Summer 2009

Newsletter

Welcome to the second Eye Vet newsletter. Eye Vet is a veterinary ophthalmology referral service run by Natasha Mitchell MVB CertVOphthal MRCVS through Crescent Veterinary Clinic, Dooradoyle Road, Limerick.

This newsletter is produced quarterly, and is also available online at www.eyevet.ie

Next Newsletter...

The next newsletter reviews the use of fluorescein ophthalmic stain.

Part 2 ~ Examination Technique

Distant direct ophthalmoscopy.

Now you know the technique for distant direct ophthalmoscopy and can distinguish between nuclear sclerosis and cataracts by taking advantage of silhouetting opacities against the reflective tapetum at the back of the eye. *But what else can this technique reveal?*

Anisocoria (pupils of unequal sizes)

By comparing the size of the two pupils, you can see if one is larger or smaller than the other. The trick is deciding which one is abnormal! In the example in *figure 1*, the right pupil is miotic (constricted), and together with the reduced pupillary aperture and the third eyelid prolapse, a diagnosis of Horner's syndrome can be made already.

Fig 1

Lens Luxation

An aphakic crescent is a crescent-shaped tapetal reflex visible between the margin of the iris and the equator of a displaced lens, which in this case is cataractous. It occurs when the lens is no longer in its normal central position because some (lens sub-luxation) or all (lens luxation) lens zonules are detached. It may be a primary condition in certain breeds such as Jack Russell terriers, or secondary to glaucoma. Anterior lens luxation is a true emergency as glaucoma occurs very quickly.

Fig 2: *a long-standing case of posterior lens luxation. The lens has a hypermature cataract. An arc of tapetum is visible medially indicating that the lens is out of position.*

Fig 3: *The lens has luxated anteriorly, and is seen to lie in front of the iris. An aphakic crescent can also be seen. The eye is very red due to episcleral congestion caused by a raised intraocular pressure (glaucoma). This is an emergency.*

Iris Cysts

Iris Cysts arise from the posterior aspect of the iris and float forwards, sometimes settling in the bottom of the eye, and other times, attaching to the back of the cornea. They form shadows in the tapetal reflection which are different to those cast by a cataract, because they are translucent and the tapetal reflection can still be partially seen through them. They are distinguished from iris melanomas based on their transparency with trans-illumination.

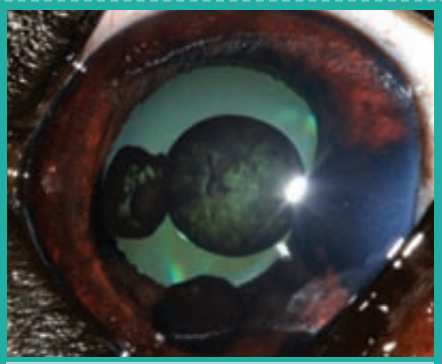

Fig 4: Multiple Iris Cysts

Fig 5: Right eye

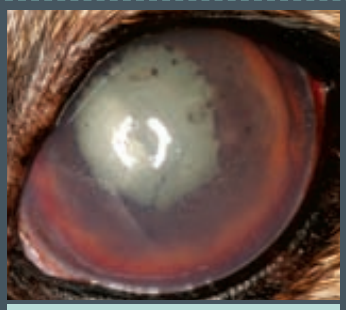

Fig 6: Left eye

Clinical Case

A twelve-year-old female neutered terrier dog was diagnosed with diabetes ten months previously. The diabetes was being controlled with insulin injections twice daily and was doing well until she was suddenly very distressed one morning and was bumping into things. Ten days later the eyes were suddenly very red and sore. She attended her vet and was immediately referred. The eyes have been photographed. Both eyes had negative menace responses and normal dazzle reflexes.

The pupillary light response was very slight. Both eyes were uncomfortable and had conjunctival hyperaemia. Both eyes had several small white spots visible on the interior surface on the ventral aspect of the cornea – which are keratic precipitates (KPs). KPs are inflammatory cells which settle on the ventral aspect of the corneal endothelium due to the flow and temperature of aqueous humour in the eye, and they are a hallmark for uveitis. Both pupils were constricted – these photos were taken after application of tropicamide. There were small clumps of pigment on the anterior lens surface which are termed iris rests, and the pigment is from the posterior aspect of the inflamed iris. There were intumescent cataracts, meaning that the lenses were opaque and very swollen. In the left eye there was actually a small rupture of the anterior lens capsule. The fundus could not be examined due to the cataracts. Intraocular pressures were 4 and 7mmHg in the left and right eye respectively (these low pressures confirm uveitis).

Diagnosis

Intumescent cataracts due to diabetes mellitus with secondary lens-induced uveitis and rupture on the left lens capsule.

Treatment

The best treatment is surgical removal of the cataracts using phacoemulsification, which would potentially restore vision and remove the cause of the uveitis.

However the surgery is complicated by the degree of uveitis, and the owner was not willing to take the risk. Therefore medical treatment with topical ketorolac eye drops (Acular 0.5%, Allergan) four times daily and tropicamide (Mydriacyl 0.5%, Alcon) four times daily were started along with systemic NSAIDs. Acular was used as a preference to a topical steroid because even topical steroids are absorbed systemically, and the frequent dosages could affect the blood glucose levels.

Prognosis

Hopeless for vision – vision could only be restored by surgery which was declined. Grave for the left eye as the lens-induced uveitis will be difficult to control after the lens capsule ruptures, and if the eye remains uncomfortable it will be enucleated. Reasonable for the right eye for control of the uveitis and relief from pain.

Diabetic dogs can develop cataracts over-night, making them suddenly blind. If the owner is willing to consider surgery, don't wait until the animal's diabetes is more stable – refer them straight away before complications such as lens-induced uveitis and lens capsule rupture occur.

Tip

Diabetic dogs are also at risk of developing keratoconjunctivitis sicca. Therefore they should be monitored using a Schirmer Tear Test (STT) regularly, and cyclosporine ointment (Optimmune, Intervet Schering-Plough) should be started twice daily if the values are 10mm/min or below. The STT needs to be repeated within a month if the STT is 11-14mm/minute.

A folder to keep all of your Eye Vet newsletters together is available. To request one, please email natasha@eyevet.ie