Ulcers: To Grid or Not To Grid
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Etiologies of Corneal Ulcers
- Trauma/Foreign bodies, including detergents
- KCS
- Feline Herpes Virus
- Eyelid abnormalities – distichiae, ectopic cilia, entropion
- Drug reactions – topical steroids most common
- Endothelial degeneration
- Sloughing of corneal calcium or lipid
- Indolent ulcer/hemidesmosome defect

Why Ulcers Don’t Heal
Most corneal ulcers do not heal because the underlying cause has not been determined or resolved. This is especially important to consider in dogs that are under 6 years of age, and in cats.

Common reasons for delayed healing of corneal ulcers include:
- Entropion, distichiae, ectopic cilia
- Feline herpes virus
- KCS
- Secondary infection is present
- Medication side effects – steroids and nonsteroidals
- Indolent ulceration/hemidesmosome defect

Indolent Ulcers
In order for a corneal ulcer to be diagnosed as indolent, it must fit certain criteria. Indolent ulcers are NOT just any ulcer that won’t heal
- Superficial ulcer, no level of stromal loss (divot not present)
- Mild to moderately painful (not severely painful)
- Must be a dog
- Must be over 6 years of age
- Must have redundant (dead) epithelium surrounding the ulcer.
**Debridement & Superficial Grid Keratotomies**
Superficial grid keratotomies (grids) are indicated for true indolent ulcers. In all other types of ulcers, or for ulcers with an underlying cause other than a hemidesmosome defect (even if there is redundant epithelium) they are contraindicated.

The function of the debridement is to remove the redundant (dead) epithelium. The function of the grid is to break up the anterior stromal membrane/band that forms in indolent ulcers, to stimulate epithelial cell migration, and to create a deeper place for epithelial migration and hemidesmosome attachment.

A grid should never be performed in a cat. 30% of cats post-grids will develop corneal sequestrums, necessitating surgery (superficial keratectomy)

**Indolent Ulcer Therapy**
- Terramycin/oxytetracycline QID
- Contact lens
- Ecollar at all times
- Tramadol PO BID-TID
- +/- NPG QID
- +/- Optixcare QID

**Follow up**
- Recheck 2 weeks
- Do not perform another grid if grid lines are visible or if any of the previous criteria for a grid are not met.
Ulcers: to grid or not to grid, that is the question

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Grid or Not to Grid?
Signalment: 8 year old MN Boxer
History: Squinting for 5 days
Signalment: 2 year old FS Terrier Mix
History: Corneal ulcer x 4 weeks
Initially treated with Vetropolycin (BNP), no change
Switched to Gentocin, no change
Switched to Ciloxan (Ciprofloxacin) - today’s exam above (done under anesthesia because of pain)

Signalment: 9 year old Shih Tzu
History: Presented with ulcer 2 weeks ago, currently on tobramycin QID
Grid or Not to Grid?

Signalment: 4 year old MN Persian
History: 1 month of ulcer, has seen another vet that prescribed l-lysine and BNP.

Grid or Not to Grid?

Signalment: 10 year old MN Bassett Hound
History: Cloudy for months, squinting and redness for 5-7 days
Grid or Not to Grid?

Signalment: 14 year old Terrier Mix
History: Presented 1 month ago for squinting, squinting improved with Vetropolycin, now corneal ulcer is not changing

Corneal Anatomy

Epithelium
Stroma
Descemet’s membrane
Endothelium

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Hemidesmosomes

Etiologies of Corneal Ulcers

- Trauma/Foreign bodies
  - Detergent
- KCS
- Feline Herpes Virus
- Eyelid abnormality
  - Distichias
  - Ectopic cilia
  - Entropion
- Drug reaction
  - Topical steroids
- Endothelial degeneration
- Sloughing of corneal lipid or calcium
- Indolent ulcer/hemidesmosome defect
Why ulcers don't heal

• Cause has not been determined/resolved
  • Entropion, distichiae, ectopic cilia
  • Herpes
  • KCS

• Secondary infection

• Medication side effect
  • Topical steroids
  • Topical nonsteroidals

• Indolent ulcer = hemidesmosome defect

What is an indolent ulcer?

• Not just any ulcer that won't heal
Indolent Ulcers ARE….

- Superficial
- Mild to moderately painful
- Only seen in dogs >6 years of age
- Variably vascularized
- Ulcers with redundant (dead) epithelium
Indolent Ulcers

"No Stain Uptake"

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Indolent Ulcers
"No Stain Uptake"

Indolent Ulcers ARE NOT...

- Deep - they should not have any loss of corneal stroma
- Discolored - no white, yellow or green
- Edema is ok
- Severely painful
- Every ulcer that won't heal

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Function of Grid Keratotomy

- Break up anterior stromal band
- Stimulate migration of epithelial cells
- Create a deeper place for epithelial migration for hemidesmosome attachment

When Superficial Grid Keratotomies ("grids") are indicated…

Dog

>= 6 years of age

Redundant epithelium present

Superficial (no loss of stroma)

No known etiology (no KCS, no distichiae, ectopic cilia, entropion, etc.)

No evidence of secondary infection (not white or discolored)
When Grids are not indicated…

Cat

< 6 years of age

Just won’t heal - no redundant epithelium

Any loss of corneal thickness/stromal loss

Due to distichiae, ectopic cilia, entropion, foreign body, etc.

Very painful - size of ulcer does not match level of pain (i.e. - small ulcer, severely painful) or corneal edema


Mean healing debridement only: 30 days
Mean healing debridement & grid: 42 days
4/13 developed a sequestrum post-grid
When Grids are not indicated…

<6 years of age

No redundant epithelium

Stromal loss
When Grids are not indicated…

Due to distichiae, ectopic cilia, entropion

Size of ulcer does not match pain level or edema present
Complicated Indolent Ulcers

- Time = more vessels = longer to heal
- Time = more edema = longer to heal
- Time = more dead epithelium = longer to heal
- Time = more fibrosis/scar once healed = less vision, less cosmesis

- More time = painful dog = more frustrated owner = more frustrated vet

Grid early or send for grid early to prevent this!
Superficial Grid Keratotomy

Debridement with DRY q-tips

Work from the center outward

You cannot take off healthy epithelium!

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Superficial Grid Keratotomy

1cc syringe with 25 gauge needle

Make grid horizontal and vertical

Extend 1-2mm into normal cornea
Post-grid Therapy

Terramycin QID
Increases epithelial mesenchymal transformation (EMT) of corneal epithelial cells

Contact lens
Ecollar
Tramadol PO BID
+/- NPG QID
+/- Optixcare QID

Grid Keratotomy and Terramycin vs. Doxycycline vs. BNP

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**Why not Ciprofloxacin?**

**Antibiotics with corneal ulcers**
- To prevent infections
- Not to heal ulcers, unless they are already infected

*Cornea. 2008 Sep;27(8):930-4.*

*Evaluation of toxicity of commercial ophthalmic fluoroquinolone antibiotics as assessed on immortalized corneal and conjunctival epithelial cells.*

Sosa AB, Epstein SP, Asbell PA

**CONCLUSIONS:** All of the topical fluoroquinolones tested showed evidence of both corneal and conjunctival toxicity

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**Contact Lenses**


*Evaluation of succinylated collagen bandage lenses in corneal healing by the expression of matrix metalloproteinases (MMP-2 and MMP-9) in tear fluid.*

Hadassah J, Bhuvaneshwari N, Rao U, Sehgal PK.

**CONCLUSION:** Bandage contact lenses significantly reduce symptoms of irritation and discomfort while maintaining visual acuity, controlling inflammation, and reflex tearing.
Pain Therapy and Corneal Ulcers


Tramadol 4mg/kg PO q8h was more effective than nalbuphine, and nalbuphine was less effective than saline.

Pain Therapy and Corneal Ulcers


1% solution of nalbuphine has the potential to be toxic to the ocular surface, particularly with regard to eyes containing epithelial defects.
New Indolent Ulcer Therapies


- 195 ulcers treated with either diamond burr, or grid keratotomy
- Diamond burr treated were more likely to be healed in 1-2wks
- “The most significant complication was varying degrees of keratomalacia early in the development of the technique”
- $500/unit +$50/burr (burr needs replaced after 24 uses)

What about….

• Serum?
  - Only indicated in melting ulcers and has been replaced by Terramycin/Oxytetracycline usage

• Hylartin?
  - Only indicated for joint injections in horses and intraocular injection for intraocular surgery as a viscoelastic agent
Caution grids...

- Diabetics
- Brachycephalics

Recheck examinations
Recheck examinations

If still not healed 2 weeks later
  A second grid keratotomy can be tried
    - make sure it is a true indolent ulcer
  Add e-collar if not used previously
  Add contact lens if not used previously

If still not healed 2 weeks later, consider
superficial keratectomy

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When to regrid or refer

• Initially if you are not comfortable
  performing superficial grid keratotomies
    • We perform them awake; average 5-7/week; 95%
      success rate of healing in 2 weeks
• If you are unsure if a grid is indicated
• If you have performed a grid and it is not
  healed in 2 weeks
• In chronic/complicated indolent ulcers

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**Grid or Not to Grid?**

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Questions?

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**Uveitis in Small Animals**

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**Clinical Signs**
Patients with uveitis can present with many different symptoms, depending on the cause of uveitis, chronicity, and potential secondary consequences of uveitis.

**Acute**
- conjunctival hyperemia
- epiphora
- photophobia
- corneal edema

**Chronic**
- iridal color changes (rubeosis irides)
- glaucoma
- cataract and/or lens luxation
- blindness

**Diagnostic Testing**
All patients presented that are suspected to have a systemic disease should undergo a complete ophthalmic examination to determine if there is ocular manifestations of their systemic disease. If a patient is suspected to have uveitis, the opposite should occur – the patient should undergo a complete physical examination to determine if there is systemic disease that could cause uveitis, or if physical examination abnormalities are found, to help rank diagnostic testing.

A complete ophthalmic examination should include:
- Schirmer Tear Testing (dogs only)
- Intraocular pressure (tonopen or tonovet)
- Assessment of vision
- Pupillary light reflexes
- Anterior segment evaluation
- Dilated posterior segment evaluation

**Examination Findings**
Schirmer Tear Test
- KCS can be a concominant disease that is unrelated, or in severe panuveitis cases, can be a temporary problem.
• Any level of KCS should be treated appropriately (T-cell suppressors), regardless of whether it is presumed temporary or a permanent issue.

Conjunctiva and Cornea
• All cases of anterior uveitis should have some level of conjunctival hyperemia. Without any hyperemia, uveitis is highly unlikely to be present (in these cases, the clinical signs assumed to be secondary to uveitis are likely something else)
• Corneal edema will occur when the severity of the uveitis causes dysfunction of the endothelium or there are endothelial precipitates (blood, fibrin, hypopyon, keratic precipitates)
• Keratitis will occur with chronicity (at least 3-5 days)

Anterior Chamber
• Aqueous flare is pathognomonic for uveitis. Without aqueous flare, the clinical signs assumed to be secondary to uveitis are likely something else.
  ▪ Sometimes requires slit lamp to see the flare
  ▪ Dark room, slit beam
• Hypopyon
• Fibrin
• Hyphema
• Keratic precipitates
• May contain the lens in severe/chronic cases

Anterior uvea
• Miosis
• Synechiae
• Color changes
  ▪ rubeosis irides = chronic
  ▪ hyperpigmentation = chronic
  ▪ thickening = acute/chronic

Lens
• cataract = chronic
• chicken/egg phenomenon – chronic cataract can cause uveitis, but chronic uveitis can cause cataract
  ▪ usually can tell which came first with a thorough exam
• lens luxation = chronic
• posterior synechiae

Fundic Exam
• evaluate for changes in color, reflectivity, and direction of vessels

Etiologies of Uveitis
The likely etiology of the uveitis can often be determined by consideration of breed, age, travel history, systemic disease, and characterization of uveitis (anterior, posterior, panuveitis)

Broad Categories
• lens induced – due to a cataract or lens rupture
• traumatic – major trauma
• infectious – bacterial, fungal, parasitic
• neoplasia – ocular or systemic with ocular manifestations
• immune mediated/idiopathic
• pigmentary uveitis of Golden Retrievers

Infectious Causes
• FeLV, FIV, FIP – tends to be anterior, but FIP is perivascular cuffing and tortuous retinal vessels
• Toxoplasmosis- tends to be anterior with bulls-eye chorioretinitis
• Bartonella – tends to be anterior
• Tick Disease – tends to be anterior with thrombocytopenia changes
• Fungal Disease – tends to be panuveitis and granulomatous, unresponsive to therapy
• Parasitic Disease - rare

Uveitis Therapy
• 1% pred acetate
• Topical nonsteroidals – flurbiprofen, Diclofenac
• Topical atropine (ointment in cats)
• NSAID or Prednisone PO
- Doxycycline PO x 21d
- Treat underlying case
- Taper medications over weeks to months
- If immune mediated, often require lifelong therapy to maintain control

**Follow up**
- Some need internal medicine intervention for diagnostics and/or control of disease
- Some will develop secondary glaucoma, usually unresponsive to topical therapies, and often require enucleation for the patient’s comfort.
Canine & Feline Uveitis

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Anatomy

• The uvea is the middle or vascular tunic of the eye that is covered externally by the fibrous tunic and provides the majority of the blood supply

• Iris

• Ciliary Body

• Choroid
Presenting Complaints

**ACUTE**

- Conjunctival hyperemia
- Epiphora
- Photrophobia
- Corneal edema (cloudiness)

**CHRONIC**

- Iridal color change
- Glaucoma
- Lens Luxation
- Blindness
Diagnostic Testing

- STT
- IOP - tonopen or tonovet
- Menace response, PLRs
- Anterior segment evaluation
  - Cornea, Iris, Pupil, Lens
- Posterior segment evaluation
  - Retina, Optic Nerve
Schirmer Tear Test

- Dry eye <15mm/min
- Suspicious 15-17mm/min
- Normal >20mm/min
- Some dogs with severe panophthalmitis will have temporary KCS
- Could be a concurrent other problem
Tonometry

- Tonopen
- TonoVet
Tonometry

• Uveitis will lower intraocular pressure (IOP)
  – Normal IOP: <25 mmHg
  – Anterior uveitis: <10 mmHg with clinical signs
  – Anterior uveitis with secondary glaucoma:
    >20 mmHg with clinical signs of uveitis
  – Glaucoma: >25 mmHg
Menace Response

Vision may or may not be present

Blindness does not mean poor prognosis for some cases of uveitis!
PLRs: CNs 2 and 3

PLRs variable depending on segments involved, and chronicity (synechiae)
Slit Lamp Exam
Conjunctiva & Cornea

- Conjunctival hyperemia in ALL CASES
- Corneal edema +/- vessels
- Keratic precipitates
Conjunctival Hyperemia
Corneal Edema
Corneal Vascularization
Keratic Precipitates
Anterior Chamber

- Aqueous flare in ALL CASES
- Hyphema
- Hypopyon
- Fibrin
- Lens – chronic change
- Uveal Mass
Aqueous Flare

Normal Eye
Hyphema
Hypopyon and Iris Color Change
Fibrin
Lens Luxation

A black cat with a luxated lens in its eye.

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Uveal Mass
Uveal Cyst and Pigment
Iris/Pupil

- Miosis
- Dyscoria due to synechiae - chronic
- Iris thickening
- Iris/ciliary body mass
- Iris color change/rubeosis - chronic
- Iris cyst
Miosis
Lens

- Pigment on lens capsule
- Synechiae
- Cataract
Dyscoria/posterior synechiae
Posterior Synechiae
Cataract/Posterior Synechia
Complete Posterior Synechia: Iris Bombe
Rubeosis Irides, Iris thickening, and Lymphoid Nodules
Rubeosis Irides & Cataract
Lens

The chicken or the egg phenomenon

- **Lens Luxation/subluxation - chronic**
  - If cat or horse, uveitis came first
  - Chronic uveitis with secondary lens luxation uncommon in dogs

- **Cataract - chronic**
  - If a cat or horse, uveitis came first
  - If a mature or hypermature cataract, cataract likely came first
  - If a diffuse anterior and/or posterior cortical cataract, uveitis came first
Lens:
Cataract Formation
Lens: Anterior Luxation
Lens: Posterior Luxation
Secondary Glaucoma
Fundic Examination

- If IOP is normal or low, then dilate with topical tropicamide

- Active uveitis may require more than one drop of tropicamide or atropine

A sign of uveitis is that the pupil does not dilate well after tropicamide
Evaluation

- Color of the tapetum and nontapetum
- Optic nerve head
- Retinal vessels
- Abnormalities
  - Changes in color, reflectivity, direction of vessels
Normal Fundus
Normal Albinotic Fundus
Uveitis

• Anterior
  – Affects iris and ciliary body

• Posterior
  – Affects the choroid

• Panuveitis
  – Affects both anterior and posterior uvea
Etiologies: broad categories

- Lens induced
- Traumatic
- Infectious
- Neoplastic
- Immune mediated/Idiopathic
- Pigmentary uveitis of Golden Retrievers
## Infectious Causes

<table>
<thead>
<tr>
<th>Cats</th>
<th>Dogs</th>
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<tr>
<td>• FeLV</td>
<td>• Tick Disease</td>
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<td>• FIV</td>
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FELINE VIRAL DISEASES
FeLV
FeLV Uveitis

- Young cats mostly
- Severe panuveitis
- Hypopyon and fibrin
- Uveal and Chorioretinal masses
- Chorioretinitis
- Retinal detachment
- Secondary glaucoma common
FeLV
FIV Uveitis

- Young cats mostly
- Severe panuveitis
- Hypopyon and fibrin
- Chorioretnitis
- Retinal detachment
FIP Uveitis

• Young cats mostly
• Severity of uveitis is variable, but commonly severe
• Hypopyon and fibrin
• Retinal involvement: tortuous retinal vessels and perivascular cuffing
• Neurologic involvement: optic neuritis
• Can develop retinal detachment
• Secondary glaucoma common
FIP

Pyogranulomatous inflammation

Can have ocular involvement only!
FIP
FIP

- Definitive diagnosis: IFA on tissue
- Clinical signs -
  - pyogranulomatous uveitis
  - poor response to aggressive therapy
  - worsens over time
- High Corona titer, increasing serially
- Corona PCR through Auburn University
  - Higher Sensitivity
FeLV, FIV, FIP

• In addition to topical medications, supportive medical care is indicated

• Topical medications

• Lifelong topical therapy

• Lifelong monitoring for glaucoma, cataract, lens luxation
TOXOPLASMA
Toxoplasmosis

- Anterior uveitis alone common
- Posterior uveitis alone common
- Panuveitis common
- Granulomatous chorioretinitis in “bullseye” shape
- Retinal vasculitis
Toxoplasmosis

• IgG and IgM antibodies in serum
• Can be found in aqueous humor
  – IgM detectable in serum during recent or active infection
  – IgM greater than 1:256 is suggestive
• PCR for Toxoplasma gondii specific IgM and IgG
• Oral clindamycin: 25mg/kg PO BID x 4 weeks
• Topical uveitis therapy, discussed later
Toxoplasmosis
BARTONELLA
Bartonellosis

• Anterior uveitis most common, can be chronic and low-grade

• Chorioretinitis least common

• Western blot analysis: most sensitive

• PCR: most specific, but can have false negatives

• Azithromycin (Zithromax) macrolide
  – 10 mg/kg/day for 6 weeks (per Breitschwerdt)

• Topical uveitis therapy; discussed later
Bartonellosis

- Antibiotic choice becoming controversial
  - Azithromycin (Zithromax) macrolide
    - 10 mg/kg/day for 6 weeks
    - Resistance developing??
  - Doxycycline
  - Rifampin
  - Fluoroquinolones

- Topical uveitis therapy, discussed later
Bartonellosis
Fungal Disease

- Cryptococcus neoformans – cats most common
- Histoplasma capsulatum – cats most common
- Blastomyces dermatitidis – dogs most common
- Coccidioides immitis – tends to be other parts of US
- Granulomatous uveitis (usually very severe) with retinal involvement (granulomatous chorioretinitis) most common
Fungal Disease

• Physical examination
  – Can be normal other than (pan)uveitis
  – Most have local lymphadenopathy
  – Can have skin draining tracts

• Serum fungal antigen titers – can be unreliable

• Most sensitive test currently is urine antigen
  – Blastomyces and Histoplasma cross reactive
  – www.miravistalabs.com

• Subretinal aspirates or enucleation sometimes required for dx
Cryptococcosis
“bullseye” chorioretinitis lesions with optic neuritis
Cryptococcosis
Blastomycosis
Blastomycosis
Histoplasmosis
Fungal Uveitis
Fungal Infection Therapy

- Oral **fluconazole** penetrates the blood-brain and blood-aqueous barriers easily
  - Dogs: 10mg/kg PO BID
  - Cats: 50-100 (small-big) mg per cat PO BID

- Fungal infections require long term therapy (typically 4 months+) and treat 1 month beyond resolution of clinical signs
TICK-BORNE DISEASE
Tick Diseases

- Rickettsia rickettsii (RMSF)
- Ehrlichia canis
- Borrelia burgdorferi (Lymes)
- Babesia canis
- Bartonella vinsonii (cat scratch fever)

PCR testing most reliable
**Tick Diseases**

- Anterior uveitis common
- Posterior uveitis tends to include hemorrhages and/or retinal detachments
- +/- hematologic and systemic abnormalities
- Doxycycline 10mg/kg PO SID x 21d
- Topical medications (discussed later)

RMSF

Ehrlichia
PARASITIC DISEASE
Parasitic Causes

• Aberrant migrations of heartworm larva, roundworm larva or fly larva (as well as others) can cause anterior and posterior segment signs
Heartworm Larva
Ophthalmomyiasis Interna

Heartworm disease
Cuterebra
TRAUMA
Trauma

- Blunt trauma
- Penetrating trauma

These are major traumas!!
Cat scratch to globe
HBCs
Kicked by horse
Ball/Bat to eye
Dog fights

These are NOT "bumped head on the coffee table" or "ran into my leg"
Clinical Signs of Blunt Trauma

- Hyphema
- Low intraocular pressure
- Can develop secondary glaucoma
- Posterior synechia
- Cataract
- Retinal detachment
Diagnosis and Treatment

- History of MAJOR trauma
- If corneal rupture, refer for corneal repair
- 1% pred acetate QID (insure no corneal ulcer)
- Diclofenac QID
- Atropine SID (check IOP)
- Systemic corticosteroids or NSAIDs
- Assess rest of patient
- Recheck in 7-10 days
LENS INDUCED UVEITIS
**Lens Causes**

**Cataract induced uveitis (phacolytic uveitis)**
- chronic cataract that has not had surgery
- acute cataract that is quickly progressing (seems to happen overnight)
  - young dog with inherited cataract
  - husky, bichon, poodle, cocker spaniel

**Ruptured lens uveitis (phacoclastic uveitis)**
- diabetic dogs
- corneal laceration with lens involvement

**Lens Luxation** - breed zonular lysis - Terriers
Phacolytic Uveitis
Phacoclastic Uveitis

Needs uveitis therapy and cataract surgery - or will get secondary glaucoma and need enucleation soon!
Phacoclastic Uveitis

Needs uveitis therapy and cataract surgery - or will get secondary glaucoma and need enucleation soon!
NEOPLASIA
Neoplastic Causes

• Lymphoma
• Diffuse iris melanoma
• Any uveal neoplasia
  – Adenoma, adenocarcinoma most common
  – Histiocytic sarcoma, medulloepithelioma
• Metastatic uveal neoplasia
  – Tends to have severe uveitis rather than mild uveitis with primary tumors
Lymphoma
Lymphoma
Diffuse Iridal Melanoma
Adenoma/Adenocarcinoma
Metastatic Neoplasia
Neoplasia

- Complete physical examination
- Complete ophthalmic examination
- CBC, chem, u/a
- Thoracic radiographs
- Abdominal radiographs
- Enucleation most common therapy with follow up histopath (NO EXCEPTIONS!)
IMMUNE MEDIATED/IDIOPATHIC UVEITIS
Immune-Mediated/Idiopathic

- Approximately 50% of the cases will be diagnosed as immune-mediated or idiopathic
- Tend to be young(er) dogs, but can be any age
- Tend to be bilateral
- Can be anterior, posterior, or panuveitis
- Can be any level of uveitis severity
- Diagnosis of exclusion
- Usually requires lifelong therapy topical and oral
  - Tetracycline/niacinamide PO or azathioprine PO for control
Pigmentary Uveitis

- Golden Retrievers
- Radiating pigment on anterior lens capsule
- Chronic changes include cataract, glaucoma
- Common cause of blindness in older Goldens
- Often waxing/waning without therapy; "allergy" dogs
- 1% pred acetate SID-QID, +/- Diclofenac to control
- Monitor closely for uveitis control, not cure; risk of glaucoma
- Lifelong therapy to control, not cure
Pigmentary Uveitis
Hepatitis vaccine induced uveitis; usually 3-5d post-vaccine; guarded to poor px
Uveodermatologic Syndrome (VKH-like syndrome)

Akitas, Huskies, Samoyeds, other Arctics and Japanese Breeds; Shelties

Panuveitis common; skin lesions if severe or chronic

Require lifelong aggressive therapy and monitoring for the best control not cure

High risk for glaucoma, cataract, blindness if not treated appropriately
UVEITIS TREATMENT
Medical Management for Anterior Uveitis in Dogs

- 1% prednisolone acetate TID-QID (if no ulcer)
- Topical nonsteroidal anti-inflammatory meds
  - Flurbiprofen, diclofenac
  - BID-QID
- Topical atropine solution q3d-SID
  - Make sure IOP OK prior to atropine
- NSAID x 2 weeks or Prednisone 0.5mg/kg PO BID
- Doxycycline 10mg/kg PO SID x 3 weeks
- Treat underlying cause (if known)
- Recheck in 10-14 days and taper meds, if controlled over WEEKS TO MONTHS
Medical Management for Anterior Uveitis in Cats

- 1% prednisolone acetate TID-QID (if no ulcer)
- Topical nonsteroidal anti-inflammatory meds
  - Flurbiprofen, diclofenac
  - BID-QID
- Topical atropine ointment q3d-SID
  - Make sure IOP OK prior to atropine
- Treat underlying cause (if known)
- Recheck in 10-14 days and taper meds, if controlled over WEEKS TO MONTHS
Medical Management for Posterior Uveitis

• If the underlying cause is NOT infectious, oral corticosteroids +/- azathioprine are indicated to prevent or improve chorioretinitis or detachment

• If laboratory tests are pending, do not recommend starting immunosuppressiv dose of oral corticosteroids
If no improvement...

• If the eye(s) do not improve, remain painful, develop secondary glaucoma that does not respond to therapy, are irreversibly blind or if there is an intraocular tumor, ENUCLEATION is an appropriate treatment

• Both diagnostic and therapeutic
Any Questions?