Vetnostics

Partners in Practice

Autumn 2014

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Vetnostics

Welcome...

Welcome to the first Vetnostics newsletter of 2014.

I hope the new year has started well for all of you! We at Vetnostics look forward to another year of being your 'Partners in Practice' as we continue to focus on a high quality veterinary pathology service as well as maintaining open communication pathways, fast turnaround and value for money.

Amongst other bits and pieces, in this edition of the newsletter we provide an example case of the new ocular histopathology service we offer (provided by Dr Karen Dunn) as well as (belatedly) introducing Dr Stephen Yeomans.

As always, please contact me (ph. 02 9005 7272 or email doug.hayward@vetnostics.com.au) if you have any requests for future newsletters, questions or any other queries.

Updated Vetnostics 2014 pricelist

As you will likely have noticed, the 2014 Vetnostics pricelist has now been released and is effective from the 1st of April 2014.

If you have not received the new pricelist yet (by post, courier and/or email), please feel free to contact our Client Services Manager (Anna Rys - anna.rys@vetnostics.com.au or 0481 035 612) or one of the veterinary pathologists (Tel: 9005 7000).

In addition to minor price adjustments, the pricelist has been expanded to include some additional tests. A specific test panel that has been requested is a combined urinalysis, urine C&S and cytology panel (=VUW) which is now available. Please request this new panel under Other Tests until the revised submission forms begin to circulate (with this panel as an option to tick).

If there are particular test/s you are interested in that are not offered on the pricelist, please ring to discuss with one the veterinary pathologists as we may be able to help (the pricelist is not designed to be exhaustive but rather to offer the most common tests requested).

What is your diagnosis?

(Answer on back page)

Please see the image here. This is an image from a blood film from an unwell 10Y Eastern Long Neck Turtle, reportedly going into torpor and passing blood in the faeces.

What is the central cell and what activity is taking place?

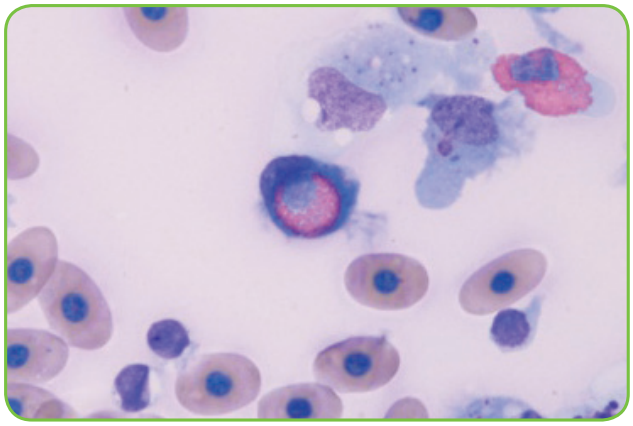


Figure 1: Wright-stained blood film (x100 oil) >

FOCUS-EyePathLab
Case Presentation 1

Dr Karen Dunn BVSc (Hons) **Consultant Veterinary Ocular Pathologist**

Investigation of a case of acute onset glaucoma in an English Springer Spaniel

The eye from a 5year old entire male English Springer Spaniel was submitted to FOCUS-EyePathLab from Ireland. The dog had a 1 wk history of a cloudy, red left eye, and on referral he had an opaque cornea (Fig. 1), with possible hypopyon in the anterior chamber; the eye was glaucomatous and buphthalmic, with an IOP of 76mmHg. The iridocorneal angle in the fellow eye was narrow on gonioscopy, but appeared sufficient.

Figure 1: *The affected left eye showing marked corneal oedema and peripheral neovascularisation, clinical image kindly supplied by Natasha Mitchell MVB DVOphthal MRCVS of Eye Vet, Ireland.*

The eye was enucleated, and vertical sagittal sectioning of the globe at gross examination revealed a distorted, cataractous lens, with an apparent anterior capsular deficit, along with exudative material (coagulated by fixative) in all ocular chambers (Fig. 2).

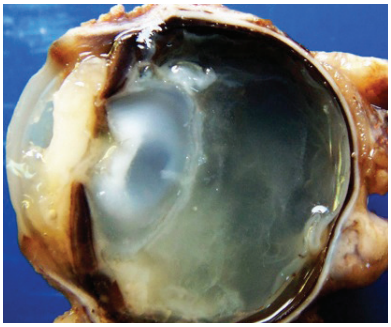


Figure 2:. *Macro photograph after vertical sectioning of the globe showing a distorted, cataractous lens with an apparent deficit at the centre of the anterior capsule (the suspected lens penetration site), and showing turbid, exudative material in all chambers; the exudative material forms a plug across the pupillary aperture, and floccular exudative material is present in the ventral posterior and vitreous chambers.*

Histologically, there was a severe, chronic suppurative to granulomatous and focally necrotizing anterior uveitis, with fibrinosuppurative exudate in all chambers, including the vitreous (vitritis); there was also retinitis and pre-iridal fibrovascular membrane formation. The anterior lens capsule was ruptured, with fraying of the edges, and there was advanced cataractous change and 'phacitis' (inflammation within the lens cortex)- see Fig. 3. Small numbers of Gram-positive bacteria were found within the lens cortex, and a penetrating injury to the eye was considered likely, with intraocular bacterial localisation causing anterior uveitis, progressing to endophthalmitis; lens capsule rupture would also have resulted in a phacolytic component to the uveitis. The dog recovered well without any post-operative complications.

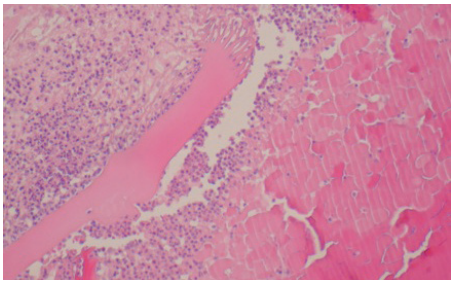


Figure 3: *Photomicrograph demonstrating discontinuity and fraying of the anterior lens capsule at the site of perforation, surrounded by degenerating neutrophils and macrophages (exudate), with globular, degenerate cataractous lens material (H&E stain, 100x magnification)*

This is an example of secondary glaucoma associated with a penetrating injury and bacterial endophthalmitis; histopathological examination was able to rule out other differential causes of glaucoma in this case, such as goniodysgenesis and intraocular neoplasia, thereby assisting in establishing the prognosis for the fellow eye.

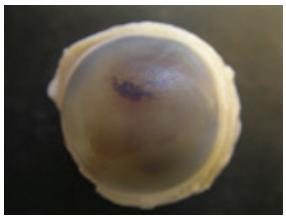
Submission Advice for Ocular Pathology Specimens

Submission Form (please provide as much detail as possible)

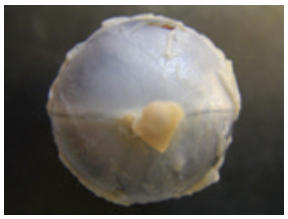
- indicate the eye affected, and if the condition is uni- or bilateral
- use diagrams provided to mark areas / lesions of interest, or site of biopsy, if applicable
- detailed clinical history is vital to interpretation of histological findings
- please indicate if an intraocular lens implant (IOL) is present in the globe, and if it is a hard or soft (foldable) implant

Tissue Preparation

- **whole globes- trim away excess tissues** for optimal fixation, unless involved in disease process (the nictitans / third eyelid will not interfere with fixation)
- please **leave enucleated globes intact** (incision causes collapse and distortion, hampering gross evaluation, and neutral buffered formalin diffuses readily into intact globes trimmed of excess tissues)
- globe orientation is still possible without lids, however location of **lesions of interest may be marked with a suture** if desired



Front and caudal views of eye correctly submitted.



Trimming away excess tissue allows optimal fixation.

General Submission Advice

- **handle tissues gently** to avoid artifacts (be aware that cautery will cause artifactual changes)
- place tissue **into fixative rapidly** to avoid desiccation
- always use a **suitable volume of fixative**, ideally a 1:10 ratio of tissue sample to neutral buffered formalin (in the case of a large equine eye, you can prefix for 24hours, and then reduce the volume of fixative for mailing)
- use a **suitable size** of leak-proof submission container (please DO NOT cram tissue into a narrow-necked container, as the container may need to be broken to retrieve the biopsy once it is fixed and no longer flexible)
- l**abel the submission container** with the animal and owners name, and site of biopsy if applicable

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Vetnostics Pathologist

Dr Stephen Yeomans BSc(Vet) BVSc MVSc MANZCVS DACVP

Specialist Veterinary Pathologist

Dr Stephen Yeomans joined Vetnostics just over a year ago, in February 2013, so it is somewhat remiss of us not to have mentioned him sooner in our newsletter.

A diplomat of the American College of Veterinary Pathologists, Stephen has 14 years experience working in commercial veterinary diagnostic laboratories, including some time on faculty at the University of Tennessee. He has served on several AVA committees including a term as South Australian division President. Stephen is currently the Head Subject Examiner and Chair of the Chapter Examination Committee for the Pathobiology Chapter of the ANZCVS.

Stephen is available for consultation on all aspects of veterinary pathology including histology, cytology, clinical pathology and microbiology.

General Vetnostics Housekeeping

Vetnostics Stores - EDTA blood tubes

Please note that we have multiple EDTA blood tube sizes available for use:

- **0.5ml non-evacuated microtainer**
- **2ml vacutainer**
- **4ml vacutainer**

HAEMATOLOGY (Potassium EDTA)

We provide the three options to ensure the correct tube size is available for all possible animal sizes. The 4ml EDTA vacutainer is recommended in horses and large production animals whilst the 0.5ml and 2ml EDTA tubes are recommended for Small Animals (dogs, cats and some small exotic mammals). It is important that EDTA tubes are adequately filled wherever possible to ensure accurate FBC results are generated - submission of inadequately-filled EDTA blood tubes (eg. 0.5ml blood in 2ml or 4 ml EDTA blood tubes as we often receive) leads to generation of erroneous red cell indices limiting the usefulness of the FBC as a diagnostic tool. Many thanks.

Please advise our Client Services Manager (Anna Rys - anna.rys@vetnostics.com.au or 0481 035 612) or Dr George Reppas (george.reppas@vetnostics.com.au) if you need a copies of our Vetnostics Stores and Blood Collection Guide and/or current stores order form.

Interim Reporting

Please note that INTERIM REPORTS released from our laboratories contain results which have not been validated/reviewed by a veterinary pathologist and may be amended and/or revised after their release upon review. **INTERIM REPORTS will often have the qualifier 'INTERIM REPORT ONLY - RESULTS NOT YET REVIEWED BY A VETERINARY PATHOLOGIST'** present at the bottom of the report. Any decisions made and/or actions undertaken based on the results contained within the Interim Report are the submitting veterinarian's responsibility. Many thanks.

Vetnostics Specimen Collection Bags Turn Green

In an endeavour to further improve turnaround times and the priority which we place on the processing of veterinary specimens within our laboratory, **Vetnostics will be changing the colour of the specimen collection bags to green**. Over the next few weeks we will be rolling out the new green specimen collection bags to all veterinarians. **Please use these bags for all your future submissions to the laboratory.**

What is your diagnosis answer:

The central cell is a monocyte and it is exhibiting phagocytosis of an eosinophil. It is unclear in this case whether this reflected an in-vitro artifact (associated with monocyte activation) or a specific pathological process. Phagocytosis of pyknotic erythrocytes, nuclear debris and free heterophil/eosinophil granules was identified as well.