

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

JANUARY 2019

DGGR lipase

The Christmas period brings many opportunities for both humans and pets to indulge in delicious food. Unfortunately, these indulgences can have unwelcome consequences in the form of pancreatitis.

Diagnosis of pancreatitis can be problematic. The new DGGR lipase test has been found to be greatly superior in sensitivity and specificity for diagnosing pancreatitis in dogs and cats. The DGGR lipase is the only lipase assay performed at Vetpath and is included in all complete canine and feline profiles.

Multiple large studies have been published in the last 5 years detailing the utility of this test in diagnosing pancreatitis in dogs and cats. A 2013 study including over 250 cats found that there was excellent agreement

between the DGGR lipase and the Spec fPL tests. The calculated sensitivity and specificity for the tests varies depending on the chronicity of the pancreatitis, but are very similar for both tests.

In dogs, a similar agreement was found between the DGGR lipase and Spec cPL. A study of over 140 dogs published in 2014 found that there was high agreement between the two tests, and that the lipase tests were actually more accurate than ultrasonography results.

The DGGR lipase can be requested as a stand-alone test, but is best interpreted in conjunction with a full biochemistry panel.



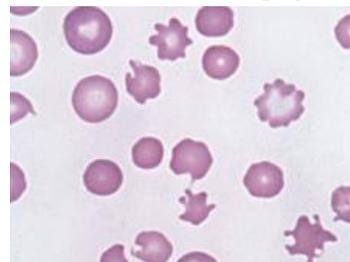
References:

1. JVIM 2014; 28: 863 - 870.
2. JVIM 2013; 27: 1077 - 1082.

What is "poik"?

A common term used in the RBC comments on CBCs performed 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 non-specific. It should be noted that blood from clinically normal animals will often have low numbers of misshapen red cells. 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. Can you name the poikilocytes featured below? The answer can be found on the next page...



ACTH stimulation test – what protocol should I follow?

Clinicians often ask what ACTH stimulation test protocol to follow. This is the information available:

Non-depot formulations (Cortosyn®/cosyntropin) or Synacthen®/tetracosactide) have been found to produce similar cortisol responses whether given IV or deep IM. If a dog is dehydrated or in shock (e.g. when testing for Addison's disease), IV administration is essential in providing dependable results. Depot formulations must be dosed IM only.

If ACTH is used in cats, IV dosing is recommended as IM administration is painful and subcutaneous administration results in unreliable absorption.

Studies have shown that 5ug/kg up to max of 250ug (one vial) per dog of **non-depot formulation ACTH** results in maximal cortisol stimulation, and doses of between 1 and 5ug/kg may also be adequate for cortisol stimulation in healthy dogs or when monitoring treatment for Cushing's disease. Collect the second blood sample 1 hour later.

Depot formulations should only be given IM, at 250ug/dog. The second blood sample is collected

2 hours later. Store samples at 4°C.

References:

1. JAVMA 2006, 229 (4): 528-530.
2. AJVR 2007, 68 (5): 555-60.
3. JVIM 2015, 29 (6): 1541-1546 and 2012, 26 (2): 412-14.

Coomb's test

The direct Coomb's test is performed as a supportive diagnostic test for IMHA.

The test is performed on an EDTA sample and aims to detect antibody adhered to the patient's RBC. Washed RBC are incubated with an antibody to IgG, IgM and C3, and the sample checked under the microscope for evidence of agglutination.

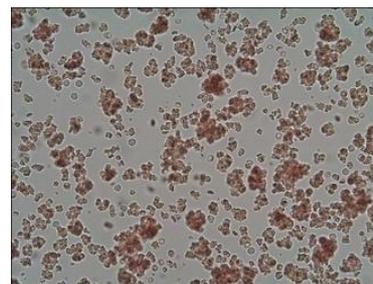
The Coomb's test has no diagnostic value in non-anaemic animals or in a patient with a positive saline agglutination test. False positive and negative results can occur, and other signs (spherocytosis, agglutination) should be taken into account when diagnosing IMHA.

False positive results may occur with infectious diseases (e.g. *Babesia sp*, *Mycoplasma sp*) or neoplasia. Other potential causes of false positives include an immune response to a blood transfusion, non-specific coating of erythrocytes with antibodies, or in-vitro complement binding during storage.

The Coomb's test has a fairly low sensitivity (up to 66-75% of dogs with IMHA show positive

Coomb's results), and negative results do not rule out IMHA. False negatives may occur if the antibody titre is too low for detection by the test, or if detachment of antibody from erythrocytes occurs due to sample ageing. Prior corticosteroid therapy may also cause false negatives, though the test should still be positive despite corticosteroid therapy if clinical signs of ongoing haemolysis are present.

The Coomb's test is only available in dogs.



Microscopic agglutination

Reference: Schalm's Veterinary Hematology 6th ed. 2010. Wiley-Blackwell.

Answer: Acanthocytes.



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