

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

FEBRUARY 2011

THYROID HORMONES IN SIGHT HOUNDS

The diagnosis of canine hypothyroidism can be diagnostically challenging. Integration of clinical signs, clinicopathological changes and abnormalities in serum thyroid hormone concentrations is helpful in making an accurate assessment of the thyroid status of a patient.

However, serum thyroid hormone concentrations can be affected by several factors including medication history, age, sex, breed and activity. The effect of breed is particularly important in sighthounds. Low serum total and free T₄ concentrations have been reported in a number of sighthound breeds, including Greyhounds.



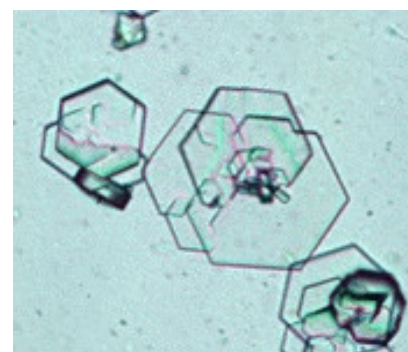
A recent study published in JAVMA reported the median total T₄, free T₄, and TSH concentration in a population of Salukis. When compared with standard reference ranges (non-breed-specific), 55% of the Salukis in the study had lower total T₄ concentrations and 31% had lower free T₄ concentrations. These findings are comparable to other studies assessing T₄ concentrations in Greyhounds. In contrast to T₄, most of the Salukis (91%) had TSH concentrations within the non-breed-specific reference interval.

The lower T₄ concentrations seen in sighthounds pose a diagnostic dilemma for clinicians when assessing the thyroid status of these patients. Clinical signs and other pathological data should

be used in conjunction with T₄ testing to diagnose hypothyroidism in these dogs.

Reference: Shiel RE et al. 2010. Assessment of criteria used by veterinary practitioners to diagnose hypothyroidism in sighthounds and investigation of serum thyroid hormone concentrations in healthy salukis. **JAVMA**. 236 (3): 302-308.

What crystal is this?



Source:

<http://diaglab.vet.cornell.edu/clinpath/modules/UA-SED/crystal1.htm>

The answer is over the page.....

BLOOD TUBES

Collecting blood samples is a common and relatively simple part of veterinary practice. However, how the blood tubes are filled can significantly influence the accuracy of the test results.

Both over filling and under filling blood tube can cause erroneous results. Clotting of the sample due to over filling or inadequate mixing is especially problematic. This can cause inaccurate results in all aspects of the CBC and renders a sodium citrate sample unusable.



EDTA (purple top) is the anti-coagulant of choice for mammalian species. Lithium heparin (green top) is not ideal as cell staining is inconsistent and the cells tend to clump causing inaccuracies in the cell counts. Under filling the EDTA tube results in a relative excess of EDTA solution compared to blood. This can cause an artificially decreased HCT and significant crenation of red cells (these cells are called echinocytes). This erythrocyte crenation can mask significant pathological shape abnormalities.

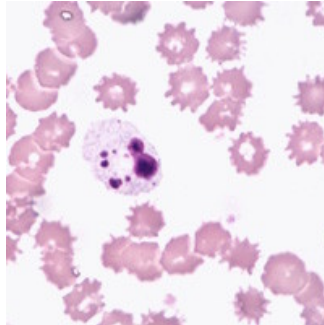


Figure: Marked crenation of erythrocytes due to excess EDTA solution in an under filled tube.

Sodium citrate tubes must be filled to the correct level. Even if a clot is not present, under or over filling the tube can cause artificially prolonged or shortened coagulation times. This can make differentiation between a true coagulopathy and artificially prolonged coagulation times difficult.

Choosing an appropriately sized tube is an important step in the blood sampling procedure. If you have a very small patient or are only able to obtain a small amount of blood, always use a small EDTA or citrate tube to achieve the correct anti-coagulant to blood ratio. Mixing the sample promptly and thoroughly is also important. Once blood for a CBC has clotted, the results will not be accurate.

If you have any questions regarding blood sampling or what tubes are available, please contact the laboratory on (08) 9259 3600.

The crystals are

Cystine.

Cystine crystals are flat, colourless plates with a hexagonal shape composed of equal or unequal sides. They often aggregate in layers and are most often formed in acidic urine.

Cystine crystalluria or urolithiasis is an indication of cystinuria. Cystinuria is an inborn error of metabolism involving defective renal tubular reabsorption of certain amino acids including cystine. Male dogs are almost exclusively affected (indicating a sex-linked inheritance) and many breeds have been reported affected. Renal function otherwise appears to be normal.



Vetpath Laboratory Services

RECEPTION DIRECT +61 8 9259 3600

LOCAL COURIER PICK-UPS +61 8 9259 3666

AFTER HOURS MOBILE 0418 916 436

FACSIMILE +61 8 9259 3627

EMAIL enquiries@vetpath.com.au

WEBSITE www.vetpath.com.au

VETERINARY PATHOLOGISTS

Sue Beetson BSc (Hons) BVMS PhD

Jenny Hill BVSc (Hons) Dip ACVP

John Jardine BVSc MMedVet (Path) Dip ACVP MRCVS

Mary McConnell BVSc Grad.Dip.Clin.Path PhD

Leanne Twomey BSc BVMS (Hons) PhD Dip ACVP