

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 2019

New Cardiac Troponin I assay

Troponin is a cardiac biomarker used in human and veterinary medicine. Troponin contains three subunits (T, C and I) and is released into circulation after cardiomyocyte damage.

Increased serum cardiac troponin I concentration has been reported in primary cardiac disease, but also as a sequel to non-cardiac disorders such as fever, inflammatory disease, hypoxemia, hypotension and anaemia.

CTnI has been validated in dogs, cats and horses, and more recently, assays with increased sensitivity (termed “high-sensitivity”) have been developed for use in humans. Validation data for the high-sensitivity cTnI assay has



been published, and preliminary studies for dogs and cats indicate that there is very good correlation between assays.

The referral laboratory performing the cTnI assay for Vetpath has now moved to the high-sensitivity method, and the test’s units and interpretation have been updated. Due to poor correlation between the assays, **cTnI is currently unavailable for horses.** We hope that further validation studies will allow Vetpath to offer cTnI in horses in the future.

References:

Langhorn R and Willeesen JL JVIM 2016; 50.
Hori Y et al. JVIM 2018; 929.

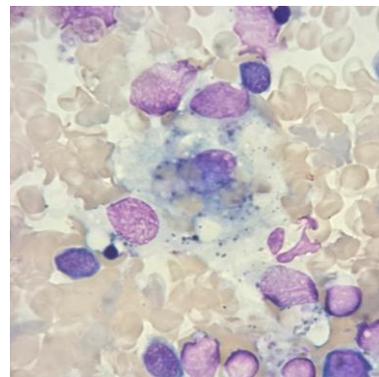
Down the microscope!

Splenic aspirates were submitted for cytological evaluation from a dog with a regenerative anaemia.

Can you answer the following questions?

1. What cell is in the middle of the image?
2. What process is occurring in the cell?
3. Can you identify any other cells?

Answers over the page....



Testing kittens for FeLV and FIV

Retrovirus testing of kittens in catteries and animal shelters is often considered before they are rehomed.

FIV: The most common test used is a **patient-side ELISA** screening test for FIV antibodies. Screening for viral antigen is not possible as the amount of circulating virus is low after the acute phase of infection. Infection is life-long, and a positive antibody test is deemed sufficient for a diagnosis.

Anigen Rapid (used at Vetpath) and Witness FIV antibody point of care (POC) test kits are able to distinguish between vaccinated and infected cats 6 months after the final **primary** vaccination, though other POC test kits cannot. False positives can occur, so this test can be **followed up with a PCR test**. Positive antibody tests in kittens under 6 months old must be interpreted carefully as kittens may acquire maternal antibody via colostrum. Most cats produce antibodies within 60 days of infection, though some can take longer.

FeLV: Diagnosis of FeLV relies on the detection of p27 antigen in blood. **ELISA tests** can detect infection early, during primary viraemia, although in some cats this can take longer. Immuno-

fluorescence antibody (IFA) tests on whole blood or bone marrow detects p27 antigen in infected platelets and neutrophils, but only after secondary viraemia 6-8 weeks after initial infection, and is recommended as a **confirmatory test**.

It was previously thought that approximately 1/3 of cats became persistently viraemic and about 2/3 would clear infection. New research using PCR technology suggests that most cats remain infected for life following exposure, however, may revert to a non-viraemic/latent state. These cats are unlikely to shed virus in their saliva, but may transmit pro-viral DNA if used as blood donors.

Kittens can be tested at any age as passively acquired immunity does not interfere with testing for viral antigen. Newborn kittens infected via FeLV positive queens may not test positive for months after birth. Kittens or cats that test negative, but have known or suspected exposure to FeLV, should be re-tested at least a month after exposure.

All positive point of care results should be confirmed either with IFA or PCR. A positive FeLV IFA test at any time on blood or bone marrow generally indicates that a cat is persistently infected.

References:

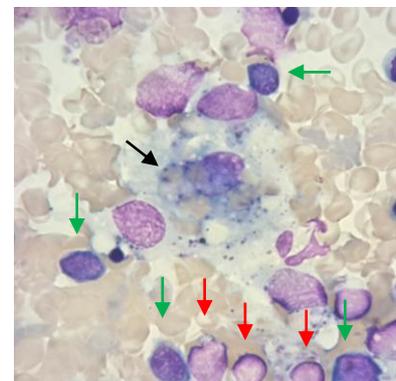
1. *Vet Microbiol.* 2015; 176(1-2):50-60.
2. *AVJ.* 2019 Mar; 97(3):47-55.



The cell is a.....

Macrophage!

Macrophages are resident cells in the spleen and the cell in this image is exhibiting erythrophagia (black arrow). Other cells in this field include small lymphocytes (red arrows) and erythroid precursor cells (green arrows).



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