



What's your diagnosis?

Nictitating membrane prolapse and eye tumefaction in a dog.



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A five years old, male Boxer presented with severe tumefaction of the left eye and depression (Figure.1 and 2). A nictitating membrane prolapse was recorded, lasting four days. The last two days the dog was depressed and inappetent.

The general physical examination was unremarkable. The temperature of the dog was 40,3°C. Any attempt to open the the animal's mouth, was painful.

1. **How would you describe ocular lesions? (Fig.1 and 2).**
2. **What is the most likely diagnosis? What is your differential diagnosis and which clinical and laboratory tests would you recommend?**
3. **What treatment would you suggest?**



Figure 1.



Figure 2.

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Figure 5. Drainage of the retrobulbar abscess. After the introduction of surgical scissors towards the depth of the orbit, they are slightly opened and gently withdrawn. Note the copious pyohaemorrhagic discharge that was drained.

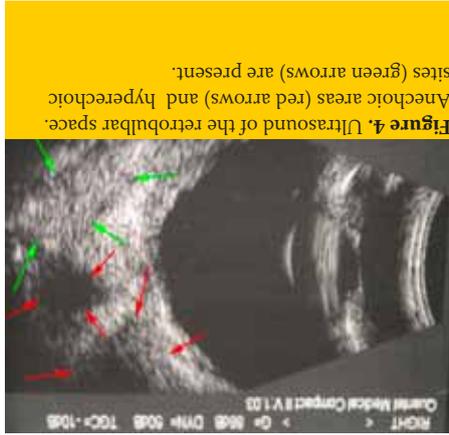


Figure 4. Ultrasound of the retrobulbar space. Anechoic areas (red arrows) and hyperechoic sites (green arrows) are present.



Figure 3. Severe swelling of the area of the oral cavity behind the last upper molar of the ipsilateral retrobulbar abscess of the left eye (arrows). Compare to the contralateral normal region.

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Answers

Nictitating membrane prolapse and eye tumefaction of a dog.

1. How would you describe the ocular lesions? (Figures 1 and 2).

An intense nictitating membrane prolapse is noticed which is accompanied by edema and hyperemia. Extensive conjunctival edema (chemosis) is present, which covers part of the cornea. There is eyelid and periorbital swelling as well as mucopurulent discharge in the conjunctival sac and eyelids. The eye globe itself is normal.

2. What is the most likely diagnosis? From what other medical conditions would you make the differential diagnosis and what clinical examinations and laboratory tests would you recommend?

The sudden onset, the typical clinical manifestations and fever refer to retrobulbar/periulbar inflammation or abscess. Moreover, the intense pain, while opening the mouth, is a typical symptom of the disease. Differential diagnosis includes zygomatic salivary retention cysts and mucocoeles, eosinophilic myositis of mastication muscles and retrobulbar and perocular tumors.^{1,2,3,4}

Oral cavity inspection is necessary for the diagnosis. The inferior bony orbital wall is absent in the dog, so orbital structures lie adjacent to oral cavity and temporomandibular joint. In any case of suspected inflammation or abscess of the orbit, the area behind the ipsilateral last upper molar is swollen and therefore should be inspected. This was also true in our case (Figure 3). This examination is painful, so the procedure is referred.¹⁰

The exact cause of orbital abscesses often remains unidentified. Foreign bodies - that can be removed during drainage of abscesses,⁸ as well as hematogenous infection, injuries through the oral cavity and dental problems have been referred.

Access of retrobulbar space is performed through the oral cavity. Initially, with a scalpel blade, a small incision of the mucous membrane behind the last upper molar is made. Through this incision hemostatic forceps or closed blunt scissors are introduced towards the top of the orbit, behind the posterior pole of the eye. Then strands are opened slightly and forceps are withdrawn draining the abscess (Figure 5). In this case, amoxicillin/clavulanic acid (Synulox® palatable tablets, Pfizer) at a dose of 20mg/kg every 12 hours for ten days was administered.

3. What is the treatment that you would recommend?

Treatment of orbital abscesses involves surgical drainage and systemic antibiotic therapy.¹² Treatment of retrobulbar abscesses involves surgical drainage and systemic antibiotic therapy.¹²