

# HIDDEN IN PLAIN SIGHT; TOPHACEOUS GOUT OF SPINE MASQUERADING AS ABDOMINAL PAIN

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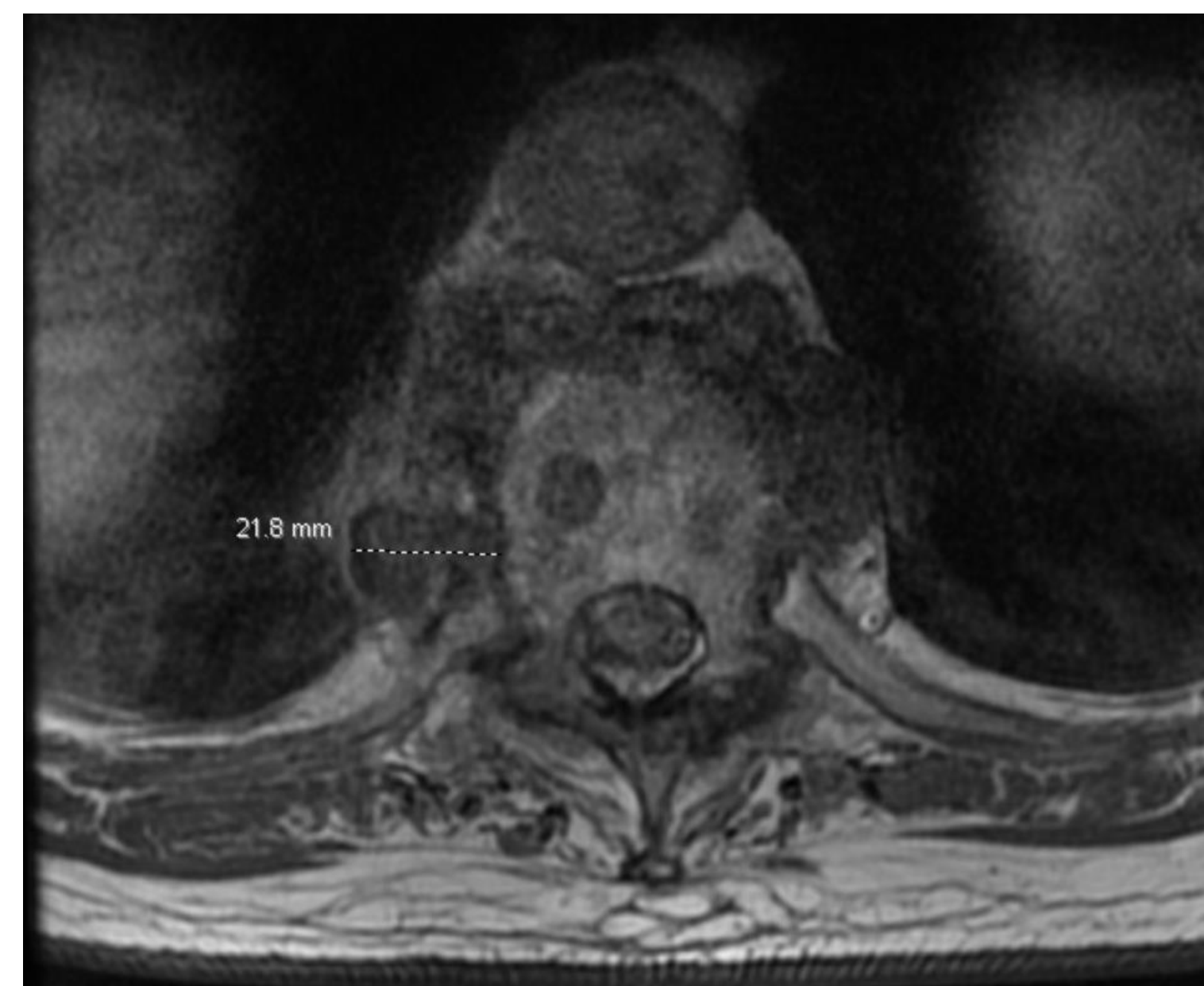
## Introduction

- Involvement of spinal column in Gout is rarely encountered in clinical practice. It can be easily misdiagnosed, and often remains undiagnosed.
- Common clinical presentations of spinal gout include axial pain, radiculopathy, myelopathy, or spinal cord compression even mimicking epidural abscess or spondylodiscitis.
- The diagnosis of Spinal Gout can be very challenging due to its variable presentation and lack of typical defining criteria.

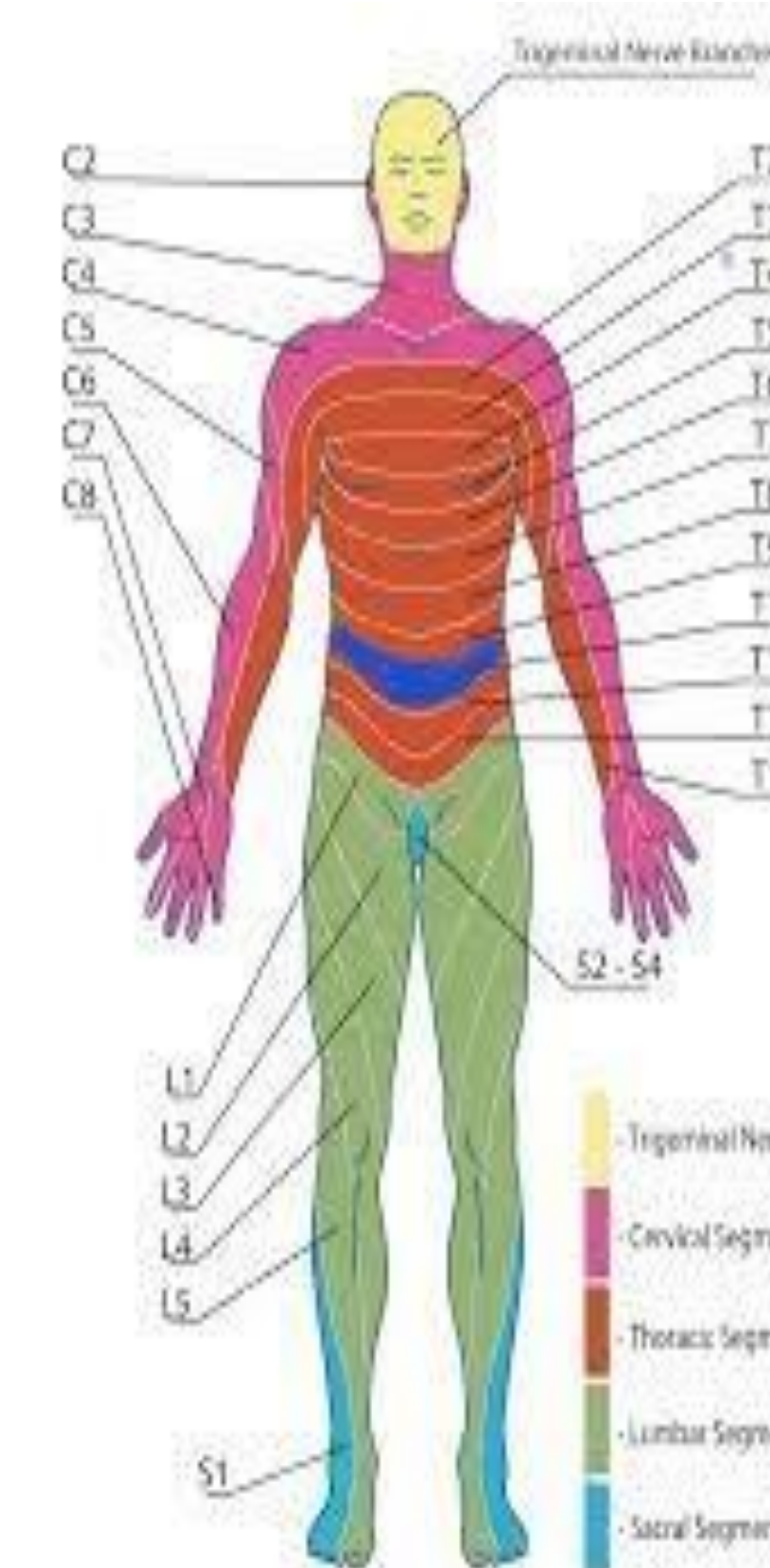
## Case Presentation

- A 91-year-old man presented to his PCP office with right sided flank pain radiating to right lower quadrant of abdomen without any systemic symptoms.
- He had PMH of hypertension, CKD stage 3 and non tophaceous gout. He had been maintained on 100 mg of allopurinol chronically without any gout flare-ups in last 15 years.
- Clinical examination and labs were unremarkable except for elevated ESR (35), CRP (9.3 mg/L) and uric acid level (5.9 mg/dl).
- CT scan of abdomen and pelvis ordered by the PCP was unremarkable except for benign renal and pancreatic cysts.
- The patient's pain resolved spontaneously in a week and was attributed to muscular strain.
- Over the course of the next 4 months the patient presented to the office multiple times with similar symptoms. Various intra-abdominal pathologies were considered and ruled out in differential process.
- Repeat scan revealed a 1.6 x 1.6 cm right sided hypodense lesion adjacent to T10 costovertebral junction with surrounding inflammatory stranding. These findings were suggestive of discitis/osteomyelitis.
- MRI thoracic spine with gadolinium was significant for

- active inflammatory process at the level of T9/T10 vertebrae and right para-spinal rim enhancing collection, raising suspicion for inflammatory arthritis.
- Rheumatology was consulted. CT guided aspiration of paraspinal collection demonstrated 1 cc of yellow purulent material positive for monosodium urate crystals consistent with tophaceous gout of thoracic spine.
- Patient had no evidence of tophaceous gout in any other joints.
- He required another CT guided aspiration, methylprednisolone injection and a short course of colchicine before experiencing relief. He was maintained on lifelong allopurinol at an increased dose (300 mg) with goal to keep uric acid levels below 5 mg/dL.
- In retrospect, patient's abdominal pain was referred pain from T9-10 area related to Gouty arthritis and tophi.



**Figure 1.** MRI thoracic spine with contrast demonstrating inflammatory changes at T9/T10 level and para-spinal collection.



**Figure 2.** Dermatomal representation of T9-T10 radiculopathy.

- In a review of 131 cases, Toprover *et al.* found that gout can affect the lumbar (38%), cervical (24.8%), and thoracic spine (17.8%). Most patients (75.4%) had a history of gout or the known gout risk factor of hyperuricemia. Most common lab abnormalities included elevated serum uric acid level. ESR and CRP.
- Imaging finding in spinal gout generally manifest after many years of gout and are nonspecific. MRI with gadolinium contrast is highly sensitive however lacks specificity. A relatively more specific imaging modality is dual-energy CT (DECT) scanning, which has been used successfully to make diagnosis of spinal gout and avoid unnecessary surgical interventions.
- If diagnosed early, conservative treatment with urate lowering therapy is often successful as in our patient.

## Conclusions

- In the absence of well-defined diagnostic criteria, clinicians especially primary care providers should be aware of variable presentations of spinal gout and consider it in differential diagnosis in a patient with hyperuricemia, elevated inflammatory markers, unexplained axial pain, and radiculopathy.
- Possibility of tophaceous spinal gout causing referred pain in dermatomal distribution should also be considered.

## References

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## Discussion

- The actual prevalence of spinal gout is unknown but is likely to be higher than anticipated.