Uvea and Uveitis

CL Davis 9/08

Richard R Dubielzig
Uveitis Organisms

- Blastomycosis
- Cryptococcosis
- Coccidioidomycosis
- Histoplasmosis
- Protothecosis
- Aspergillosis
Blastomycosis
142 cases in dogs, 8 cases in cats

- *Blastomyces dermatitidis*
- Dogs more than cats
- Mississippi River valley
- Very local hotbeds
- Soil fungus spread through inhalation from the soil
- Encapsulated with broad-based budding
Blastomycosis
Uveitis Organisms

- Blastomycosis
- Cryptococcosis
- Coccidioidomycosis
- Histoplasmosis
- Protothecosis
- Aspergillosis
Cryptococcosis

19 cases in dogs, 22 cases in cats

- *Cryptococcus neoformans*
- Spread from soil rich with pigeon droppings
- Ohio River valley
- Cats more than dogs
- 7 to 10 micron poorly staining cell body surrounded by mucinous capsule
Cryptococcosis

Alcian Blue PAS
Alcian Blue PAS
Uveitis Organisms

- Blastomycosis
- Cryptococcosis
- Coccidioidomycosis
- Histoplasmosis
- Protothecosis
- Aspergillosis
Coccidioidomycosis
24 cases in dogs, 9 cases in cats

- *Coccidioides immitis*
- Soil organism from Southwestern desert
- Infects many species
- Organism easier to find in cats than dogs
- 20 to 40 micron spherule with enclosed endospores
- Does not have a budding form
Uveitis Organisms

- Blastomycosis
- Cryptococcosis
- Coccidioidomycosis
- Histoplasmosis
- Protothecosis
- Aspergillosis
Histoplasmosis
2 cases in dogs, 20 cases in cats

- *Histoplasma capsulatum*
- Found in soil contaminated with bird droppings
- Affects many tissues
- Ohio River valley
- 4 micron intracellular organism
Histoplasmosis
Uveitis Organisms

- Blastomycosis
- Cryptococcosis
- Coccidioidomycosis
- Histoplasmosis
- Protothecosis
- Aspergillosis
Protothecosis
8 cases in dogs, 0 in cats

• *Prototheca zopfii, Prototheca wickerhamii*
• Saprophytic achlorophyllus algae
• Worldwide distribution infecting several species
• Associated with contaminated water and susceptible host
Protothecosis
Uveitis Organisms

- Blastomycosis
- Cryptococcosis
- Coccidioidomycosis
- Histoplasmosis
- Protothecosis
- Aspergillosis
Canine Systemic Aspergillosis

• Worldwide distribution
• German Shepherd breed at risk
• Systemic disease with vasculitis
• Poor prognosis
Systemic Aspergillosis
Canine Ocular Larval Migrans

*Toxocara canis*

- Affects young working dogs with a high exposure rate
- Nonspecific inflammation with focal granuloma
  - Important to block-in the granulomas
Equine Recurrent Uveitis (ERU)

• Bilateral, but not always symmetrical
• Cyclic Uveitis
• Etiology
  – Leptospirosis
  – Autoimmunity
• Classic morphologic features
  – Lymphoplasmacytic inflammation with lymphoid follicles
  – Lymphocytes within the ciliary epithelium
  – Linear hypereosinophilic cytoplasmic inclusions in the non-pigmented ciliary epithelium
  – Amyloid deposition on the inner surface of the non-pigmented ciliary epithelium
Pinealitis
West Nile Virus in Raptors
Diplostomum spathaceum

Trematode Parasite of Fish Eyes
Canine Uveodermatologic Syndrome

Vogt-Koyanagi-Harada Syndrome

VKH
Canine Uveodermatologic Syndrome
Vogt-Koyanagi-Harada Syndrome
VKH

• 86 cases in the COPLOW collection
• Breeds
  – Akita...23
  – German Shepherd...8
  – Chow Chow...4
  – Northern Breeds...Underrepresented*
• Bilateral symmetry is a distinctive feature
• Glaucoma
• Retinal detachment
• Morphologically, relatively quiet eye
Canine “Asymmetric Uveitis”

82 cases

Poodles, Schnauzers and Min Pinscher, Dachshunds overrepresented
Asymmetric Uveitis
VKH vs Asymmetric Uveitis

- Extent and distribution symmetrical
- Simultaneous involvement of both globes
- Depigmentation
- Quiet eye

- Asymmetrical extent and distribution of disease
- One eye usually removed first
- No depigmentation
- Marked inflammation
Canine Granulomatous Scleritis
Canine Granulomatous Scleritis
Necrotizing scleritis

- The disease is defined by the scleral predilection
- You may see granulomatous uveitis, like VKH
- You may see episcleritis, like NGE
Granulomatous Scleritis
Scleritis with Ectasia
Feline Lymphoplasmacytic Uveitis (L/P Uveitis)

• 886 cases out of 3,960 total feline cases (22%)
• Second most common disease associated with glaucoma in the COPLOW pathology collection (70% of L/P uveitis submissions have glaucoma also)
• There is vitreous degeneration that is underemphasized in this disease
• About 10% have lens protein in the anterior vitreous, secondary to rupture/leakage at the level of the posterior pole
• Many possible causes have been studied or suggested, but the cause is surely nonspecific and multifactorial
Alcian Blue PAS
Lens Protein