Bilateral thickened great auricular nerve in a case of Hansen's arthropathy

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A 23-year-old male presented with complaints of chronic symmetrical polyarthritis involving MCPs, PIPs, wrists, shoulders, knees, and feet, not associated with morning stiffness of 6-week duration. There was no history of fever or constitutional symptoms, diarrhoea, upper respiratory tract infection, or urinary tract infection. On examination, multiple nodular, firm, non-tender skin lesions over both ears and multiple hypopigmented patches in lower limbs showed up. A thick cord-like, firm structure noted in both neck was identified as thickened great auricular nerve (Fig. 1a and b). Both ulnar and common peroneal nerves were also thickened and tender. Gloves and stock sensory loss was noted in both upper and lower limbs. His musculoskeletal examination revealed tenderness over bilateral metacarpophalangeal and interphalangeal joints, and his hand squeeze was tender. There was no obvious joint swelling. The rest of the systemic examination was normal. His routine haematological and biochemical parameters were within normal limit. His acute phase reactants were raised (ESR 46 mm/1st hour and CRP-11 mg/L). Rheumatoid factor, anti-CCP, ANA tests were negative. X-rays of hands and feet were normal. Sural nerve biopsy revealed epithelioid granulomas infiltrating nerve bundles (Fig. 1c). A slit skin smear using the

Ziehl–Neelsen technique from the nodule on the lobule of the left ear revealed numerous acid fast bacilli (Fig. 1d). The patient was diagnosed with lepromatous leprosy and was started on multidrug therapy in addition to oral prednisolone. His skin lesions, thickened nerve, and arthritis were improved significantly after 6-month follow-up.

Thickened great auricular nerve often mimics a thrombosed external jugular vein or associated neck tumour infiltrating the nerve [1]. In our case, rheumatic manifestations may be the initial presentation of leprosy mimicking mostly rheumatoid arthritis [2]. Another differential diagnosis of leprosy is relapsing polychondritis; in both the conditions, arthritis and auricular chondritis are seen; however, in the later case, the pinnae are tender and the ear lobule is spared [3]. Leprosy can mimic various other rheumatic manifestations like spondyloarthritis, vasculitis, and dermatomyositis [4]. Lucio phenomenon is a rare vasculitic manifestation of leprosy [5]. This case highlights two important aspects of leprosy. First, rheumatologic manifestations of leprosy may be misleading and delay the diagnosis resulting patient disability. Second, careful history taking with good clinical examination clinches the correct diagnosis.

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Fig. 1 **a** and **b** Bilaterally thickened greater auricular nerve in posterior triangle of neck. **c** Sural nerve biopsy showing epithelioid granulomas infiltrating nerve bundles (H&E, $\times 400$). **d** Acid fast bacilli seen in clusters in slit skin smear (Lepra stain, $\times 1000$)

Declarations

Disclosures None.

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