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## PROTOTHECOSIS AS A CAUSE FOR DISSEMINATED INFLAMMATORY PROCESSES

Systemic infections with *Prototheca spp*, an unicellular alga, are rare but do occur worldwide. *Prototheca spp* are ubiquitous environmental pathogens, found in soil and water. This case is very interesting because we were able to identify the *Prototheca* species, and address the clinical signs to specific pathological changes.

An 8-year-old neutered male Labrador crossbreed was presented to the University Clinic of Utrecht University, The Netherlands with acute onset impaired eyesight, polyuria, polydipsia and hematochezia. Physical exam showed an enlarged right popliteal lymph node and on urinalysis a low specific gravity (1.013) was found. Ophthalmological exam revealed vitreal bleeding and ablatio retinae in oculus sinister and focal retinal lesions in oculus dextra.

The enlarged lymphnode, retinal lesions and clinical signs from different organ systems, raised a suspicion of systemic disease. Considered causes were neoplastic- or inflammatory disease, subdivided into an autoimmune or infectious (bacterial, parasitic, fungal) origin.

Because of these differentials, fine needle aspirates were taken from the enlarged right popliteal lymphnode and the vitreum of the left – already blinded – eye. Both samples showed yeast or fungi-spores that could be microscopically identified as *Prototheca*. Samples from the vitreum and lymphnode were sent to the lab for culture and PCR which confirmed the diagnosis of *Prototheca zopfii*.

Treatment with itraconazol based on Schultze et al <sup>(1)</sup> was initiated. Unfortunately, the condition of the dog deteriorated after several weeks and it was euthanized. Postmortem investigation showed granulomatous inflammation with *Prototheca* in the eyes, liver, kidneys and lymph nodes.

From other case reports, it is known that protothecosis generally has a poor outcome, which emphasizes the need for early detection. A thorough problem oriented approach can help to connect the multiple seemingly unrelated problems. As such, keep in mind to consider fungal and algae infections in animals with disseminated inflammatory processes.

### References

1. Schultze AE, Ring RD, Morgan RV, Patton CS. Clinical, cytologic and histopathologic manifestations of protothecosis in two dogs. *Vet Ophthal*. 1998;1:239-243.