

CLINICAL IMAGE

Charcot arthropathy due to rheumatoid arthritis

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A 70-year-old woman with a 10-year history of rheumatoid arthritis (RA) presented with complaints of swelling, pain, numbness and tingling of the left foot. The patient's personal and family past medical history was unremarkable. She was not taking any medications other than methotrexate (peroral; 10 mg/week). Physical examination revealed swelling and deformity with complete dislocation of talus plantolaterally (Fig. 1a). Strength, reflexes and senses were normal on examination. Laboratory evaluation revealed normal Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels with positive RF (110 IU/ml) and anti-CCP (300 U/ml). The patient was in remission (DAS28 CRP < 2.6). X-ray of the left foot was categorized as a type 3a Charcot joint according to the Brodsky Anatomical Classification (Fig. 1b; [1]). Nerve conduction studies revealed a widespread sensory neuropathy involving lower extremities with intact motor function and no evidence of demyelination, and were considered most likely to be pure sensory neuropathy. The patient had no concomitant diabetes, chronic alcoholism, infections (Epstein-Barr virus, hepatitis C and HIV), metabolic problems, inherited conditions and nutritional deficiencies (B12 and folic acid). The patient was diagnosed with Charcot arthropathy resulting from sensory neuronopathy because of primary RA. The patient had clinical improvement within 6 months with the treatment of accommodative shoe wear via ankle-foot orthosis and pressure dissipating foot orthotics.

Charcot arthropathy is a progressive process that leads to bone and joint deformity as a result of peripheral neuropathy. The underlying pathology of Charcot arthropathy is unclear,

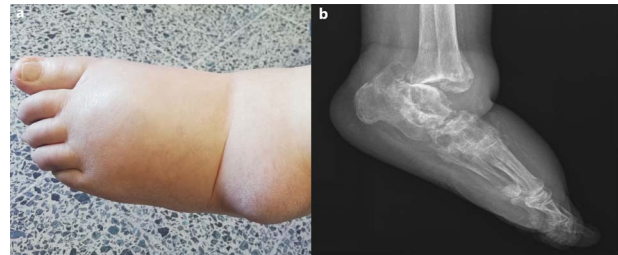


Figure 1: (a) A clinical image of a left foot deformity with complete dislocation of talus plantolaterally and (b) radiograph of a left foot showing tibiocalcaneal and talonavicular subluxation and cortical erosions.

however, overactive vaso-autonomic neuropathy, repetitive microtrauma and release of proinflammatory cytokines such as $\text{TNF}\alpha$ and IL-1 were considered to be the possible mechanisms [1]. RA has been associated with peripheral neuropathy although Charcot arthropathy due to RA is not widely recognized [2]. The most common type of peripheral neuropathy was mixed sensorimotor or pure sensory neuropathy in the patients with RA and many patients are frequently asymptomatic. The presence of neuropathy can increase the risk of developing Charcot arthropathy in RA [3]. The initial treatment of Charcot arthropathy is nonoperative treatment includes immobilization and reduction of stress. Surgery is performed in fewer than 25% of cases [4].

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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ETHICAL APPROVAL

No ethics committee approval is required for case reports at our institution.

CONSENT

The patient has given written informed consent for the publication of this manuscript and images.

GUARANTOR

Sadettin Uslu.

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