

Shoulder Tenosynovitis due to Brucellosis

Omuz Ekleminde Bruselloza Bağlı Tenosinovit

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SUMMARY

Brucellosis remains a major health problem in many geographical areas. A 28-year-old farmer was referred to our clinic with a 20-day history of fever, chills, night sweats, shoulder pain, and generalized myalgia and arthralgia. His history revealed that he was a farmer by profession and had consumed fresh white cheese using unpasteurized milk. Standard tube agglutination for Brucella was positive at a titer of 1/640. Brucella melitensis was isolated from blood culture after a seven-day incubation. At diagnosis, the patient showed radiographic abnormalities. He was treated with doxycycline 200 mg/day orally and streptomycin 1 g/day intramuscularly for three weeks. Treatment with doxycycline 200 mg/day orally was then maintained for a further six weeks. Complete resolution was achieved with medical treatment.

Key Words: Tenosynovitis, Shoulder, Brucellosis

ÖZET

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Bruselloz pek çok coğrafik bölgede hala büyük bir sağlık problemi olarak devam etmektedir. Yirmi sekiz yaşında, çiftçilik yapan hasta, kliniğimize 20 gündür olan ateş, titreme, gece terlemesi, omuz ağrısı, yaygın kas ve eklem ağrıları şikayetleriyle başvurdu. Anamnezinde çiftçilikle uğraştığı öğrenildi ve pastörize edilmemiş sütten üretilen taze peynir tüketimi hikayesi vardı. Brusella standart tüp aglütinasyon testi 1/640 titrede pozitif idi. Yedi günlük inkübasyondan sonra kan kültüründen Brucella melitensis izole edildi. Hastanın tanısında radyografik anormallikler gözlemlendi. Hastaya üç hafta oral olarak 200 mg/gün doksisisiklin ve 1 g/gün intramusküler streptomisin verildi. Tedaviye oral olarak 200 mg/gün doksisisiklinle altı hafta daha devam edildi. Medikal tedavi ile tam iyileşme sağlandı.

Anahtar Kelimeler: Tenosinovit, Omuz, Bruselloz

INTRODUCTION

Brucellosis is a disease of domestic and wild animals (zoonosis) that is transmittable to humans^[1]. Brucellosis remains a major health problem in many geographical areas. Osteoarticular complications are important owing to their high prevalence^[1,2]. We report an unusual case of brucellosis presenting with shoulder tenosynovitis in a 28-year-old male. The patient was successfully treated with a combination of antibiotics. The importance of early recognition of the disease and differential diagnosis is emphasized. Early recognition of infection, prolonged treatment, and long-term follow-up may improve the outcome^[2].

CASE REPORT

A 28-year-old farmer was referred to our clinic with a 20-day history of fever, chills, night sweats, shoulder pain, and generalized myalgia and arthralgia. Shoulder movement typically aggravated the pain. There was no history of shoulder trauma. His history revealed that he was a farmer by profession and consumed fresh white cheese using unpasteurized milk. He was diagnosed with type-1 diabetes mellitus 21 years ago. In his initial examination, findings were normal, except shoulder movement was restricted and painful. In his complete blood analysis, erythrocyte sedimentation rate and serum biochemical markers were within normal limits except for glucose, at 139 mg/dL (normal: 70-110 mg/dL). Chest and shoulder X-ray was normal. Standard tube agglutination for brucella was positive at a titer of 1/640. *Brucella melitensis* was isolated from the BACTEC blood culture after a seven-day incubation. Shoulder magnetic resonance imaging (MRI) showed supraspinatus tendon with minimal thickening and increased intensity, accompanied by local fluid increase around biceps tendon and subcoracoid bursa (Figure 1). The diagnosis of brucellosis was based on review of the patient's history, clinical findings, and serological, microbiological and radiological abnormalities, and the patient was hospitalized. He was treated with doxycycline 200 mg/day orally and streptomycin 1 g/day intramuscularly (IM) for three weeks. Streptomycin was used for the treatment because of joint involvement. Treatment with doxycycline 200 mg/day orally was then maintained for a further six weeks. After three weeks of medical treatment, the shoulder movement and pain had



Figure 1. Axial MR image shows thickening and hyperintensity on subscapularis tendon.

reduced progressively. Radiographic abnormalities also improved with the medical treatment (Figure 2).

DISCUSSION

Brucellosis, though common worldwide, predominates in the Mediterranean, Middle East, Latin America, and Asia^[3]. Brucellosis is endemic in Turkey, and over 9000 cases were reported yearly to the Turkish Ministry of Health over the period 1991-2000^[4]. The disease typically attacks young and middle-aged adults, with a low incidence among in-

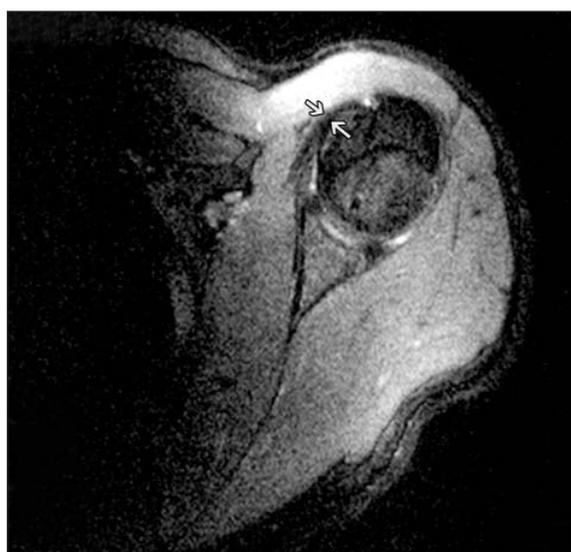


Figure 2. Axial MR image shows improving on subscapularis tendon.

fants and elderly patients^[5]. The disease is acquired by contact with infected animals, or more frequently, by the consumption of contaminated milk or milk products^[6]. Our patient's medical history revealed consumption of fresh white cheese using unpasteurized milk.

Brucella species frequently associated with human brucellosis are *B. melitensis*, *B. abortus*, *B. suis*, and rarely, *B. canis*^[1]. In our region, the commonest etiological agent for brucellosis is *B. melitensis*. The rate of positive blood cultures in brucellosis ranges from 15% to 80%^[7]. In our patient, *B. melitensis* was isolated from the BACTEC blood culture.

Brucellae are small gram-negative bacteria capable of surviving, and even multiplying, within the cells of the mononuclear phagocytic system, which could explain the high frequency of long illnesses, complications and relapses^[8]. Clinically, the disease usually presents with non-specific manifestations such as undulant fever, malaise, profuse or night sweating, weight loss, polyarthralgia, and headache^[9]. Our patient referred to our clinic with a 20-day history of fever, chills, night sweats, shoulder pain, and generalized myalgia and arthralgia.

Laboratory findings are variable, with a normal white cell count seen in 80%, although leukopenia, relative lymphocytosis, anemia, pancytopenia, and thrombocytopenia have all been described^[10,11]. The erythrocyte sedimentation rate is increased in 30%^[11]. Our patient's complete blood analysis and erythrocyte sedimentation rate were normal.

Osteoarticular complications are common in brucellosis, having been reported in 20-60% of cases^[1]. The spectrum of bone and joint lesions includes arthritis and spondylitis, and brucella may less frequently affect other musculoskeletal sites, producing tendinitis, enteropathies and osteomyelitis^[10]. Shoulder joint involvement is seen in approximately 4.5-5%^[12,13]. Infection in the bursae and tendon has been described but is unusual, and skin and soft tissue disease is rare^[10]. Our patient had tenosynovitis, though the radiographs showed no abnormalities of the bones or joints.

In brucellosis, the aim of a treatment regimen is to control the acute illness and to prevent both

complications and relapses^[3]. Treatment of patients should be prolonged, since the eradication of organisms from bone may be difficult. A 6-8-week combination therapy including rifampicin or streptomycin and doxycycline is recommended^[14]. Our patient was treated with doxycycline 200 mg/day orally and streptomycin 1 g/day IV for three weeks, and treatment with doxycycline 200 mg/day orally was continued for a further six weeks.

The correct diagnosis was made quickly, as brucellosis is relatively common in our region, and a complete recovery was achieved with the appropriate antibiotics.

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