EJR European Journal of Rheumatology

DOI: 10.5152/eurjrheumatol.2015.0069

Case Report

Tuberculous bursitis of the greater trochanter mimicking ankylosing spondylitis

Öykü Tayfur[1], Levent Kılıç[2], Ömer Karadağ[3], Ali Akdoğan[4], Ülkü Kerimoğlu[3], Ömrüm Uzun[4]

Abstract

Tuberculous trochanteric bursitis (TTB) is a rare condition that accounts for 1% of musculoskeletal tuberculosis cases. Extrapulmonary TB is usually diagnosed late because of reduced diagnostic suspicion, particularly in the absence of signs of systemic infection. Herein, we report a case of right hip pain that was misdiagnosed as ankylosing spondylitis. The patient had a history of inflammatory back pain with morning stiffness. However, HLA-B27 was negative. Sacroiliac magnetic resonance imaging (MRI) revealed a giant multiloculated collection (27×16×10 cm). Percutaneous drainage was performed and *Mycobacterium tuberculosis* was observed in fluid culture. The patient was treated by drainage along with antituberculosis therapy. After 1 year of antituberculosis therapy, control MRI revealed total resolution of the large fluid collection. It is important to emphasize that fever or general symptoms are absent in patients with TTB, as observed in the present case. In endemic countries, TTB should be kept in mind in the differential diagnosis of a patient presenting with chronic hip pain without fever, weight loss, and constitutional symptoms.

Keywords: Tuberculosis, trochanteric bursitis, ankylosing spondylitis

Introduction

Musculoskeletal manifestations of tuberculosis occur in approximately 1%-5.2% of cases. Tuberculous trochanteric bursitis (TTB) is rare condition that accounts for 1% of musculoskeletal tuberculosis cases (1). As the incidence of tuberculosis declined, there have been fewer reports of this disease in the recent literature (2). Musculoskeletal manifestations of tuberculosis usually present progressively in the absence of fever and general symptoms, and diagnosis is usually made in advanced stages by the presence of abscesses or fistulas. Herein we report a case of right hip pain that was misdiagnosed as ankylosing spondylitis.

Case Presentation

A 19-year-old girl was admitted to a local hospital on account of right hip pain for 4 months. She had morning stiffness in the right hip and lumbar region for 1 h. Indomethacin (3×25 mg/day) and sulphasalazine (2 g/day) were administered presuming a diagnosis of ankylosing spondylitis. However, she did not benefit from this treatment. Three months later, she presented to our department with the same complaints. On physical examination, she had limitations in the lumbar spine. She had normal sacroiliac joints on plain X-ray. HLA-B27 was negative. Magnetic resonance imaging (MRI) of the sacroiliac joints revealed bilateral giant multiloculated collections around the right iliac wing and hip (approximately 27×16×10 cm) (Figure 1). This cystic lesion was located at the superior portion of the iliac wing and extended down till the perineum. Fluid collections seen in the multiloculated form in the gluteus maximus muscle were extending to the piriformis muscle. The radiology unit reported that this image may have a tuberculous origin and may have originated from the bursa of the greater trochanter of the right femur. The patient was subsequently hospitalized for drainage and further evaluation. On laboratory evaluation, her white cell count was 8900/mm^3, erythrocyte sedimentation rate (ESR) was 64 mm/h (Western Green), and C-reactive protein (CRP) level was 6.64 (0-0.5) mg/dL. The interventional radiology unit placed a drainage catheter and microscopic evaluation of the drainage fluid revealed a total of 48000/mm^3 cells with 12000/mm^3 leucocytes. Total 1150 mL fluid was drained. Moreover, 90% of the leucocytes were polymorphonuclear, but no microorganism could be identified. Because the patient had a history of recurrent subcutaneous analgesic injections into the gluteus maximus muscle, ampicillin-clavulanic acid was given with the presumed diagnosis of cold abscess due to *Staphylococcus* species. The patient did not have fever, weight loss, or any other constitutional symptoms. Her tuberculin skin test was 15 mm and adenosine deaminase (ADA) levels of the collection were 142 IU/L (0-40). While on antibiotics and with a drainage catheter inserted, 16 days later, *Mycobacterium tuberculosis* grew in the fluid culture and antimycobacterial therapy consisting of isoniazid, rifampicin, ethambutol, and pyrazinamide was initiated. The hip pain and movement limitation

1 Department of Internal Medicine, Hacettepe University Faculty of Medicine, Ankara, Turkey

2 Department of Rheumatology, Hacettepe University Faculty of Medicine, Ankara, Turkey

3 Department of Radiology, Hacettepe University Faculty of Medicine, Ankara, Turkey

4 Department of Infectious Diseases, Hacettepe University Faculty of Medicine, Ankara, Turkey

Address for Correspondence: Levent Kılıç, Department of Rheumatology, Hacettepe University Faculty of Medicine, Ankara, Turkey

E-mail: drleventkilic@yahoo.com

Submitted: 14.07.2014
Accepted: 24.08.2014

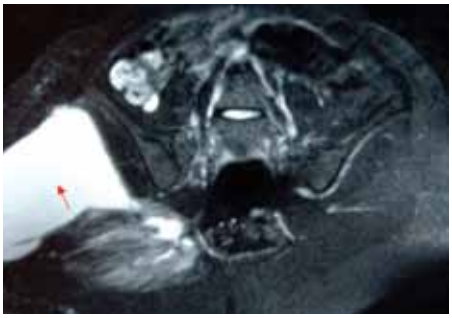

Figure 1. Coronal T2-weighted fat-suppressed image demonstrates a large fluid collection (red arrow) in the gluteus maximus muscle associated with smaller fluid collections and edema around them

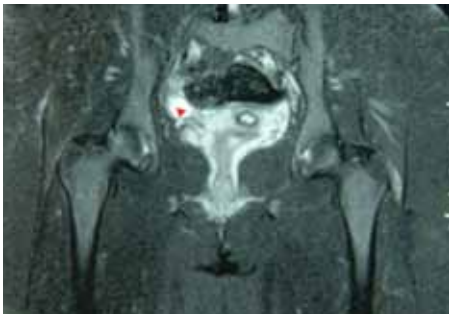

Figure 2. Coronal T2-weighted image after therapy demonstrates thin fluid signal intensity (red arrow head) adjacent to the tendon of the gluteus medius and total resolution of the large fluid collection

gradually resolved. There were no side effects after initiation of antituberculosis therapy and the patient was discharged. Her CRP levels decreased steadily during therapy, and after 4 months of therapy, CRP levels were 0.1 mg/dL (0-0.5). Ethambutol and pyrazinamide were stopped after 2 months. The patient completed 1-year-long therapy (isoniazid and rifampicin). After cessation of treatment, control MRI was performed. There was only a 5-mm-thick fluid loculation around the right gluteus maximus muscle (Figure 2).

Discussion

Tuberculosis of the greater trochanter and its bursa is a well-defined category of musculoskeletal tuberculosis but has been extremely rare after the antituberculosis therapy era (3). Overall, TTB accounts for 1% of musculoskeletal tuberculosis cases (1, 4). Tuberculosis infection has regained a significant frequency lately. This is believed to be due to increasing number of people with immunodeficiency and an increasing in the aging population. Tuberculosis is still a major public health problem in Turkey, although tuberculosis of the greater trochanter is a rare presentation of the disease even in our country. Tuberculosis of the greater trochanter can spread via direct extension from an infectious focus or hematogenous route. In our patient, there were no MRI findings suggesting nearby structures as infectious foci. Therefore, we assumed hematogenous spread from an unknown primary focus. Meanwhile, chest X-ray also revealed no abnormalities. In reported cases of TTB, the primary focus could be identified in nearly half of the cases (4). Before adequate sterilization techniques, tuberculous pyomyositis cases occurred on account of repeated usage of needles and syringes (5). However, this route does not appear to be possible for our patient because of the use disposable syringes.

In the literature, most patients were treated either by curettage, chemotherapy, or both (3, 4, 6, 7). A few patients were treated by drainage along with antituberculosis therapy (8). Most patients eventually required excision at the end due to lack of definitive treatment. The present report presents one of the rare cases where drainage along with chemotherapy alone proved to be effective. A similar case that involved a misdiagnosis of ankylosing spondylitis has been published before, where a 35-year old woman with low back pain was diagnosed to have ankylosing sacroiliitis on the basis of HLA-B27 positivity (9). Even in that case, the review of constitutional symptoms was negative and MRI revealed a soft tissue lesion in the right thigh and hip. After operative drainage, *M. tuberculosis* grew in the culture media, similar to the findings in our patient.

In earliest studies, TTB was reported mostly in young adults; however, later reports indicated that TTB could occur at all ages, with higher incidence in older people (mean age: 57 years) (3). Our patient was 19 years old. In addition, it is important to emphasize that fever or general symptoms are absent in patients with TTB, as observed in our patient.

It is a major challenge for any physician in primary care to identify patients with inflammatory spine disease among the large group of patients with chronic back pain. In addition, the relative late appearance of radiographic sacroiliitis, up to several years after the first symptom, is an important reason for diagnosis delay (10). However, diagnosis in the preradiographic stage can be made if a combination of clinical, laboratory, and imaging (particularly MRI) parameters are applied. In our patient, HLA-B27 was negative and sacroiliitis was not found in sacroiliac MRI.

M. tuberculosis infection of the greater trochanter is difficult to diagnose, particularly in the absence of signs of systemic infection. In an endemic country, TTB should be kept in mind in the differential diagnosis of a patient presenting with chronic hip pain without fever, weight loss, and constitutional symptoms.

Informed Consent: Written informed consent was obtained from patients who participated in this case.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - O.T., O.K.; Design - O.T., O.K.; Supervision - O.K., A.A., O.U.; Materials - O.T., L.K.; Data Collection and/or Processing - O.T., U.K.; Analysis and/or Interpretation - O.K., A.A.; Literature Review - L.K., O.K.; Writer - O.T., L.K., O.K.; Critical Review - O.K., O.U.

Conflict of Interest: The authors declared no conflict of interest.

Financial Disclosure: The authors declared that this study has received no financial support.

References

1. Abdelwahab IF, Bianchi S, Martinoli C, Klein M, Hermann G. Atypical extraspinal musculoskeletal tuberculosis in immunocompetent patients, a review. Part I: atypical osteoarticular tuberculosis and tuberculous osteomyelitis. Can Assoc Radiol J 2006; 57: 86-94.
2. Kim ST, Moon MS, Yoon MG, Park WS, Heo JH. Tuberculosis of the trochanteric bursa: a case report. J Orthop Surg (Hong Kong) 2014; 22: 126-9.
3. Yamamoto T, Iwasaki Y, Kurosaka M. Tuberculosis of the greater trochanteric bursa occurring 51 years after tuberculous nephritis. Clin Rheumatol 2002; 21: 397-400. [CrossRef]
4. Crespo M, Pigrau C, Flores X, Almirante B, Falco V, Vidal R, et al. Tuberculous trochanteric bursitis: report of 5 cases and literature review. Scand J Infect Dis 2004; 36: 552-8. [CrossRef]
5. Heycock JB, Noble TC. Four cases of syringe-transmitted tuberculosis. Tubercle 1961; 42: 25-7. [CrossRef]
6. Ihara K, Toyoda K, Ofuji A, Kawai S. Tuberculous bursitis of the greater trochanter. J Orthop Sci 1998; 3: 120-4. [CrossRef]
7. Abdelmoula LC, Chaabouni L, Ben Hadj Yahia C, Montacer Kchir M, Zouari R. Tuberculosis of the greater trochanter: a report of three cases. Joint Bone Spine 2005; 72: 427-9. [CrossRef]
8. Pertuiset E, Beaudreuil J, Horusitzky A, Liote F, Kemiche F, Richette P. Nonsurgical treatment of osteoarticular tuberculosis. A retrospective study in 143 adults. Rev Rhum Engl Ed 1999; 66: 24-8.
9. Nagi ON, Mathew M, Kumar S, Aggarwal S, Saikia UN. Thigh swelling and pain in a 35-year-old woman. Clin Orthop Relat Res 2005; 441: 372-8. [CrossRef]
10. Sieper J, Rudwaleit M. How early should ankylosing spondylitis be treated with tumour necrosis factor blockers? Ann Rheum Dis 2005; 64: iv61-4. [CrossRef]