The Vet Education International Online Veterinary Conference 2013

“Feline Ophthalmology!”

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Feline Ophthalmology

Dr Anu O’Reilly
Feline Ophthalmology

- Eyelid disease
- Conjunctivitis
- Viral keratitis
- Corneal sequestrum
- Eosinophilic keratitis
- Uveitis

- Iris melanoma
- Lens luxation
- Cataracts
- Glaucoma
- Hypertension
- Retinal disease
Eyelid disease

• Congenital anklyoblepharon—the upper eyelid missing
• Entropion more common than 5 years ago
• Squamous cell carcinoma more common
• Symblepharon—often FHV-1 infection as kittens
• FHV-1, Dermatophytosis, Sporotrichosis
Apocrine hidrocystoma

- Persians and Himalayans
- Surgical excision and laser the base
- Cryotherapy
- Can be extensive in the ear
- Mainly older cats
- No sex predilection
Conjunctivitis

• Unilateral or bilateral
• Infectious causes are more common than allergic causes
• Feline Herpes Virus – usually in kittens - Milder form in adults as a recurrence
• Chlamydia – *Chlamydophilli psitticai*
• Mycoplasma – not very common
• Allergy
• Eosinophillic conjunctivitis
Chlamydial psittici

- Doxyccline at 5mg/kg BID for 6-8 weeks or 10 mg/kg SID for 4 weeks minimum
- Treat all the cats in the household
- If the cat goes out a lot – need to warn the owner of the recurrences
- Azothromycin (Zithromax)
  - 5mg/kg given orally every 5 to 7 days for 3 to 4 treatments
  - or
  - 20mg/kg as a once off dose
  - unproven efficacy but may be useful in cattery situations
FHV-1
FHV-1

- Conjunctivitis
- Keratitis
- Scarring of the nasolacrimal ducts
- Facial dermatitis
- Uveitis
- Inflamed and ulcerated areas near the nares
FHV-1 in kittens

• Kittens
• Severe bilateral conjunctivitis with marked chemosis and hyperaemia
• Blocked nasolacrimal ducts that can permanently scar
• Symblepharon formation
• Corneal ulceration
FHV-1 in kittens

• Supportive treatment
• Lysine powder – safe in kittens
• 1/8 of a teaspoon twice daily = 250 mg BID
• Bathing the eyes with warm compresses
• Famiclovir  125 mg ¼ of a tablet twice daily for a short period – 10 days – (3-4 week old kittens)
• Surgical treatment of flushing the ducts can be frustrating and if too aggressively done can lead the duct rupture
• Surgical resection of the symblepharon is unrewarding as the conjunctiva can reattach very quickly post surgery
Thanks to veterinary vision Animal Eye Specialist
FVH-1

- Adults usually get a keratitis
- Early dendritic ulceration
- Geographical ulceration
- Superficial ulceration
- Indolent in appearance
- Vascularisation is variable
- Painful
FHV-1
FHV-1
FHV-1 - treatment

• Original dose 90mg/kg q 8 hours “Maggs”
• Famiclovir large cats ½ a 250mg once to twice daily
• Famiclovir small cats 1/2 of a 125mg once daily (3.5-5 kgs – “Malik”)
• Transdermal formulations can made
• Famiclovir Kittens (25-50 mg/kg q 8-12 hours “Malik”)
FHV-1 treatment

- Cidofovir eye drops
- Compounded
- 5 mls $200
- Very effective
FHV-1 - treatment

• Idoxuridine hourly for the first 24 hours and the 6-8 x daily – compounded by Richard Stenlake in Sydney
• Zovirax ophthalmic ointment – 6 times daily
• Interferon injections – painful but seem to have a better response - twice weekly subcutaneously
FHV-1 - treatment

- Lysine 250 mg twice daily
- Mushai powder 1/8\textsuperscript{th} of a teaspoon twice daily
- Doxycycline 5mg/kg once daily
Geographical ulcers
Complications of FHV-1

• Eosinophilic keratitis
• Corneal sequestrum
• Dry Eye
Corneal sequestrum

• Light tan to black lesion on the cornea
• Vascularisation may be present
• Degree of pain is variable
• No specific age
• Breed specific – oriental breeds
Picture of sequestrum
Corneal sequestrum treatment

- Very early light tan lesions use topical interferon.
- Dark to black lesions need surgery.
- Keratectomy + third eyelid flap
- Keratectomy + pedicle flap
- Clear corneal-conjunctival sliding graft
- Doxycycline 5mg/kg SID
Eosinophilic keratitis

- White cottage cheese plaques on the cornea
- Variable degree of vascularisation
- Cytology is very rewarding
- Numerous eosinophils
- Mast cells are also present
Eosinophilic keratitis
Eosinophilic keratitis treatment

• Best resolution is with megoestrol acetate
• Must warn the owners of the side effects
• 2.5 mg once daily for most cats for 4 days then 2.5 mg every second day for 4 doses then stop
• Prednefrin forte recommended treatment
• Oral cortisone?
• Interferon – orally/topically
• Cyclosporin eye drops 1-2%
Bullous lesions

- Etiology unknown
- Young adult cats 1.5-3 years
- Immune-mediated endothelitis?
- No inflammatory cells
- Link with immune-mediated anaemia? And high dose steroids?
- Third eyelid flap – acts as a barrier
Uveitis

• The uvea is the vascular tunic of the eye
• Between the fibrous layer and the neurosensory layer
• Anterior uveitis = iris and ciliary body
• Posterior uveitis = choroid
• Posterior uveitis usually gives us changes in the retina as this lies on top of the choroid
Uveitis

- Young animals – environmental antigenic stimulation
- FIP, FeLV, FIV, Toxoplasmosis, Cryptococcus, Histoplasmosis, Bartonellosis, Onchocerca
- E-cuniculi can lead to cataracts
- Rare – Aspergillous, Candidiasis
- Neoplastic – metastatic uveal – Adenocarcinoma
- Neoplastic – Uveal based – iris melanoma, oculars sarcoma and ciliary body adenoma, adenocarcinoma
- Lymphoma
Diagnosis?

• Even with a complete diagnostic workup 70% of cases have an undetermined cause.
• Exogenous vs endogenous
• Acute vs Chronic
• Unilateral vs Bilateral
• Not ONE sign is pathogonomic
• Anterior chamber paracentesis
• Serologic testing
• PCR
• Goldmann-Witmer Coefficient
Diagnosis

• CBC, Serum biochemistry, urinalysis, FeLV and FIV
• Imaging (eye, thorax, abdomen + additional serology +/- extra ocular aspirates
• Ocular aspirates – aqueocentesis, subretinal aspirates and vitreocentesis
Complications

- Darkening of the iris
- Rubeosis irides
- Anterior or posterior synechiae
- Changes to the iris shape
- Cataracts
- Lens luxation
- Glaucoma
- Retinal atrophy/degeneration
Aqueous flare can settle out – hypopyon
Complications

• Darkening of the iris
• Anterior or posterior synechiae
• Hyphaema
• Abnormal iris shape
• Glaucoma
• Lens luxation
• Retinal
Causes of hyperlipidaemia

• Diabetes
• High fat diet
• Burmese cats
Iris Pigmentation
Iris pigmentation

• Cats can have pigmented spots on the iris
• They may never change
• Monitor these every 3-6 months
• If they change and the lesion is focal – consider laser treatment
Iris melanosis

- Cats can also get increased pigmentation over time
- When does it become neoplastic?
- Intraocular pressure
- Changes to pupillary margin or the iris topography – posterior surface affected
- Scleral invasion
- Examine the drainage angle
Iris melanoma

- Eye removal and hope the lesion has not spread
- Tumour hunt – should always be offered
- Pathology sent to a person confident in reading it. (Dr Christina McCowan – ASAP)
Glaucoma

- Primary
- Siamese, Burmese and Persian
- Secondary 95-98 %
- Chronic uveitis 10%
- Lens luxation
- Tumous anterior uveal melanoma>lymphoma
- Aqueous mis-direction syndrome
- Congenital
Corneal oedema is reduced
Perilimbal hyperaemia is reduced
Pain is not as evident as it is in cats
Optic disc changes are harder to see
Cats tolerate glaucoma much better because it comes on more slowly
IOP is higher at night (diurnal variation)
Older cats have lower IOP
Cats in oestrus will have ↑ IOP
Glaucoma medications

- Topical dorzolamide (Trusopt) BID-TID
- Xalatan not effective or NOT??
- One study of 9 cats showed no changes to IOP
- Continued use of xalatan >>> Inc IOP
- Topical Steroids – >>> Inc IOP
Lens luxation
Lens Luxation

• Commonly follows a chronic history of uveitis
• Advise surgery to remove the lens
• Not the same “emergency” type presentation as in dogs
• Cats can be managed medically
Lens luxation

- Control the uveitis – topical and systemic steroids
- Use topical NSAIDS and systemic NSAIDS
- Control the glaucoma with topical dorzolamide
Hypertension

• Older cats
• Kidney disease
• Hyperthyroidism – connected to kidney disease
• Blood pressure greater than 170 mm Hg using a Doppler on the tail
• Question the reliability of the automatic blood pressure monitors in smaller patients
Old cat suddenly blind
Retinal Haemorrhages
Bullous detachment
Hypertension

- Sudden onset of blindness one or both eyes
- Haemorrhage in the anterior chamber
- Haemorrhage in the vitreous
- Retinal detachment
Hypertension - treatment

• Amlodapine 5mg Give 1/4 of a tablet once daily
• This can be increased to ½ a tablet once daily
• Can also add other anti-hypertensive medications – enalpril
• Luetin 12 mg once daily – Dr Carmen Colitz
Hypertension

• Even cases where the retinal detachment has been present for some days may get some vision back.

• Do a general health profile