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Case Report

A CASE OF SWOLLEN HANDS AND FEET SYNDROME BUT NOT LEPROSY; A DIAGNOSTIC CHALLENGE

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ABSTRACT

Polyarthritis in leprosy mainly manifests itself in the form of swollen hands and feet syndrome during lepra reactions or insidious-onset chronic symmetrical polyarthritis mimicking rheumatoid arthritis (RA). However, hereby I'm reporting a case in which a patient has swollen hands and feet syndrome but neither he is suffering from leprosy nor RA and asking what's wrong with me?

Keywords: Leprosy, Rheumatoid arthritis, Swollen hands and feet syndrome, Reactive arthritis.

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INTRODUCTION

The diagnosis of leprosy is essentially based on careful history and clinical examination such that most patients do not require sophisticated technical methods. However, some patients present with rare symptoms which may resemble with other diseases such as rheumatoid arthritis (RA) [1]. Polyarthritis in leprosy mainly manifests itself in the form of swollen hands and feet syndrome during lepra reactions or insidious-onset chronic symmetrical polyarthritis mimicking RA [2]. Hereby, I'm reporting a case with the complaint of multiple joints pain. He went to multiple medical specialists and tertiary hospitals, and referred to us with a provisional diagnosis of lepromatous leprosy.

CASE PRESENTATION

A 45-year-old obese male presented to the OPD of ICMR-National JALMA Institute for Leprosy and Other Mycobacterial Diseases, Agra, with a chief complaint of pain in multiple joints for the past 7 months. He consulted with an orthopedician in the starting with a complaint of pain in the wrist and fingers and went through multiple blood examinations. The results were within normal limits for HbA1c, complete hemogram, 25-OH Vit D, Vit B12, cardiac risk markers, testosterone, T3, T4, TSH, liver function test (LFT), renal function test, iron, total iron-binding capacity, and % transferrin saturation. Uric acid (8.19 mg/dL, normal range: 4.2–7.3 mg/dL) was slightly raised. He had a multiplanar, multiecho MRI of cervical spine without IV contrast which showed an impression of loss of cervical lordosis. He also had a nerve conduction study of sensory and motor nerves of both upper limbs and its impression was within normal limits. After some days, he consulted with another orthopedician. He further went through blood examinations. ESR was slightly raised 16 mm/h (normal range: 0–10 mm/h) while uric acid, RA factor, C-reactive protein (CRP), anti-cyclic citrullinated peptide (CCP), and blood hemogram were within normal limits. From there, he was referred for a rheumatologist opinion in SGPGI, Lucknow, and had blood examination which showed within normal limits blood hemogram, LFT, creatinine, and slightly raised uric acid (9.5 mg/dL, normal range: 3.9–8.9 mg/dL). He was referred to the nuclear medicine department for a bone scan. He went through 99m Tc-MDP three-phase bone scan (Figs. 1 and 2) with findings of mildly increased soft-tissue blood pooling of radiotracer concentration in both the elbow, wrist, hands, knee, and ankle region, with that in skeletal phase, showed increased radiotracer concentration in both the elbow, wrist, small joints hands, and knee and ankle joints. In comments, it was mentioned that above-mentioned joints are likely arthritic. He was referred for a dermatologist opinion regarding the possibility of leprosy (swollen hands and feet syndrome) with some

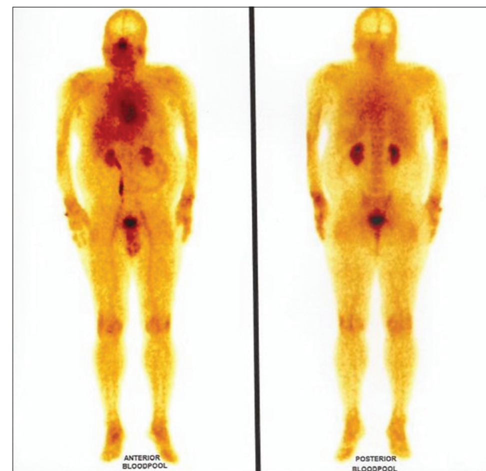

Fig. 1: 99m Tc-MDP three-phase bone scan-I

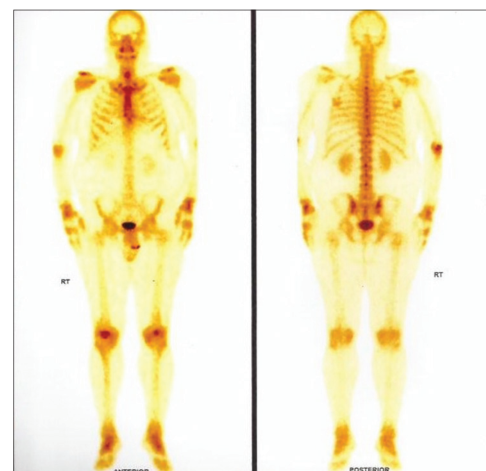

Fig. 2: 99m Tc-MDP three-phase bone scan-II

hypopigmented patches on the back of the patient and there he again went through blood examinations with results showing within normal limits blood hemogram, anti-nuclear antibodies/factor, creatinine, CRP, and parathyroid hormone, but raised ESR (45 mm/h, normal range: 0–15 mm/h), slightly raised uric acid (8.11, normal range: 3.40–7.00). He was referred to our institute with a provisional diagnosis of lepromatous leprosy and advised for slit skin smear to confirm the diagnosis. After careful examination and slit skin smear from multiple sites of the body, lepromatous leprosy was ruled out. As per patient, he suffered from SARS-CoV-2 infection 8 months back and after that he started having a complaint of pain in the wrist and fingers. The pain got worse with time with the involvement of more joints, leading to polyarthritis. During visits to doctors, he was prescribed NSAIDs multiple times, which gave him relief in pain. Once he was prescribed corticosteroids too which provided better relief in pain, as per the patient.

DISCUSSION AND CONCLUSION

In polyarthritis, there is an involvement of more than 4 joints with palpable synovitis swelling. It's not a local process but occurs due to a systemic disease, which includes a broad spectrum of rheumatic and infectious diseases with clearly different therapeutic approaches [3].

Skin and peripheral nerves involvement is common and classical presentation of leprosy. Musculoskeletal involvement is less frequently reported and usually found in multibacillary forms of leprosy patients. It is not uncommon that these patients are clinically diagnosed and treated as a case of RA [4,5]. However, in the present case, it's somewhat opposite. After multiple investigations, the patient was provisionally diagnosed as a case of lepromatous leprosy. However, after clinical examination and slit skin smear, the patient was excluded as a case of leprosy. Although uric acid was found slightly raised in the patient, gouty arthritis was deemed unlikely in this patient due to the clinical picture and involvement of the joints. With no history of rheumatic disease and negative RA factor and anti CCP, the rheumatic disease was also ruled out. So, what's wrong with this patient?

He could be as case of reactive arthritis (ReA), a part of spondyloarthritis, characterized by sterile synovitis triggered secondary to infection [6,7]. In the later phase of the COVID-19, an associated complication is an uncontrolled inflammatory response which causes recruitment of immune cells and the immune complex generation, and this may lead to local and systemic tissue damage [8]. The diagnosis of ReA is essentially based on a careful history and physical examination [9]. A few cases of ReA post-SARS-CoV-2 infection had also been reported [10-14]. I hope that this case report will expand the knowledge related to lepromatous leprosy and polyarthritis in this COVID-19 pandemic period.

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AUTHORS' CONTRIBUTIONS

Dr. Pushpendra Pushkar entertained the patient in the OPD of ICMR National JALMA Institute for Leprosy and Other Mycobacterial Diseases while he was posted in the institute and collected all the relevant data from the patient. After analysis of the data, manuscript of this case report was prepared.

COMPETING INTERESTS

None.

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