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

FEBRUARY 2015

T and B cell immunocytochemistry on lymphoma smears

Lymphoma is a relatively common haematopoietic neoplasm that can often be confidently characterised by cytology.

Once the initial diagnosis of lymphoma has been made, immunocytochemistry can be useful to determine the phenotype of the lymphocytes involved (B cell or T cell). Immunocytochemistry is a staining technique where specific antibodies are used to detect CD3 (T cell) or CD79a (B cell) antigens on canine lymphoma cells. While this was previously only available for samples obtained by biopsy, Vetpath now offers immunocytochemistry on fine needle aspirate smears.

A significant advantage of immunocytochemistry is that the test can be performed on the stained smears used for the initial diagnosis of lymphoma. The smears must contain sufficient intact neoplastic lymphocytes in a monolayer for evaluation of the immunocytochemical stains. However, smear quality is assessed during routine cytological assessment of lymph nodes and only adequately cellular and well preserved smears will be sent to the referral laboratory for additional staining.

Neoplastic lymphocytes are often very fragile and easily ruptured during the smearing process (Figure 1). Using minimal downward pressure when smearing the cells will help preserve the cells (Figure 2). While not smearing the aspirated material might seem like a way to avoid rupturing the cells, leaving the cells in a thick clump will not provide a monolayer for cytological evaluation.

Immunohistochemistry is still available for lymphoma patients that have been diagnosed histologically. Biopsy of a node is usually recommended when the suspicious lymphocytes are present in increased numbers but the overall appearance of the lymphocyte population is still pleomorphic. Difficulty in obtaining sufficient intact neoplastic lymphocytes for cytological assessment can also be a reason for biopsy and histopathology.

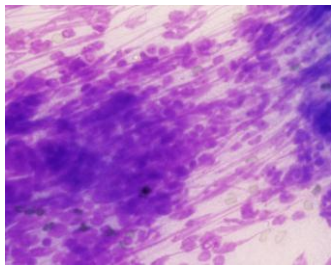

Figure 1: Lysed lymphocytes.

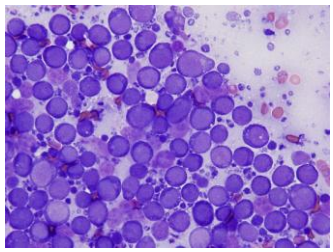

Figure 2: Intact neoplastic lymphocytes.

Vetpath Laboratory Services welcomes feedback on all aspects of our service from couriers to lab results. Please feel free to contact us at 9259 3666 or email enquiries@vetpath.com.au

Where should I collect a skin biopsy from?

Dr David Taylor
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Veterinary Pathologist
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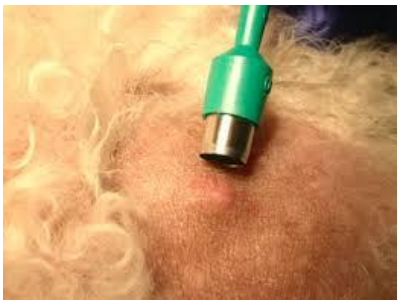
Skin biopsy is a useful diagnostic tool; however, too often results are "non conclusive" and this may be the result of sampling error.

The lack of a specific diagnosis in part rests with sampling error, which can be prevented by adhering to basic principles of sample selection and collection. Selection of biopsy sites should be based on:

- Types of lesions.
- The differential diagnosis list.
- Knowledge of skin histology at various body sites.

Remembering that skin histology varies in different anatomic sites is important when selecting biopsy sites. Glabrous or non-haired skin has fewer follicles and smaller sebaceous glands, and so collecting skin from these areas for exclusion of an endocrinopathy makes evaluation more difficult than samples collected from sites with many follicles such as the shoulder.



The most useful clinical lesions to biopsy are fully developed non-treated primary lesions such as macules, papules, pustules, nodules, vesicles and wheals. Secondary lesions may be useful, especially crusts, ulcers and comedones.

Be aware that special types of lesions require special procedures. For depigmentation, a biopsy of an active area of depigmentation (grey) will be more useful than a late-stage (white) area. Once the pigment has been lost from the epidermis, the process causing depigmentation is over and the microscopic examination may not reveal the cause. For alopecia, samples should be selected from the centre of the most alopecic area. Samples from junctional and non-affected areas should be collected into different pots to avoid confusion.

Don't forget…..

….to label your samples. Vetpath staff members take great care to ensure specimens are correctly bar coded to prevent samples being mixed up. Labelling samples is another way you can help us ensure your results are for the right patient.

Meet your pathologist!

Dr Leanne Twomey is one of four boarded clinical pathologists at Vetpath. Leanne graduated from Murdoch University in 1996 and spent 2 years in small animal practice in Perth before returning to Murdoch to complete a PhD in nutritional biochemistry. Leanne then completed a residency in clinical pathology at the University of Florida and joined Vetpath in 2005. Her hobbies include reading and spending time with her husband and two young boys.

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