

Radiculopathy in a patient with chronic tophaceous gout: vertebral imaging

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INTRODUCTION

Gout is an inflammatory arthropathy, more prevalent in men, which results from the accumulation of monosodium urate (MSU) crystals. Spinal involvement is infrequent, but some cases have been described, including back pain and radiculopathy¹⁻⁴. Computed tomography (CT) may be useful in identifying gouty tophi based on the CT attenuation of MSU deposits⁵.

CASE REPORT

This case refers to a 56 year-old male patient, with previous history of arterial hypertension, hypertriglyceridemia, obesity, glucose intolerance and alcohol abuse (maximum of 25 milligrams/day, with ulterior reduction).

From his fourth decade of life, the patient presented with recurrent episodes of mono/oligoarthritis of the metatarso-phalangeal (MTP), ankles, knees, elbows, wrists, metacarpo-phalangeal (MCP) and proximal interphalangeal joints (PIP), at different time points. At age of 45, the patient was diagnosed with gout and was started on allopurinol (daily doses under 450 milligrams), colchicine, non-steroidal anti-inflammatory drugs and corticosteroids. However, the patient developed arthralgia with allopurinol doses >100mg/day and low compliance to therapeutics and his condition evolved with frequent episodes of arthritis and with the growth of tophi over the extensor surface of the elbows, wrists, hands and knees (Figure 1), some of which were submitted to surgical removal. On x-rays, marginal erosions and geodes were identified on the right hand second PIP, tarsus and MTPs. His serum uric acid levels oscillated from 7.8 to 10.5mg/dL. A renal ultrasound documented microlitiasis.

In 2011, the patient presented a first episode of low-



FIGURE 1. Gouty tophi visible on the 2nd right interphalangeal, bilateral 2nd and 3rd metacarpophalangeal and left wrist joints

-back pain, irradiating to his lower limbs, neurogenic claudication and Lasègue was elicited on the right lower limb. In 2013, back pain recurred, most intense at night, without evidence of decrease of muscular strength. X-ray showed alterations compatible with spondylodiscarthrosis and anterolistesis grade 1 at L5-S1 level. A CT scan of the dorsal and lumbar spine was performed, showing: irregular interapophyseal hypertrophy, with involvement of the D2-D3, D3-D4, D8-D9, D9-D10, D10-D11, right L2-L3 and L5-S1 costovertebral joints, with erosion of the articular surfaces and space occupying lesion with hyperattenuating matrix. At D8-D9 level, there was invasion and compromise of the spinal canal and foramina (right predominance), with possible bilateral radicular compromise at C2-C3, C3-C4, D8-D9 and right radicular compromise at D9-D10 and D10-D11 levels. Magnetic resonance showed deformation of the posterior slopes of the dural sac, without signs of medullary compression and apparent contact with the foraminal segments of D8/D9 roots. The image findings were attributed to tophaceous involvement of the spine. Conservative treatment was maintained. The patient evolved with symptomatic relief with periods of exacerbation.

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FIGURE 2. Computed tomography image: axial view of the tophi material at D8-D9 level (arrows)

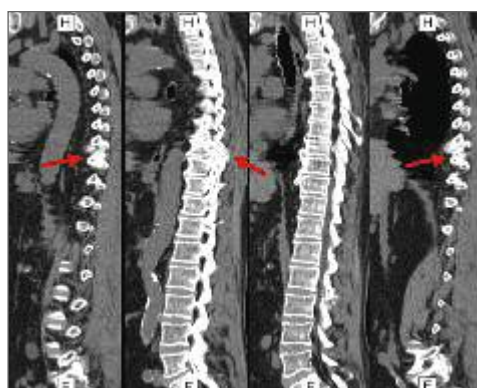


FIGURE 4. Computed tomography image: sagittal view of the spinal column, tophi deposition visible at the dorsal spine (arrows)

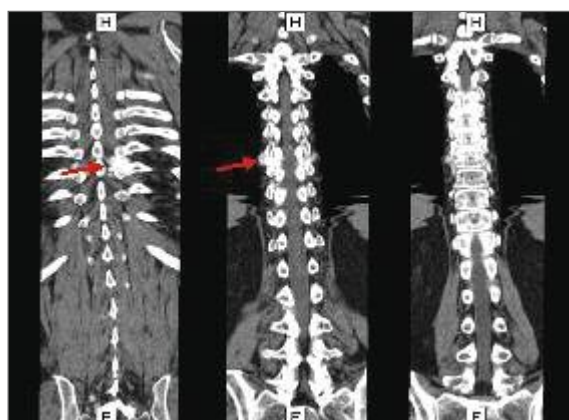


FIGURE 3. Computed tomography image: coronal view of the spinal column, tophi deposition visible at the dorsal spine (arrows)

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DISCUSSION

Symptomatic spinal involvement in gout is infrequent. However, some cases have been reported, concerning both the cervical and lumbar spine, with pain as the initial manifestation. There are also reports of radiculopathy secondary to spinal gouty arthropathy¹⁻⁴, even in the absence of systemic gout². Some patients improved after conservative therapy¹, although others required surgical intervention⁴. Our clinical case is another example of how gout can produce spinal inflammation and nerve damage and superimpose on previously damaged joints and how patients' compliance to therapeutics may have an important impact on prognosis.

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