

Monoarticular Poncet Disease after Pulmonary Tuberculosis: A Rare Case Report and Review of Literature

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ABSTRACT

Introduction: Tuberculosis is a major health problem worldwide, more so in Asian countries and especially India. Being a communicable disease, it can affect the lives of many people. Tuberculosis has varied manifestations and can affect almost every part of the human body. Pulmonary tuberculosis is the most common form. Poncet disease (tuberculous rheumatism) is a polyarticular arthritis that occurs during acute tuberculosis infection in which no mycobacterial involvement can be found or no other known cause of polyarthritis is detected.

Case presentation: We describe an atypical presentation of active pulmonary tuberculosis with monoarticular Poncet disease of the right knee in a 24-year-old woman.

Discussion: The diagnosis of Poncet disease is mainly clinical with exclusion of other causes. It generally presents as an acute or subacute form; however, chronic forms have been described in the literature.

INTRODUCTION

Tuberculous arthritis is a monoarticular, infectious, and destructive disease. However, tuberculous rheumatism, popularly known as Poncet disease, is a nondestructive parainfective polyarthritis occurring in patients with active tuberculosis (TB), which resolves completely with antituberculosis therapy.¹ The diagnosis of this entity is largely clinical and is made by excluding other causes of polyarthritis in a patient with documented active TB. Monoarticular involvement in tubercular rheumatism has not been previously described, to our knowledge. We describe

a rare and atypical presentation of Poncet disease with involvement of only the right knee.

CASE PRESENTATION

A 24-year-old woman presented with complaints of continuous fever for 15 days, which was associated with sudden-onset swelling of her right knee for 5 days. There was a history of anorexia. There was no history of cough, burning micturition, vaginal discharge, abdominal complaints, or trauma. There was no history of TB, and the patient was sexually inactive. Results of the physical examination revealed swelling in the right knee, which was not tender. The temperature over the swelling was normal. The remaining findings of the examination were normal.

The laboratory tests showed a leukocyte count of $10.4 \times 10^9/L$ ($10,400/\mu L$; 65% of segmented neutrophils), erythrocyte sedimentation rate of 32 mm/h, and C-reactive protein level of 159 mg/dL. The Mantoux test result was strongly positive (16×12 mm). The urinalysis result was normal, and urine culture and blood culture were negative. The antinuclear antibody test result was normal, and the test results for rheumatoid factor were negative. Sexually transmitted diseases were ruled out, and the serologic test result for human immunodeficiency virus was negative. The serum uric acid level was 5.8 mg/dL. Fifty milliliters of synovial fluid was aspirated from the knee joint. The analysis of the synovial fluid showed a leukocyte count of $5 \times 10^9/L$ with a differential count of polymorphs being 55% and leukocytes being 45%. The synovial fluid was negative for TB using polymerase chain reaction. There were no crystals and the cultures were sterile.

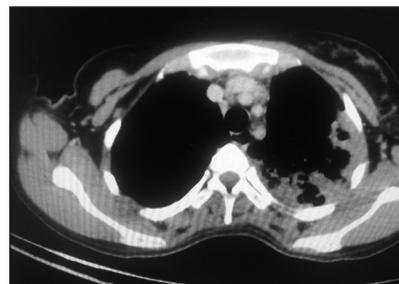


Figure 1. Contrast-enhanced computed tomography scan of chest reveals multiple enlarged pretracheal lymph nodes.



Figure 2. X-ray film of right knee joint (at right) shows periarticular soft-tissue swelling.

The chest x-ray film was normal. Contrast-enhanced computed tomography scan of the chest revealed multiple enlarged lymph nodes in the pretracheal region (Figure 1) and the prevascular and precarinal regions. However, the contrast-enhanced computed tomography scan of the abdomen was normal. The x-ray film of the right knee joint showed periarticular soft-tissue swelling, and active TB with no changes (Figure 2). Fine-needle aspiration

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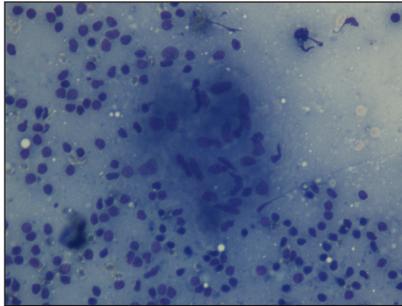


Figure 3. Fine-needle aspiration cytology of pretracheal lymph nodes reveals epithelioid cell granulomas.

cytology of the pretracheal lymph nodes revealed epithelioid cell granulomas (Figure 3). The acid-fast bacillus test from the epithelioid cell granulomatous lymph node material was positive.

The patient began antitubercular therapy. On follow-up examination, she was afebrile. The joint swelling reduced after two weeks of treatment and disappeared in about a month. In the patient's continuation phase of treatment, she became symptom-free (Figure 4).

DISCUSSION

TB is a major communicable disease. According to the World Health Organization's 2011 report, there were an estimated 8.7 million incident cases of TB (range, 8.3 million to 9.0 million) globally.² Because of such a massive burden of TB, extrapulmonary manifestations of TB, including arthritis, are increasing. Musculoskeletal manifestations are the most common form of extrapulmonary TB, accounting for 10% to 19% of cases.³⁻⁵ Along with septic TB arthritis, nonsuppurative reactive arthritis has been described in association with TB, a condition that is also known as Poncet disease.⁶ Because of complicated and atypical presentations, this entity is likely to be underdiagnosed. Moreover, few physicians know the disease well, and the literature related to this disease is scarce and restricted to case reports, which probably contributes to its underdiagnosis.

The diagnosis of Poncet disease is mainly clinical with exclusion of other causes. It generally presents as an acute or subacute form; however, chronic forms have been described in the literature.⁴

The etiopathogenesis of Poncet disease is proposed to be molecular mimicry and thermal shock proteins.⁶

Our patient had active pulmonary tubercular findings on a computed tomography scan and swelling of the right knee, which was found to be inflammatory, without any evidence of organism in the synovial fluid. Thus, a diagnosis of Poncet disease was made. Our patient responded to the antitubercular drugs, and her knee swelling was reduced over two weeks.

Although Poncet disease has been described as a polyarthritis, a review of the literature reveals it to be an often pauciarticular, symmetrical arthritis predominantly involving the large joints.^{1,7,8} The tuberculous septic monoarthritis, in which the mycobacterium can be isolated from the culture of the affected joint, is a known entity. However, to the best of our knowledge, monoarticular Poncet disease has not been described in the literature.

This lack of reporting may be because of a scarcity of data and a lack of knowledge about this entity called Poncet disease.

CONCLUSION

Poncet disease has been described in the literature as polyarticular disease without any evidence of organism isolated from the synovial fluid. However, because of a scarcity of data and lack of knowledge, we may be missing quite a few cases of monoarticular Poncet disease. Thorough research and sharing of knowledge may be required for the discovery of such a rare presentation. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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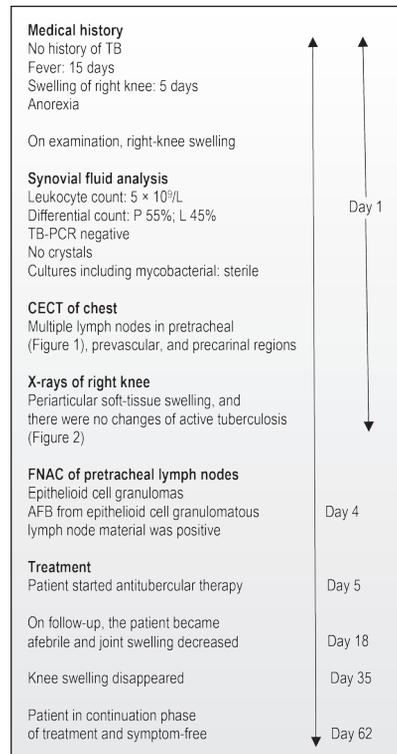


Figure 4. Timeline of history, relevant investigations, and treatment of patient with Poncet disease.

AFB = acid-fast bacillus; CECT = contrast-enhanced computed tomography; FNAC = fine-needle aspiration cytology; L = leukocytes; P = polymorphs; PCR = polymerase chain reaction; TB = tuberculosis.