AN UNCOMMON CAUSE OF CHORIORETINITIS IN A DOG

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SIGNALMENT AND HISTORY

- 11-year-old, castrated male, Collie breed dog

- Presented to a local veterinary ophthalmology specialist following a 2-3 week history of blepharospasm and chemosis of the right eye
OPHTHALMIC EXAMINATION

- Iris markedly swollen, fundus not visualized
- Lack of menace response, negative dazzle reflex
  - Menace response
    - Ability to see (CN II) and blink (CN VII)
  - Dazzle reflex
    - Involuntary aversion to intense light
    - CN II, CN VII, retina and the rostral colliculus
- IOP @ 30-mmHg (12 to 25-mmHg)
- Treatment
  - Xalatan® (latanoprost)
  - Cosopt® (dorzolamide hydrochloride-timolol maleate)
**Algal Morphology**

- Round to ovoid, thin walled sporangia
- Collapsed refractile PAS-positive cell walls
- 10 to 15-um in diameter
- Empty and crescent-shaped (black arrow)
- Rare basophilic daughter endospores (yellow arrow)
Anterior displacement and thinning of the iris
Narrowing of the iridocorneal angle
Atrophy of the ciliary body
Collapse of the ciliary cleft
Hemorrhage in the posterior chamber
Posterior synechiae
Right globe: Granulomatous chorioretinitis, diffuse, marked, chronic with retinal detachment and intraläsional algal organisms (consistent with *Prototheca* spp.)
Achlorophyllic algae
- Mutant form of Chlorella (green algae)

Ubiquitous inhabitants of detritus and contaminants of various substrates [1, 2]

Two most common isolates are Prototheca wickerhamii and Prototheca zopfii
- Both can cause disease in animals and people [3]
  - Various routes of infection

Regarded as an opportunistic pathogen in people
- Host immunosuppression usually required
Disseminated forms most common
- Tropism for the eye, central nervous system (CNS), bone, kidneys and myocardium
- Refractory colitis also reported [4, 5]

Occasional reports of ocular protothecosis without systemic involvement
- Serous discharge, hyperemic conjunctivae, aqueous flare with slow pupillary light reflex (PLR) and an absent menace response
- Secondary retinal detachment and glaucoma [6]
# Prototheciosis in Other Animals

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<th>Animal</th>
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| Cattle       | • Usually associated with chronic mastitis  
                • Often found at slaughter  
                • Disseminated disease uncommon [7] |
| Cats         | • Several reports involving cutaneous lesions [8, 9]  
                • Disseminated disease rare |
| Goats and Sheep | • Cutaneous and nasal lesions [10, 11]                                      |
| People       | • Cutaneous lesions  
                • Olecranon bursitis  
                • Disseminated disease [2] |

http://info.fujita-hu.ac.jp/~tsutsumi/photo/photo179-1.htm

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REFERENCES

AND A SPECIAL THANKS TO...

- Elizabeth Whitley, DVM, PhD, DACVP
- Jey Koehler, DVM, PhD, DACVP
- Histopathology Laboratory Technicians