

# Overlooked Infection in a Dog with Degenerative Discospondylitis and Hip Joint Osteoarthritis: Ruminant Originated Brucellosis (Dejeneratif Diskospondilitis ve Koksafemoral Osteoartritisi bir Köpekte Gözden Kaçan Enfeksiyon: Ruminant Kökenli Brusellozis)

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## Dear Editor,

Canine degenerative osteoarthritis and discospondylitis are serious disorders of locomotor system with many etiologic factors contributing to pathogenesis [1,2]. Canine brucellosis caused by *Brucella canis* is one of these factors and enlargement of lymph nodes, uveitis, osteomyelitis, polyarthritis, glomerulonephritis, pyogranulomatous dermatitis, epididymitis, orchitis, scrotal dermatitis (sometimes scrotal necrosis) are other clinical signs of this infection [3-6]. This letter is written to underline the possibility of canine brucellosis caused by other *Brucella* species, and to share an interesting case of dog brucellosis originated from ruminants with colleagues.

A 4½ years old male Labrador dog was brought to the clinic with complaints of reluctance to walk; inability to jump into a car; growling when his back was touched and lethargy. As it was learned from the patient's story, the complaints were become apparent during past 6 months, but since two years he does not want to sit after walking due to swelling and pain in the testicles, and therefore he had been castrated. On physical examination, body temperature, pulse and respiratory rates were within normal values and pain was recorded on palpation of the left hip joint and lumbar region. When raised on hind legs, it was noted that he could not tolerate this position more than 30 seconds. Laboratory examination revealed that WBC count ( $19.57 \times 10^9/L$ ), % values of basophils and neutrophils were increased and % value of lymphocytes was decreased. Serum CRP level was quite high (119 mg/L). On radiographic examination, signs of degenerative osteoarthritis were observed in right hip joint (Fig. 1A and B) and lumbar-coccygeal vertebrae (Fig. 1C and D). A *Brucella* infection had aroused suspicion due to the orchitis and castration story. His serum sample gave negative result

for *Brucella canis* with an immunochromatographic test kit (Brucella IC®, Biopronix, Agrolabo SpA, Italy), but it was positive with Rose Bengal plate test (SeroLam®, Seromed, Istanbul) which detects IgG and IgM formed against smooth *Brucella* species. According to the test results, dog was thought to be infected with one of these bacteria species: *Brucella melitensis* (sheep and goats), *Brucella abortus* (cattle) or *Brucella suis* (swine). While this development has been shared with the owner, it was learned that the dog had run around in neighboring goat farm since his puppyhood. Isolation of specific bacteria was not able because synovial fluid sampling of the relevant joints was not possible. Based on the serological tests results and owner's last information, the dog's disease was considered as ruminant originated brucellosis, and concerned pathologies (orchitis, discospondylitis and degenerative right hip osteoarthritis) were thought to be related to this overlooked and chronic infection. Dog was treated for 2 months with doxycycline (2 times a day 300 mg, oral route, Monodoks® 100 mg capsules, Deva, Istanbul) and streptomycin sulfate (1 g IM and in 1, 3, 5 and 8<sup>th</sup> weeks for 7 days, Streptomycin® vial, IE ULAGAY, Istanbul). After 1 month of therapy, blood serum CRP level was found in normal levels (9 mg/L). By future phone calls with the owner, it was learned that the dog can swim, get in the car, play ball and has no more back pain.

The presented case teaches us 3 important lessons: 1- Dogs with epididymitis, orchitis, scrotal dermatitis, uveitis, osteoarthritis or discospondylitis may be candidates of canine brucellosis. 2- During serological examinations, we must not only refer with *Brucella canis* specific tests. 3- Serological tests for *B. melitensis*, *B. abortus* or *B. suis* infections must absolutely be in diagnostic protocols particularly for dogs whose close contact with farm animals or have the possibility of eating farm animals' placenta or drinking their milk.



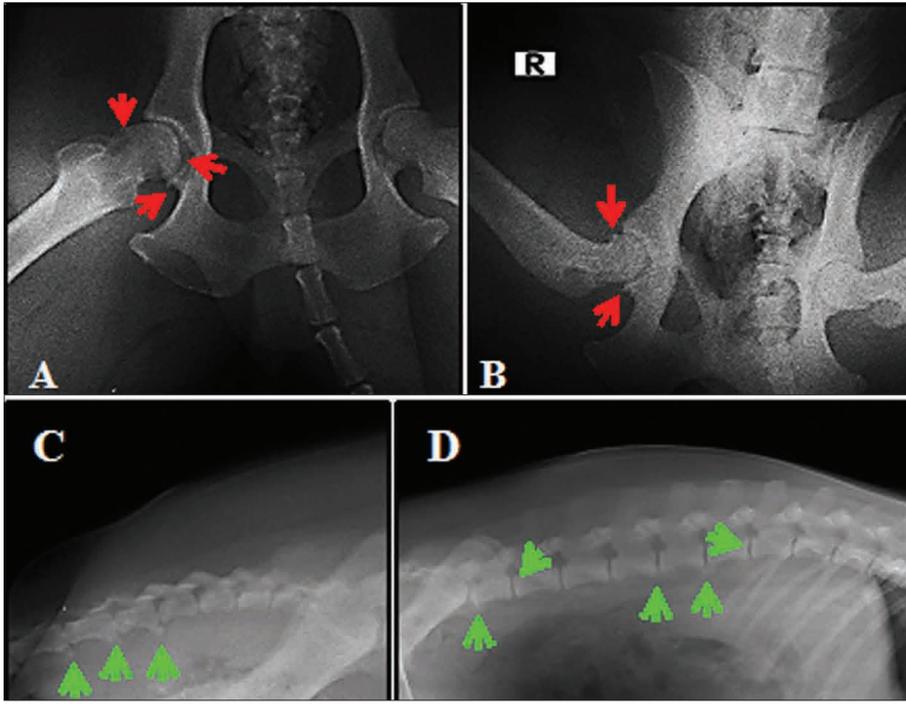
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**Fig 1.** Radiographic appearance of right hip joint (A) and (B) with degenerative osteoarthritic lesions (red arrows). Similar lesions (green arrows) in coccygeal (C) and lumbar (D) vertebrae and joints.

**Şekil 1.** Sağ kalça ekleminde (A) ve (B) dejeneratif osteoartritise işaret eden lezyonlar (kırmızı oklar) ile koksigeal (C) ve lomber (D) vertebral kemik ve eklemlerdeki benzer lezyonların (yeşil oklar) radyografik görünüşü.

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