



Winter 2009
Newsletter

Welcome to the 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 will review glaucoma in dogs.

Examination Technique

The Schirmer Tear Test (STT)

The STT is used to diagnose keratoconjunctivitis sicca (KCS). The test should be carried out in every case with ocular discharge, conjunctivitis and keratitis (*figure 1*). It should be carried out before placement of other topical drops such as topical local anaesthetic or fluorescein.

Tear test strips are available from Schering-Plough Animal Health. They have a notch for easy placement, are calibrated with a millimeter scale and are impregnated with a blue dye for easy visualisation of the result.

To perform the test, first bend the notched area over 90° before opening the packet. Then open the packet from the end with L and R for left and right.

Try to handle the strip only at this end, as oils on your fingers can absorb onto the strip and prevent the passage of tears down the strip. Gently pull out the lower eyelid slightly. Place the notched section of the strip onto the conjunctival position of the eyelid laterally, so that it may contact the cornea. This is left in place for sixty seconds. If possible, quickly place the strip in the second eye also – the test is then over in one minute instead of two. During these sixty seconds, it is useful to place a hand on the animals' neck area to prevent them from raising their paws to rub out the strips (*figures 2 and 3*).

The distance travelled by the tears on the test strip in sixty seconds is recorded. The following chart provides interpretation of results in dogs, when performed before the application of other drops (such as topical anaesthetic) and without sedation, which often reduces the STT readings.



Fig 2: KCS in a Lhasa apso dog



Fig 3: Don't forget to do STT in cats also

STT reading in mm/minute	Interpretation	Action required
0-10	Insufficient tear production	Treatment is required
10-15	Lower than normal	Treatment may be required, monitoring is important
15-25	Normal	--
>25	Normal or excessive	Occasionally needs investigation

Note – cats have variable results and a value of <10mm wetting per minute is considered significant in the presence of ocular surface disease.

Clinical Case

A twelve-year-old female neutered domestic short-haired cat presented with a one week history of a red and uncomfortable left eye (*figure 4*).

Clinical Examination

The left eye was uncomfortable with blepharospasm. There was mucoid ocular discharge. There was conjunctival hyperaemia and chemosis. There was a deep central corneal ulcer.

The surrounding cornea had a gelatinous appearance and was thickened with oedema medially and with fibrovascular infiltration laterally. There was uptake of fluorescein at the walls and base of the corneal depression. The pupil was barely visible and was smaller than the normal right eye.

Diagnosis

Deep melting corneal ulcer.

Treatment

Options are surgical or medical approach. A medical approach was adopted in this case because of the large extent of abnormal cornea. A swab was taken for bacterial culture and sensitivity. Autologous serum was prepared by centrifuging 10ml of blood in plain tubes and collecting the serum into an eye dropper bottle.

This was kept refrigerated and one drop was applied every two hours, along with one drop of Exocin (Allergan, contains ofloxacin), also every two hours. Topical atropine was applied once daily for three days to control the secondary uveitis. Oral Ronaxan (Merial, contains doxycycline) at 10mg/kg once daily was given for ten days.

The cat was re-examined at 24 hours, five days, two weeks and six weeks. There was a very positive response to medication, initially the gelatinous cornea improved and the cornea was fluorescein negative in five days. At this time the culture and sensitivity results were back and no significant bacteria was isolated.

Conclusions

Autologous serum is very useful for treating melting corneal ulcers as it contains natural substances which inhibit destructive enzymes, such as collagenases. Cat corneas can heal very well with minimal scarring.



Fig 4: Appearance of the featured eye on initial presentation.



Fig 5: Appearance of the cornea six weeks later.

Tip

While it is important to do a STT on eyes which are red or discharging, do not attempt to perform the test on an eye which has a deep ulcer, as the pressure may cause the globe to rupture.

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