

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

JUNE 2016

Should endocrine tests be routine?

Vetpath Laboratory Services offers a range of panels for all veterinary species. These panels range from basic health screens for well animals to comprehensive profiles for sick patients.

Our screens, panels and profiles do not routinely include endocrine tests such as T4 or cortisol concentrations. Endocrine disease must be diagnosed in conjunction with the clinical signs and relevant laboratory data and is not generally an unexpected finding after routine testing.

Compared with hyperthyroidism in cats, canine hypothyroidism can be difficult to correctly diagnose. A single decreased total T4 concentration does not

confirm the presence of hypothyroidism, and over-interpretation of decreased T4 concentration can result in misdiagnosis. Total T4 concentration is a good screening test to rule out hypothyroidism. However, this parameter must always be interpreted in light of the clinical signs and history of the patient. Factors to consider include concurrent illness, medications (including glucocorticoids and phenobarbitone), age and breed. The latter two factors may result in the normal reference range being inappropriate for an individual patient.

A dog with weight gain, skin changes and lethargy is a good candidate for T4 testing. This can either be done with a total T4 concentration, or with a full canine thyroid panel that includes a PCV, cholesterol, total and free T4 concentrations and TSH concentration. Free T4 concentration is less likely to be affected by euthyroid sick syndrome, and is useful for diagnosis of hypothyroidism when there is concurrent illness.

A routine cortisol concentration is also of minimal diagnostic use in dogs, except when hypoadrenocorticism needs to be ruled out. Dynamic adrenal function testing such as ACTH stimulation test or a low dose dexamethasone suppression test is required for diagnosis of adrenal disorders. Appropriate clinical signs, signalment and biochemical abnormalities must also be taken into consideration when interpreting adrenal function tests.

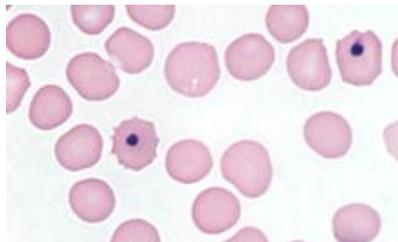
Routine assessment of endocrine tests in all patients increases the risk of misdiagnosis of these disorders and can be an unnecessary expense. Just because you can run a test doesn't mean you should!



What is that dot?!

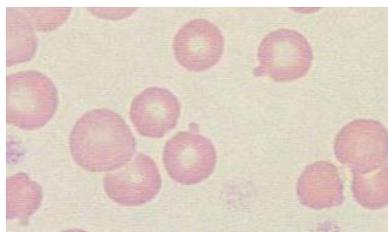
Determining the identity and significance of dots and spots on a blood smear can be challenging. Here is a quick review of some of the more commonly observed structures.

Howell-Jolly bodies



Howell-Jolly bodies are basophilic nuclear remnants that were not extruded when the erythrocyte left the bone marrow. They are more commonly seen in splenectomized patients, with regenerative anaemia or with erythroid dysplasia.

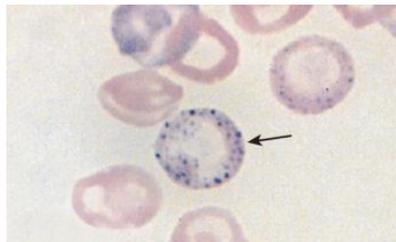
Heinz bodies



Howell-Jolly bodies are small, round precipitates of denatured haemoglobin that result from oxidative damage to haemoglobin. They are more common in cats, particularly those with lymphoma, hyperthyroidism or diabetes mellitus. Exogenous oxidants such as paracetamol,

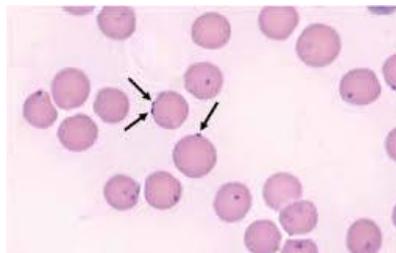
onions, garlic, and Vitamin K1 can cause Heinz body anaemia.

Basophilic stippling



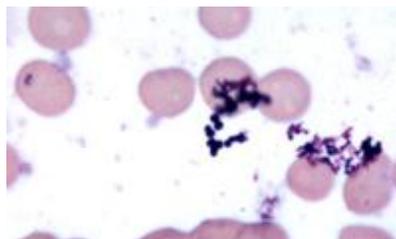
Basophilic stippling represents aggregates of ribosomal RNA and can be observed with regenerative anaemia or lead poisoning.

Mycoplasma haemofelis



Mycoplasma haemofelis is an epicellular bacterial parasite of feline erythrocytes that can cause haemolytic anemia. The organisms can be seen as small basophilic cocci, rods or rings on the surface or edge of the erythrocyte.

Stain precipitate



Stain precipitate can appear as fine to globular, basophilic material that is sometimes in the focal plane above the cells. This

is an incidental finding and should not be confused with an infectious agent. If persistent, filtering the staining fluid can help prevent precipitate aggregation on the smear.

Polyarthrititis screen

Evaluation of multiple joint fluid samples for polyarthrititis can become expensive. Did you know that Vetpath offers a polyarthrititis screen that allows evaluation of multiple joints at a discounted price?

The polyarthrititis screen is composed of one full joint analysis plus smear evaluations of up to five other joints. The smear evaluations include estimates of cellularity and hemodilution, as well as a differential count. The cytological appearance of all joints will be summarized in the interpretation. The polyarthrititis screen allows clinicians to diagnose polyarthrititis with minimal cost.



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