



Coexistence of Tuberculous Arthritis and Pulmonary Tuberculosis: A Rare Clinical Presentation

Yeliz Çiçek ¹

1 Epidemiology Doctorate Program, Graduate School of Health Sciences, Istanbul Medipol University, Istanbul, Türkiye

Received: 06.07.2025; Revised: 09.01.2026; Accepted: 11.01.2026

Abstract

Concurrent pulmonary involvement in patients presenting with chronic monoarthritis is rare yet carries significant clinical and public health implications. We report a 32-year-old man with a five-month history of refractory knee monoarthritis whose synovial fluid culture grew *Mycobacterium tuberculosis*. Subsequent chest computed tomography revealed cavitary lesions in the upper lobes, and *Mycobacterium tuberculosis* was isolated from the patient's sputum, confirming concomitant pulmonary tuberculosis. Prompt identification of this dual presentation enabled immediate respiratory isolation, thorough contact investigation, and initiation of isoniazid preventive therapy, measures that averted irreversible joint destruction and interrupted potential community transmission. This case underscores the necessity of considering pulmonary evaluation in all patients with unexplained monoarthritis, particularly in regions where tuberculosis remains endemic

Keywords: Chronic monoarthritis - tuberculous arthritis - pulmonary tuberculosis - public health

Tüberküloz Artrit ve Akciğer Tüberkülozu Birlikteliği: Nadir Bir Klinik Sunum

Öz

Kronik monoartrit ile başvuran hastalarda eşzamanlı akciğer tutulumu nadirdir, ancak önemli klinik ve halk sağlığı etkileri vardır. Biz, beş aylık refrakter diz monoartriti öyküsü olan ve sinovyal sıvı kültüründe *Mycobacterium tuberculosis* üreyen 32 yaşındaki bir erkek hastayı bildiriyoruz. Ardından yapılan göğüs bilgisayarlı tomografi üst loblarda kaviter lezyonları ortaya konuldu ve hastanın balgamında *Mycobacterium tuberculosis* izolasyonu, eşzamanlı akciğer tüberkülozunu doğruladı. Bu ikili tablonun hızlı bir şekilde tanımlanması, derhal solunum izolasyonu, kapsamlı temaslı araştırması ve isoniazid önleyici tedavi önlemlerinin başlatılmasını mümkün kıldı. Bu önlemler, geri dönüşü olmayan eklem tahribatını önledi ve potansiyel toplumsal bulaşmayı engelledi. Bu vaka, özellikle tüberkülozun endemik olduğu bölgelerde, nedeni açıklanamayan monoartritli tüm hastalarda akciğer değerlendirmesinin yapılmasının gerekliliğini vurgulamaktadır.

Anahtar kelimeler: Kronik monoartrit, tüberküloz artrit, akciğer tüberkülozu, halk sağlığı.

DOI: 10.5798/dicletip.1906543

Correspondence / Yazışma Adresi: Yeliz Çiçek, Epidemiology Doctorate Program, Graduate School of Health Sciences, Istanbul Medipol University, Istanbul, Türkiye e-mail: dr.yelizcicek@gmail.com

Dear Editor,

Tuberculosis (TB) continues to pose a significant global health challenge, despite advances in diagnosis and treatment. In 2023, the World Health Organization reported 8.2 million new and relapse cases of TB worldwide, of which approximately 84 % were pulmonary and 16 % extrapulmonary¹. Among extrapulmonary manifestations, osteoarticular involvement is particularly uncommon, accounting for less than 3 % of all TB cases². Osteoarticular TB frequently presents as an indolent, chronic monoarthritis, leading to delays in recognition and management³. Moreover, when concomitant pulmonary involvement is overlooked, patients may unwittingly contribute to ongoing community transmission.

We report the case of a 32-year-old immunocompetent man who presented with a five-month history of insidious right knee pain, swelling, and limited range of motion unresponsive to non-steroidal anti-inflammatory drugs. He denied fever, weight loss, night sweats, or known TB exposure. Physical examination revealed moderate effusion and flexion limitation of the knee without erythema or warmth. Routine laboratory tests were unremarkable. Arthrocentesis yielded light yellow, slightly turbid fluid containing 590 cells/mm³ with 60 % lymphocytes; Gram stain and acid-fast bacilli smear were negative, but culture grew *Mycobacterium tuberculosis*. The Mantoux tuberculin skin test demonstrated 7 mm induration.

Pulmonary imaging subsequently revealed upper-lobe cavitary lesions, and *Mycobacterium tuberculosis* was also isolated from the patient's sputum culture, confirming concomitant pulmonary TB. The patient then underwent two arthroscopic debridements both to reduce intra-articular mycobacterial burden and to obtain synovial biopsy

specimens, which histopathology confirmed as granulomatous inflammation with caseation necrosis.

Standard four-drug antitubercular therapy (isoniazid, rifampicin, pyrazinamide, ethambutol) was initiated immediately. Concurrently, we collaborated with our infection control and public health teams to mitigate transmission risk: the patient was placed under airborne isolation; close contacts were identified and screened using a structured symptom questionnaire and purified protein derivative skin testing; those with positive results or suggestive symptoms received isoniazid preventive therapy. Over nine months of treatment, the patient's knee symptoms resolved completely, and follow-up imaging confirmed regression of pulmonary lesions. At final assessment, he had full joint function without residual pain or radiographic progression.

Osteoarticular TB most commonly affects the spine (Pott's disease), followed by hip and knee joints^{3,4}. Peripheral joint involvement is rare but should be suspected in any patient with chronic, unexplained monoarthritis, particularly in TB-endemic regions. Literature on arthritic presentations of TB without overt pulmonary signs remains scarce. In a review by Magnussen et al., only 38 cases of knee osteoarticular TB were reported over a decade, and fewer than half exhibited radiographic pulmonary findings². Leone et al. emphasized that magnetic resonance imaging and computed tomography markedly improve early detection of joint and pulmonary lesions³. Osteoarticular TB is typically indolent and may require culture or molecular diagnostics for definitive diagnosis⁴. Surgical intervention may facilitate the acquisition of adequate tissue for diagnosis and contribute to local disease control in osteoarticular tuberculosis^{5,6}.

This case highlights the importance of maintaining suspicion for osteoarticular TB in

any patient with chronic monoarthritis, even in the absence of systemic symptoms; obtaining synovial fluid for culture and histopathology to confirm the diagnosis; and—in patients with clinical suspicion of pulmonary involvement—performing chest imaging (radiograph and/or CT) and sputum culture to detect coexistent disease. Equally critical is an integrated management strategy that combines surgical debridement, prompt initiation of multidrug antitubercular therapy, and rigorous public health interventions—airborne isolation, structured contact screening, and preventive therapy—to prevent irreversible joint destruction and interrupt further transmission.

We recommend that clinicians in TB-endemic areas adopt the following protocol for chronic monoarthritis of unknown etiology: perform synovial fluid microscopy, culture, and nucleic acid amplification tests for *M. tuberculosis*; in cases with clinical suspicion of pulmonary involvement, obtain chest imaging (radiograph and/or CT) and sputum culture; and engage local public health authorities early to implement airborne isolation, structured contact screening, and prophylactic treatment. Such a multidisciplinary approach optimizes patient outcomes and protects community health.

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

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

REFERENCES

1. World Health Organization. Global tuberculosis report 2024. Geneva: WHO; 2024. <https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/tb-reports/global-tuberculosis-report-2024>.
2. Magnussen A, Dinneen A, Ramesh P. Osteoarticular tuberculosis: increasing incidence of a difficult clinical diagnosis. *Br J Gen Pract* 2013; 63: 385-6.
3. Leone A, Lauro L, Cerase A, Colosimo C. Diagnostic imaging of musculoskeletal tuberculosis. *Rays* 1998; 23: 144-63.
4. Agashe VM, Johari AN, Shah M, et al. Diagnosis of osteoarticular tuberculosis. *J Orthop Sci* 2020; 25: 1043-52.
5. Dhillon MS, Agashe V, Patil SD. Role of surgery in management of osteo-articular tuberculosis of the foot and ankle. *Open Orthop J* 2017; 11: 633-50.
6. Jain AK, Jena SK, Singh MP, et al. Evaluation of clinico-radiological, bacteriological, serological, molecular and histological diagnosis of osteoarticular tuberculosis. *Indian J Orthop* 2008; 42: 173-7.