Introduction

Back pain is a prominent and often debilitating health problem with a broad differential diagnosis. Gout and crystal-arthropathies are not classically thought to affect the axial skeleton. However, there has been an increasing number of case reports suggesting that gout does go beyond the appendicular skeleton and may be a source of back pain.

Case Presentation

Presentation to the Emergency Department:

A 63 year old male with a history of psoriatic arthritis, crystal-proven gout and hypertension presented to the ED with an acute pain crisis in his lower back and bilateral hips. His pain had been progressive over the course of days so that he was essentially bedbound on presentation. His pain was localized to the center low back, was stabbing in nature, 10/10 severity and he had no history of trauma, injury, falls or heavy lifting. On exam, he was afibrile with stable vital signs. He had significant point tenderness over his lumbar spine with a positive Faber test (L>R). He had no neurologic deficits on exam. Labs were pertinent for ESR 83, CRP 10, WBC 11.1. Multiple sets of blood cultures were negative.

Hospital Course:

The patient was admitted and initial MRI of the spine/pelvis showed T2 signal abnormality and enhancement of the opposed endplates/intervertebral disc space at L2-L3. Due to concern for osteomyelitis, he underwent 2 bone biopsies and an extensive infectious work-up, with all cultures and infectious studies negative. There has been an increasing number of conditions such as osteomyelitis.

Not only is there growing evidence of gout in the axial skeleton, but psoriatic arthritis and CPPD can also affect the spine. Imaging can assist in the diagnosis of these conditions, but many findings are nonspecific with similarities to other conditions such as osteomyelitis.

Follow-up:

One month later, ESR had decreased to 29 and CRP to 2.5. A follow-up MRI showed decreased enhancement at L2-L3. He was later seen in Rheumatology clinic and it was suggested that his pain was likely due to a crystal-induced arthritis of the spine despite lack of crystals on biopsy. He was started on allopurinol and colchicine and has been doing well since.

Background Information and Imaging

Gout is due to deposition of monosodium urate monohydrate crystals in the extracellular fluids of the joint. For typical presentations (ex: recurrent podagra with hyperuricemia), clinical diagnosis alone is fairly accurate, but definitive diagnosis requires demonstration of monosodium urate crystals in synovial fluid or tophus aspirates.

Risk factors for gout include: hypertension, obesity, CKD, metabolic syndrome, type 2 DM and medications (thiazide and loop diuretics). Psoriasis has many of these similar risk factors and has also been associated with elevated serum uric acid levels. Additionally, psoriasis itself may be a risk factor for hyperuricemia, which can lead to gout.

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