

## LOW BACK PAIN IN THE POSTPARTUM PERIOD: A CASE REPORT WITH VERTEBRAL OSTEOMYELITIS

### POSTPARTUM DÖNEMDE BEL AĞRISI: VERTEBRAL OSTEOMYELITİLİ BİR OLGU SUNUMU

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#### ABSTRACT

Tuberculosis remains a major health problem. Musculoskeletal tuberculosis accounts for about 10-15 % of all tuberculosis notifications in the non-industrialized countries. The spine is the most common site the for osseous involvement and tuberculosis involved multiple sites accounts for 3% of the cases. Sacral involvement and concomittant vertebral tuberculosis is a rare combination. We report a case of tuberculosis with vertebral involvement and an additional infectious foci near the sacroiliac joint. Needle biopsy of the L1 was required for the microbiological confirmation of the diagnosis in our case since Quantiferon test in the serum was negative. The diagnosis of musculoskeletal tuberculosis remains a challenge to clinicians and requires a high index of suspicion. Thorough and even invasive diagnostic work-up is mandatory for the accurete and early diagnosis of patients with osteoarticular tuberculosis.

**Key words:** low back pain, osteomyelitis, postpartum, tuberculosis.

#### ÖZET

Tüberküloz major bir halk sağlığı problemi olmaya devam etmektedir. Endüstrileşmemiş ülkelerde, tüberkülozun kas iskelet sistemi tutulumu tüm vakaların % 10-15'ini oluşturmaktadır. Kemik tutulumunun en sık görüldüğü bölge omurga olup, multipl bölgede tutulum vakaların %3'ünde izlenmektedir. Sakral tutulum ve vertebral tutulumun birlikteliği çok nadirdir. Bu vaka sunumunda vertebral tutulumun yanı sıra sakroiliyak eklem komşuluğunda infeksiyöz bir odağı bulunan olgu sunulmaktadır. Serum Quantiferon testinin negatif olması nedeni ile tanının doğrulanması için L1 vertebranın iğne biyopsi materyali alınması gerekmiştir. Tüberkülozun kas iskelet sistemi tutulumu klinisyenler için zorluk oluşturmakta ve hastalığın dikkatle araştırılması gerekmektedir. Gerekli durumlarda invaziv tanısal testler osteoartiküler tüberküloz olgularında doğru ve erken tanıda zorunludur.

**Anahtar kelimeler:** bel ağrısı, osteomyelit, postpartum, tüberküloz.

#### INTRODUCTION

Tuberculosis (TB) continues to be the most common infectious cause of death and still has a serious impact, medically, socially and financially. The incidence of TB is low in developed countries however continues to be prevalent problem in undeveloped regions. The World Health Organization (10) estimates there were 8.8 million new cases of TB in 2003, equating to 140 per 100.000 population (11), and annual deaths are reported to reach 3 million (5).

Osteoarticular TB is uncommon however it remains to be a challenge to the clinicians. Musculoskeletal TB accounts for about 10-15 % of all TB notifications in the non-industrialized countries (5). Osteoarticular TB most commonly occurs in the vertebral column, less frequently affected sites are the hip, knee, and sacroiliac joints (7). Involvement of multiple sites is reported to be the least frequent ostearticular involvement type (9). Sacroiliac joint TB is rare (4) and its coexistence with vertebral tuberculosis is even rarer (2).

We report a case of TB with vertebral involvement and an additional infectious focus adjacent to the sacroiliac joint.

#### CASE

A 32-year-old female was admitted to Maltepe University, Faculty of Medicine, Department of Physical Medicine and

Rehabilitation with the complaints of low back pain that had started 7 months ago in the postpartum period. Her medical history revealed that she was experiencing fever, night sweats and general malaise. During physical examination it was noted that she had local pain in the thoracolumbar region. Her erythrocyte sedimentation rate (ESR) was 37 mm/hour (normal < 25 mm/hour) and C-reactive protein (CRP) was 7.4 mg/L (normal <5 mg/L). Her complete blood count was within normal limits on two different evaluations. X-rays of the lumbar vertebra demonstrated compression fracture of L1. Lumbar Magnetic Resonance Imaging (MRI) findings revealed loss of height and irregularity of the upper end plate of the L1 vertebra. (Figure 1). MRI of the sacroiliac region sacral lesion with the dimensions 3x2 cm, on the sacral site of the sacroiliac joint with subchondral location (Figure 2). Dual-Energy X-ray (DXA) was within limits of osteoporosis (L1 T score: -3.3, L2 vertebra T score:-4, L3 vertebra T score -4.6, L4 vertebra T score -4.5, L1-5 T score-4.2). In order to rule out Brucella a potential differential diagnostic laboratory tests for Brucella was ordered. Brucella Coombs test was negative, Brucella Ig M was negative (4.3 U/ml, normal <8 U/ml), Brucella Ig G was negative (2.1 U/ml, normal <8 U/ml). Quantiferon (QFT) test of the serum for TB was negative (0.04 IU/ml, < 0.35 IU/ml negative).

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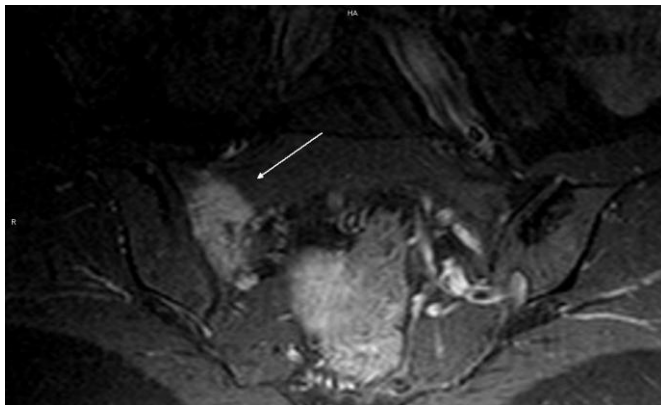
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Polymerase Chain Reaction (PCR) of the aspiration biopsy material of the L1 vertebra was positive for Mycobacterium tuberculosis and negative for Brucella. She was started anti-tuberculosis treatment (Ethambutol, Isoniazid, Pyrazinamide and Rifampin). Her chest X-ray failed to demonstrate signs of active pulmonary TB.



**Figure 1.** T1 weighted sagittal sections revealed loss of height of L1 vertebra and irregularity of the upper end plate. Concavity of other lumbar vertebra was noted



**Figure 2.** Coronal Fat-saturated T2 weighted TSE images after contrast agent administration, demonstrated subchondrally located 3x2 cm lobulated lesion on the sacral side of the sacroiliac joint

#### DISCUSSION

Mycobacterium tuberculosis infection is a world-wide common infection. TB remains the most common cause of death from infectious disease world-wide. Osteoarticular TB is estimated to affect only 2% of patients with TB (2). The spine is the most common site for osseous involvement, accounting for about 50 % of cases (6), followed by the pelvis (12%), hip and femur (10%), knee and tibia (10%), ribs (7%) and other multiple sites (3%) (9). Sacral involvement and concomitant vertebral TB is a rare combination.

In skeletal TB, the onset of symptoms is generally insidious. However, since our patient had the suggestive complaints of fever, night sweats and general malaise; TB was considered in the differential diagnosis in the first line. Her physical examination revealed local tenderness of thoracolumbar region which necessitated the MRI examination of both lumbar and sacral regions. In previous reports, patients with late findings such as gluteal abscesses, inguinal abscesses and draining sinus has been reported (4,2,8). In our patient, MR imaging demonstrated the foci of infection adjacent to the sacroiliac joint at an early stage.

In cases of suspected extrapulmonary TB, rapid and accurate laboratory diagnosis is of prime importance, since traditional techniques of detecting acid-fast bacilli have limitations. Osteoarticular TB is thought to arise from the reactivation of the latent foci that were seeded during the primary episode, or to occur secondarily to the hematogenous or lymphatic spread of Mycobacterium Tuberculosis from the reactivated pulmonary or extrapulmonary foci (3). Since our patient's chest X-ray was negative, similar to patient described by Gelal et al. (2) probably the spread of infection from lumbar region caused the involvement of the sacrum. QFT test which is an indirect test, was negative in our patient probably due to lack of active pulmonary TB. Additionally Bartu et al. have suggested that the utility of QFT as a diagnostic tool for active TB is likely to be limited in a population where latent TB infection is common (1). Needle biopsy of the L1 was required for the microbiological confirmation of the diagnosis in our case.

First-line essential anti-tuberculous agents are the most effective, including isoniazid, rifampin, ethambutol, pyrazinamide and streptomycin. 12 months of antituberculous therapy was planned.

#### CONCLUSION

The diagnosis of musculoskeletal TB infection remains a challenge to clinicians and requires a high index of suspicion. Thorough and even invasive diagnostic work-up is mandatory for the accurate and early diagnosis of patients with osteoarticular TB.

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