipids, as can occur with liver disease. They can also occur with disorders that result in erythrocyte fragmentation, such as haemangiosarcoma, disseminated intravascular coagulation, iron deficiency, and glomerulonephritis.

Acanthocytes are also less resistant to osmotic lysis than normal red cells. Due to their rigidity, they probably have a shorter life span than normal, resulting in a mild haemolytic (extravascular) anaemia.

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