



COMPANION ANIMAL

Clinical Cases Award



Canine brucellosis in The Netherlands

Nicole Willems, DVM

Department of Clinical Sciences of Companion Animals
Faculty of Veterinary Medicine
Utrecht University, PO Box 80.154, 3580 TD Utrecht
The Netherlands

n.willems@uu.nl

Nicole Willems, DVM, PhD, res. ECVS, Marjolijn E. Holtslag, DVM, Els M. Broens, DVM, PhD, Marianna A. Tryfonidou, DVM, PhD, DECVS, Björn P. Meij, DVM, PhD, DECVS

Introduction

Brucella canis is rarely considered to cause canine discospondylitis in The Netherlands. The objective of this study was to describe the clinical manifestation, diagnosis, and treatment of the first cases of canine brucellosis in The Netherlands.

Materials/methods

All dogs were evaluated by clinical and orthopedic examination, the Helsinki chronic pain index (HCPI), serum agglutination test, culture (blood, disc, urine or synovial fluid), and computed tomography (CT) with 2 - 15 months intervals. Treatment consisted of doxycycline 10 mg/kg once daily in combination with analgesics.

Results

Eight dogs originating from Bulgaria (5) and Romania (3) were presented with spinal pain and intermittent lameness. Serology for *B. canis* was positive in 7 dogs (titer ≥ 400); ambiguous in 1 dog. Titers declined markedly in 2 dogs upon treatment with doxycycline ≥ 15 months. In 5 individual dogs, urine (2), blood (2), synovial (1) and disc (1) cultures were positive. Five dogs showed clinical improvement and negative blood and urine cultures after treatment with doxycycline and analgesics. In 3 of 8 dogs HCPI was above 12, suggestive of chronic pain. CT imaging revealed chronic multifocal discospondylitis (Figure 1), that improved in 2, and aggravated in 5 dogs. Four dogs (2 treated with doxycycline) were euthanized because of clinical deterioration and positive urine (2) and synovial (1) cultures.

Conclusion

Veterinarians should consider infection with *B. canis* in dogs presenting with spinal pain and intermittent lameness and originating from Eastern Europe. Long-term treatment with doxycycline and analgesics resulted in negative blood/urine cultures and declining serological titers. Clinical improvement occurred in 5, relapse in 2 dogs. Osteolytic changes were unaffected by doxycycline treatment, suggesting persistence of discospondylitis. A longer follow-up period is essential for evaluation of the patient's health, but also because of the potential zoonotic risks of *B. canis* for the owner and environment.^{1,2}

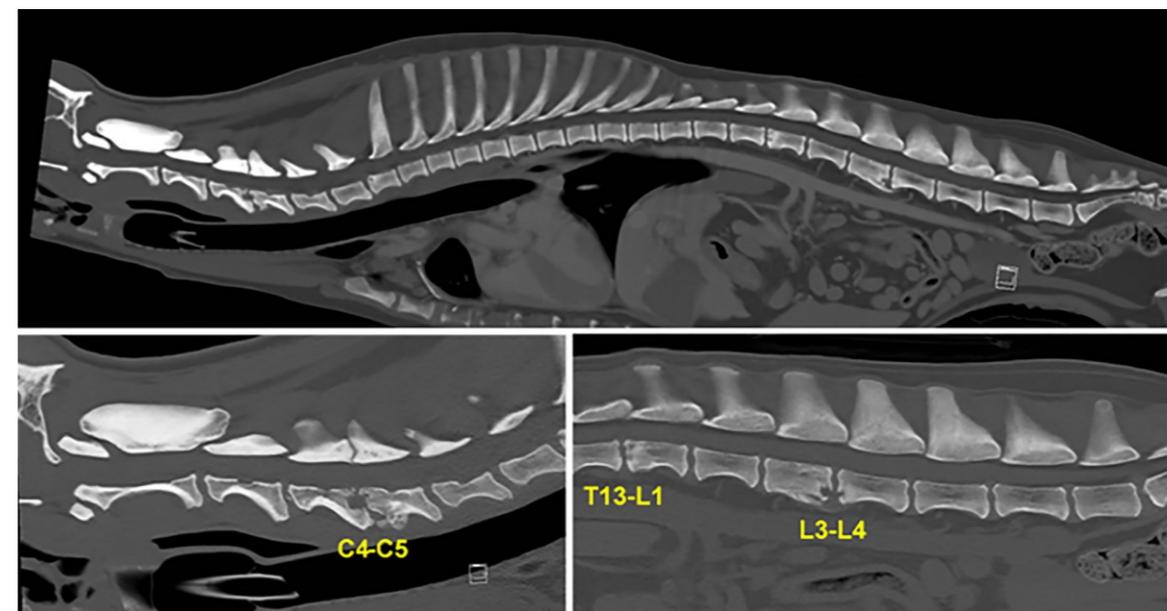


Figure 1. Computed tomography of the spine (sagittal view) of a dog with positive results on *B. canis* serology and presenting with spinal pain and intermittent lameness. Marked osteolysis and periosteal proliferation at the level of the endplates adjacent to the intervertebral discs C4-C5, T13-L1 and L3-L4, and the cranial endplate of T1, consistent with chronic multifocal discospondylitis.

References

1. Holst BS, Löfqvist K, Ernholm L, Eld K, Cedersmyg M, Hallgren G. The first case of *Brucella canis* in Sweden: background, case report and recommendations from a northern European perspective. *Acta Veterinaria Scandinavica*. 2012; 54:18. <https://doi.org/10.1186/1751-0147-54-18>
2. Cosford KL. *Brucella canis*: An update on research and clinical management. *The Canadian veterinary journal*. 2018; 59(1): 74 – 81.