

Beyond Initial Diagnoses - The Imperative for Comprehensive Investigation in Persistent Foot Pain: A Case Report

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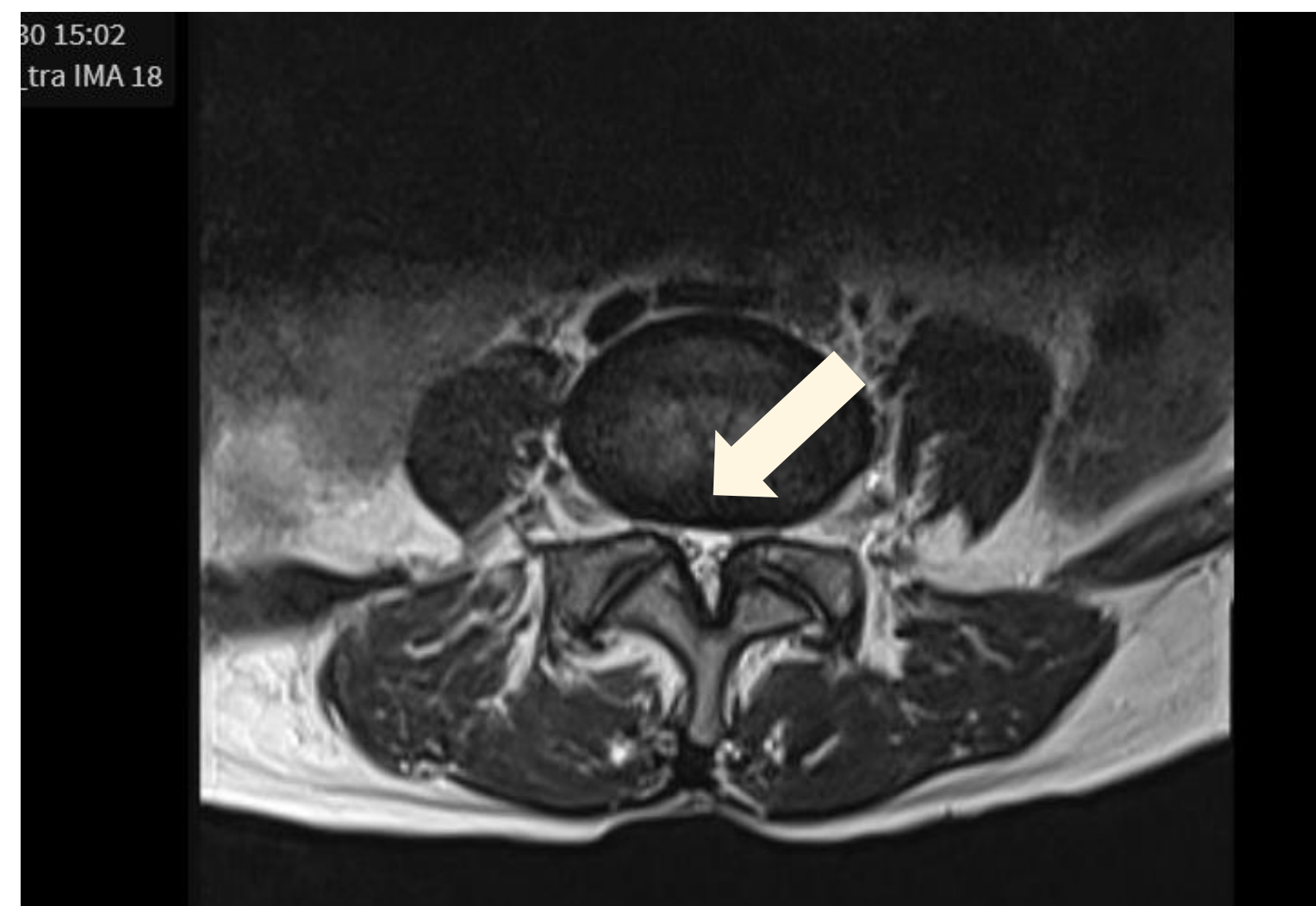
Case Description

A 56-year-old previously healthy female with a left fifth metatarsal fracture 8 months prior managed nonoperatively and complicated by malunion presented to pain management for progressive left foot pain. The pain is described as located predominantly in the left foot although she reports newer onset of right foot pain^[1]; hypersensitive, tingling, and throbbing in quality; and worsening in intensity. She met Budapest Criteria for complex regional pain syndrome (CRPS) type 1 for allodynia, hyperalgesia, temperature changes/skin color changes, edema and decreased range of motion^[2]

Images:



Initial nondisplaced transverse fracture involving the fused 5th middle-distal phalanges



MRI Spine L4-L5 moderate central canal stenosis

Initial Injury

Patient hit her left fifth toe and had a fracture. DXA scan done which showed T score of -2.7 at left femoral neck, indicating osteoporosis. Started on PTH analogue by **gynecology**. Diagnosed with prediabetes by **primary care** and started on metformin. Pain started worsening 4 months after initial injury. Started with **physical therapy**. Progressive pain that ascended to the ankle, making weight-bearing and tolerating PT difficult, alongside a "dusky" appearance of the left foot.

6 months

Vascular surgery conducted arteriogram which noted narrowed dorsalis pedis compared to right. Seen by **rheumatology** and labs (ESR, CRP, RF) negative. Noting improvement with therapies. Symptoms migrated to right foot. Seen by **pain management** who started pregabalin, acetaminophen and recommended lumbar sympathetic nerve block in the setting of CRPS. Bone scan negative (7 months post injury). MRI lumbar spine showed facet arthropathy and L4-L5 central spinal stenosis.

9 months

Lumbar sympathetic nerve block done after which pain worsened. Pregabalin with improvement. Started meloxicam. Patient chose not to have L4 transforaminal epidural spinal injection despite MRI findings. Seen by **neurology** who recommended EMG/NCS that was normal. Overall marginal improvement.

1 year

MRI foot and ankle showed persistent multifocal bone marrow edema-like signal at the distal phalanges with additional involvement of the several proximal-middle phalanges. Findings are nonspecific, although can be associated with Raynaud's phenomenon.

15 months

Patient referred to **endocrinology** for hypercalcemia and prediabetes and concern for pseudogout. Pregabalin increased. Overall continued improvement. Meloxicam stopped. Endocrinology and rheumatology recommended switching osteoporosis treatment to bisphosphonate for benefit with CRPS^[3]. Repeat DXA showed modest improvement in the spine, but femoral neck worsened to -3.1. Patient continues to see PT and subspecialties with improvement in pain.

Discussion

While initial assessments point towards CRPS as primary contributors to her symptoms, the recent MRI findings and lack of improvement after sympathetic block highlight the importance of further investigation. The patient did not have a personal or family history of autoimmune nor metabolic disease, so these fell further down on the differential. Additionally, she is fit appearing and previously active prior to the progression of her pain. Spinal pathology was not focused on given relatively young age and no prior trauma. The overall picture is therefore confounded by many factors including possible CRPS, lumbar radiculopathy, peripheral neuropathy, pseudogout and Raynaud's.

Conclusion

This case underscores the critical need for ongoing investigation beyond initial differential diagnoses to address the complexities of the patient's condition. Despite effective management of neuropathic symptoms with pregabalin, acetaminophen, and meloxicam, the persistent nature of her symptoms calls for multidisciplinary further exploration of potential underlying causes. Pursuing additional diagnostic evaluations and alternative therapeutic strategies will be essential in optimizing her treatment plan and improving her quality of life.

References

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