

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

DECEMBER 2010

NEW VETPATH DATABASE AND REPORTING SYSTEM.

Over the last few weeks staff at VETATH have been working with a new version of our Laboratory Information Management System (LIMS) called the Daybook. This is the first major upgrade of the system in some years and has gone a long way to addressing some of the functional issues we were having with the older version. The aim is to have an even quicker and faster service with greater data security.

One of the factors that arisen with our centralization of the reporting software is that data security is improved. However a possible downside is the lack of manual checking of the reporting process. In the past we manually checked whether faxes had been sent from the system. This is no longer possible and we may not know that a fax has failed until much later in the day or even the following day.

To avoid any serious delay in getting results to you please consider getting all results delivered to one or more email addresses or consider using an email back-up if you rely on fax delivery of results.

Our new system allows for emails to be sent to a primary email address and copy the results to two further back-up addresses.

It would be very simple to create a Gmail or similar internet email account and have a copy of all your VETPATH results sent to this mailbox. If you provide a secure login to your staff then these results will be available to staff as soon as they are validated and sent at VETPATH.

We are striving to move towards a greener and paper-free operating environment and hope that you can make this adjustment.



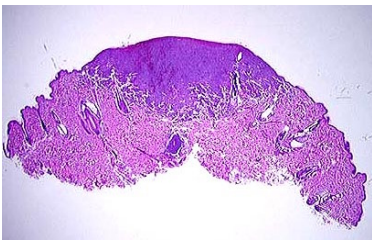
CANINE CUTANEOUS MAST CELL TUMOURS.

Mast cell tumours are a commonly diagnosed cutaneous neoplasia of dogs and can account for up to 20% of all cutaneous neoplasms in some studies. The biological behaviour is varied and they range from small localised lesions that can be readily cured with complete excision to potentially fatal malignancies showing aggressive behaviour and widespread metastasis.

The diagnosis of mast cell neoplasia can be achieved readily with fine needle aspirate cytology and with histopathology. Determining the biological behaviour however is far more problematic.

Continued over the page.....

Currently there is no reliable means of tumour grading for fine needle aspirate cytology. Histopathology is the diagnostic method of choice for grading tumours and there are numerous grading systems in use. Most widely used in the Patnaik system where lower grade lesions are grade 1 and more malignant lesions end up as grade 3.



Mast cell tumour in section. Image courtesy of AFIP.org

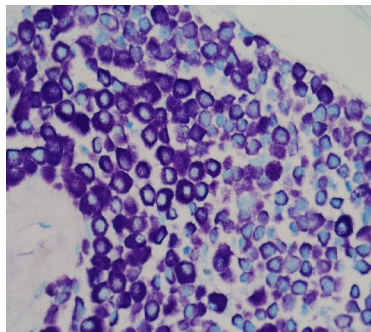
The Patnaik system has been shown to have significant problems with most cases clustering in grade 2 and there being little prognostic difference between grade 1 and grade 2. More importantly the grading system is quite loose and there is significant variation in grading between pathologists and between institutions. This means there is very little consistency in grading if your cases are being read by a variety of pathologists.

More recently there has been interest in refining the diagnostic and prognostic criteria and a number of studies have shown that the mitotic index is a good reliable prognostic indicator in canine mast cell neoplasia. Various mitotic index cut-offs have been proposed but most agree that a figure between 5-7 per 10 high power fields was appropriate.

At Vetpath you may have noticed we have been using a combination of the Patnaik system (Grade 1-3) and the Mitotic Index (high

grade/low grade) for a number of years.

Recently the findings of the largest multi-institutional study into the grading and clinical outcomes of canine mast cell tumours were published. This study reviewed the current diagnostic criteria and concluded the Patnaik system was flawed and proceeded to redefine the most important prognostic criteria.



Toluidine blue-stained section showing metachromatically staining cytoplasmic mast cell granules

They have devised a 2-tier grading system of either high-grade or low-grade to clearly separate benign and malignant lesion. Criteria for a high grade lesion are as follows:

- 7 or more mitotic figures per 10 high power fields.
- 3 or more multinucleated cells (3 or more nuclei)/ 10 HPF.
- 3 or more bizarre nuclei per 10 HPF.
- Karyomegaly (10% of nuclei vary by 2 fold or more)

Fields with the highest atypia, mitotic activity and pleomorphism are chosen to evaluate the lesion.

Using this novel grading system high grade lesions were determined to have a median survival time of <4 months and low grade lesions were shown to have median survival times of >2 years.

In future you will notice that canine mast cell tumour submissions will be graded in two ways. In the interim we will continue to provide the Patnaik grade 1 to 3. But there will be an additional grade of either high grade or low grade. To indicate this is the new system this latter grade will be designated the Kiupel Grade after the primary author of this latest study.

Time will tell whether this new system will gain acceptance and be proven in the field as a useful diagnostic and prognostic tool.

Reference:

Proposal of a 2-Tier Histologic Grading System for Canine Cutaneous Mast Cell Tumors to More Accurately Predict Biological Behavior. Kiupel, M et al. *Veterinary Pathology* 2011 48:1 on-line pre-publication.



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