

Blindness secondary to sphenoid bone osteomyelitis in a dog with leishmaniasis

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Abstract: A young dog, recently imported from Macedonia was presented for evaluation of acute central blindness, joint effusions and weight loss. A serological diagnosis of leishmaniasis was made. Computed tomography was consistent with sphenoid bone osteomyelitis and associated focal meningitis. The dog was treated with meglumine, allopurinol and potentiated amoxicillin and regained vision.

Introduction

- Canine leishmaniasis has a prevalence of 0.007-0.04% in the UK¹.
- Dermatological, renal, ocular, vascular and musculoskeletal signs are possible².
- * Ocular signs typically limited to blepharitis, anterior uveitis, posterior uveitis and keratoconjunctivitis sicca^{3,4,5}.

Case history

- 11-month-old female neutered crossbreed
- Imported from Macedonia 3 weeks earlier (considered normal on arrival).
- 2 week history stiff gait and weight loss
- 24 hour history vision loss.

Clinical examination

- BCS 3/9.
- Joint effusions (carpi, tarsi and stifles).
- Bilaterally blind, absent PLR, mild exophthalmos.
- Mild enlargement of popliteal and prescapular lymph nodes

Diagnostic testing

Haematology	Haematocrit 30% (RR 37-55) Platelets $131 \times 10^3/\mu\text{L}$ (RR 200-500 $\times 10^3/\mu\text{L}$)
Biochemistry	Globulins 7.0g/dL (RR 1.9-4.6) Creatinine 141 $\mu\text{mol/L}$ (RR 20.0-124.0)
Urinalysis	USG 1.024 UPCR 5.86 (RR 0.0-0.5)
Synovial fluid cytology	Moderate-marked neutrophilic inflammation (65-80% non-degenerate neutrophils)
SNAP4Dx	Negative
<i>Leishmania</i> spp. serology	Positive ≥ 3200 (RR <50)
Computed tomography	Decreased attenuation associated with heterogenous mineralisation of the sphenoid and frontal bones resulting in irregular calvarial bone contour (Figure 1). Post-contrast meningeal enhancement adjacent to sphenoid bone (Figure 2).

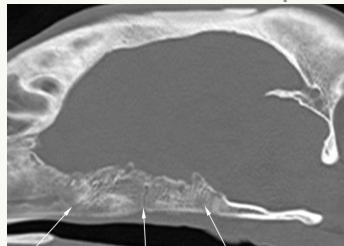


Figure 1

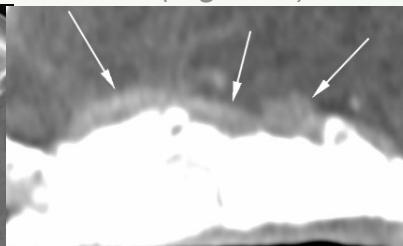


Figure 2

Treatment

Meglumine antimoniate 100mg/kg SID SC (28 days)
Allopurinol 10mg/kg SID PO (ongoing)
Potentiated amoxicillin 18mg/kg TID IV, then BID PO (28 days)
Paracetamol 10mg/kg TID IV then PO (10 days)
SID – once daily, BID – twice daily, TID – three times daily, IV – intravenous, PO - oral

Discussion

- Joint effusions and clinicopathological abnormalities completely resolved. The dog regained vision after 30 days.
- There are 23 published reports of bone changes in dogs with leishmaniasis^{6,7,8,9,10,11}.
- Typical radiographic findings reported include a combination of periosteal reaction, changes in intramedullary opacity and cortical or medullary destruction.
- Most reported bone lesions involve the appendicular skeleton (one report of occipital bone involvement).
- Limitations in this case include lack of histopathological documentation of *leishmania* spp. causality, concurrent antibiotic use and lack of electroretinography.

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