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A RARE PRESENTATION OF TUBERCULOSIS IN A YOUNG FEMALE

Internal Medicine

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ABSTRACT

Poncet's disease, is an uncommon form of reactive arthritis associated with extra-pulmonary tuberculosis. We present the case of a young woman with persistent fever, bilateral lower limb pain, and cervical lymphadenopathy. Diagnosis was confirmed through histopathology revealing tuberculous lymphadenitis, and initiation of anti-tuberculous therapy led to marked clinical improvement. This case underscores the importance of recognizing Poncet's disease in patients presenting with fever, arthritis, and tuberculosis, particularly in regions with high tuberculosis prevalence.

KEYWORDS

Anti Tubercular Therapy (ATT) , National Tuberculosis Elimination Programme (NTEP) , Rheumatoid Factor (RA FACTOR) , Anti Cyclic citrullinated Polypeptide(ACCP) , ANA (anti-nuclear antibody) and ANCA (anti-neutrophil cytoplasmic antibody) , Mycobacterium Tuberculosis (MTb) .

CASE STUDY :

A young female in her mid-20's with no significant past medical history presented with fever for 4 months, bilateral lower limb pain for 3 months. Patient was in her usual state of health 4 months back following which she developed fever - initially high grade associated with chills, which is more at night, not relieved by medication. Now fever is low grade, intermittent, relieved on medication, bilateral lower limb pain since 3 months, more around ankle and foot, not extending to knee. Gives history of swelling on the right side of her neck- gradually increased in size, with complaints of pain over the swelling. History of similar swelling over the posterior aspect of the left elbow. No complaints of breathlessness, cough, palpitations. Does not complain of weight loss or loss of appetite. No recent travel history. Routine investigations were done and were non-specific. Chest X-Ray (CXR) was also within normal limits. (Fig. 1) Ophthalmology reference was given in view of left ocular pain and red eye and was diagnosed as nodular episcleritis and was prescribed eye drops for the same. General surgery reference was sought for cervical lymph node and left elbow skin biopsy. Patient was started on analgesics. Histopathology reports suggested Tuberculous lymphadenitis - right cervical lymph node, skin biopsy left arm showed granulomatous panniculitis. The patient was started on ATT according to National tuberculosis elimination program (NTEP) protocol. Dermatology opinion was sought regarding granulomatous panniculitis and emolients were prescribed. Patient became symtomatically better and was discharged.

INVESTIGATIONS :

Routine laboratory investigations were non-specific.

CXR was normal

RA (rheumatoid factor), ACCP (anti-cyclic citrullinated polypeptide), ANA (anti-nuclear antibody) and ANCA (anti-neutrophil cytoplasmic antibody) screening - negative

Lymph node GeneXpert – MTb (Mycobacterium tuberculosis) not detected.

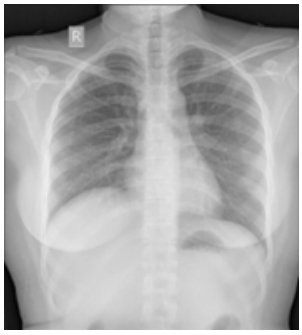

Fig. 1

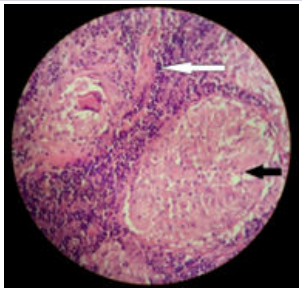

Fig. 2

Histopathological examination of the right cervical lymph node revealed tuberculous lymphadenitis, while the skin biopsy from the left arm showed granulomatous panniculitis.

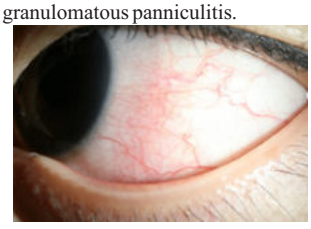

Fig. 3

Slit-lamp examination revealed nodular episcleritis.

Differential Diagnosis :

Infectious arthritis was ruled out as the patient was not in sepsis and had bilateral symmetric arthritis. Rheumatoid arthritis was excluded through RA and ACCP testing. Connective tissue disease-related arthritis was dismissed after negative ANA and ANCA screening results.

Treatment :

The patient was started on ATT according to the NTEP protocol – 3 tablets of fixed drug combination per day of Isoniazid 75mg, Rifampicin 150mg, Pyrazinamide 400mg, Ethambutol 275mg.

Eye drops containing Fluorometholone and Tobramycin were prescribed 6th hourly for 1 week followed by 12th hourly for the following week then asked to stop after another week taken once daily. She required emollients for granulomatous panniculitis, and Vaseline was prescribed to be used 8th hourly for a week.

OUTCOME AND FOLLOW UP:

Following the initiation of ATT, the patient's joint pain and cutaneous lesions improved significantly, supporting the diagnosis of Poncet's disease. The patient was discharged with instructions for continuing ATT and regular follow-up appointments.

DISCUSSION (INCLUDED A BRIEF REVIEW OF SIMILAR CASES) :

Poncet's disease, also known as tuberculosis-associated reactive arthritis, is a rare inflammatory arthritis occurring alongside active extra-articular tuberculosis (TB) infection. First described by Poncet in 1897, the disease remains poorly understood, and its rarity poses diagnostic challenges. It predominantly affects adults, with no gender predilection, and is more common in TB-endemic regions like Africa, Asia, and Latin America. [1][2] Given TB's global burden and Poncet's association with extra-articular TB, clinicians should maintain a high suspicion when patients present with arthritis and fever in endemic areas.

Poncet's disease is characterized by non-destructive, sterile inflammatory joint involvement associated with active extra-articular TB. [3] Common symptoms include fever, malaise, weight loss, and polyarthritis, which typically affects large and small joints asymmetrically in a migratory pattern, often involving the lower extremities like the knees and ankles. Extra-articular TB manifestations such as lymphadenopathy, pleural effusion, hepatosplenomegaly, skin lesions (e.g., erythema nodosum, lupus vulgaris), and ocular inflammation (uveitis, episcleritis) are frequently observed. Constitutional symptoms like night sweats and anorexia, often seen in TB, may also be present.

The pathogenesis of Poncet's disease is unclear, but it is believed to involve immune-mediated mechanisms triggered by TB infection. Molecular mimicry between mycobacterial antigens and joint self-antigens may activate autoimmune responses, or inflammatory cytokines like tumor necrosis factor-alpha (TNF-α) and interleukin-6 (IL-6) may mediate joint inflammation.

Diagnosis hinges on clinical features, active extra-articular TB, and exclusion of other arthritis causes. No specific laboratory or imaging findings exist for Poncet's disease. Identifying active extra-articular TB, via histopathological examination of tissue samples (e.g., lymph nodes, skin) showing caseating granulomas, is crucial. Mycobacterial cultures and PCR testing confirm TB. Differential diagnoses include rheumatoid arthritis, systemic lupus erythematosus, and infectious arthritis. Serological tests (e.g., rheumatoid factor, anti-cyclic citrullinated peptide antibodies, antinuclear antibodies) help exclude autoimmune diseases.

Treatment involves anti-tuberculous therapy (ATT) targeting TB. Symptom resolution is typically observed following ATT initiation. Nonsteroidal anti-inflammatory drugs (NSAIDs) may alleviate arthritis pain and inflammation. In severe cases, short courses of corticosteroids can be considered but require caution due to TB exacerbation risk. Immunosuppressive agents, such as methotrexate and biologics (e.g., TNF-α inhibitors), are generally avoided due to TB reactivation risks. Further research is required to evaluate biologics in Poncet's disease management.

Case Reports

Case 1: Fatima Adhi et al. reported a young Asian woman in her mid-20s presenting with bilateral heel pain, migratory joint pain, and difficulty walking. She lacked a TB or autoimmune disease history and exhibited mild left ankle swelling. NSAIDs and steroids initially provided no relief, and she developed low-grade fever and weight loss. A chest X-ray revealed lung infiltrates, and a positive PPD skin test confirmed TB. She was diagnosed with Poncet's disease and treated with ATT, resulting in symptom resolution.

Case 2: The same report detailed a middle-aged Asian man with a year-long history of migratory joint pain, low-grade fever, and significant weight loss. Misdiagnosed with malaria, typhoid, and rheumatoid arthritis, he presented with high fever, dyspnea, productive cough, and right supraclavicular lymphadenopathy. Chest X-ray findings included bilateral pleural effusion and left lower lobe consolidation, and imaging showed nodules consistent with miliary TB. He was diagnosed with Poncet's disease and treated with ATT and prednisone, leading to marked improvement and resolution of lung abnormalities. [4][5]

Case 3: Partha Pratim Chakraborty et al. described an elderly woman with a three-week history of swollen, painful joints. Diagnosed with type 2 diabetes five years earlier, she had swelling in her knees, left ankle, and a soft tissue mass over her left clavicle. Tests ruled out rheumatoid arthritis and collagen vascular diseases, while TB synovial fluid cultures were negative. CT revealed a space-occupying lesion in the sternoclavicular joint, and Ziehl-Neelsen staining identified acid-fast bacilli. Diagnosed with tuberculous arthritis and reactive arthritis, she was treated with ATT, resolving her symptoms within days. She remained symptom-free after two years. [3]

Case 4: Henuka Verma et al. described a young boy with a 4-month history of joint pain and swelling, starting in his left ankle and spreading to wrists, elbows, and knees. Symptoms included morning stiffness, difficulty dressing, and pain while walking. Exam findings included mild pallor, spindle-shaped fingers, alopecia, and lymphadenopathy. A chest X-ray revealed prominent hilar opacities, and a positive Mantoux test confirmed TB exposure. Diagnosed with Poncet's disease, he was treated with ATT, showing significant improvement and continued wellness on follow-up. [6]

CONCLUSION:

- Poncet's disease is a rare form of reactive arthritis that should be considered in the differential diagnosis of patients presenting with fever, arthritis, and extra-articular tuberculosis.
- Timely diagnosis and treatment with ATT can lead to significant clinical improvement in affected patients.
- This case report highlights the importance of maintaining a high index of suspicion for Poncet's disease, especially in regions where tuberculosis is endemic.

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