Case #A16-11191
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Signalment and History

• 2-year old male intact, Treeing Walker Coonhound

• Hx: weight loss, fever, and a right eye infection

• Right eye: infection → treatment with doxycycline and dexamethasone eye ointment → exophthalmos

• PE: nodule on dorsal planum of nose, tissue in right nasal cavity, enlarged mandibular LNs

• Ophthalmology exam: fungal granulomas bilaterally and severe uveitis

• Thoracic rads: diffuse interstitial to alveolar pattern

• Euthanasia

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Differentials

• Fungal infection (e.g. *Blastomyces dermatitidis*, *Coccidioides immitus*, *Cryptococcus neoformans*, *Histoplasma capsulatum*, *Paracoccidioides brasiliensis*)

• Bacterial infection (e.g. *Mycobacterium sp.*)

• *Prototheca*
Morphologic Diagnosis

• Chronic, multifocal to coalescing pyogranulomatous pneumonia and dermatitis with intralesional fungal yeast consistent with *Blastomyces dermatitidis*

• Also found in multiple lymph nodes, eye and brain

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**Blastomyces dermatitidis**

- Dimorphic fungus
  - Mycelial form in soil
  - Yeast form in tissues

- Route of infection: inhalation of spores from environment → terminal airways → dissemination to other tissues via lymphatics or hematogenous
Blastomyces dermatitidis

- Pyogranulomatous inflammation
- Predilection for the brain, eyes, lymph nodes, lung, and skin
- Distinguishing histologic characteristics: thick, refractile, double-contoured cell wall and broad-based budding of yeast
- Ancillary testing: special stains, such as GMS stain and PAS stain, PCR, AGID, cytology, and culture

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Questions?

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