

## Spinal Tophaceous Gout Mimicking a Spinal Tumor

AYAKO NAKAJIMA, MD, PhD, Assistant Professor, Institute of Rheumatology; YOSHIHARU KATO, MD, PhD, Associate Professor, Department of Orthopedic Surgery; HISASHI YAMANAKA, MD, PhD, Professor, Institute of Rheumatology; TATSUO ITO, MD, PhD, Professor, Department of Orthopedic Surgery; NAOYUKI KAMATANI, MD, PhD, Professor and Director, Institute of Rheumatology, Tokyo Women's Medical University, Tokyo, Japan. Address reprint requests to Dr. A. Nakajima, Institute of Rheumatology, Tokyo Women's Medical University, 10-22 Kawada-cho, Shinjuku-ku, Tokyo, 164-0052, Japan.

A 39-year-old man developed chronic arthritis affecting the distal interphalangeal (DIP) joint of his left 2nd finger and ankles together with chronic dull low back pain. He had a 15-year history of gouty arthritis. Despite the recurrence of his arthritis and a high serum urate concentration (13 mg/dl), he had resisted taking medication for hyperuricemia. On examination, he had tophi in both olecranon bursae, the DIP joint of the left 2nd finger, the proximal interphalangeal joint of the right 3rd finger, and around both ankles. White chalky exudate was excreted from his affected 2nd finger. Neurological examination was unremarkable. Plain radiographs of the spine revealed a lytic lesion of the left L4 and L5 pedicles (Figure 1). Magnetic resonance imaging (MRI) revealed a large (8 × 4.5 cm) paraspinal mass from the level of L3 to L5 and apparent destruction of the left pedicles (Figure 2A). The mass was expanded within the paravertebral muscle and the spinal canal. Viewing this dumbbell-like lesion was enhanced with administration of gadolinium (Figure 2B), and required differentiation from lymphoma or neurological tumors. An open biopsy of the spinal mass was performed and revealed white chalky material (Figure 3) containing needle-shaped monosodium urate crystals identified by polarized light microscopy. Nonsteroidal antiinflammatory drugs relieved the chronic arthritis and dull back pain. Subsequently, allopurinol and benzbromarone were administered to reduce the serum uric acid level.

Although more than 30 cases of spinal tophaceous gout have been reported, it is still an atypical manifestation<sup>1-4</sup>. Our patient did not develop any neurological disturbance despite the presence of such massive spinal tophi. This case confirms it is important to distinguish spinal tophaceous gout from spinal tumor.

### REFERENCES

1. Mekelburg K, Rahimi AR. Gouty arthritis of the spine: clinical presentation and effective treatments. *Geriatrics* 2000;55:71-4.
2. Barrett K, Miller ML, Wilson JT. Tophaceous gout of the spine mimicking epidural infection: case report and review of the literature. *Neurosurgery* 2001;48:1170-2.
3. Hsu CY, Shih TT, Huang KM, Chen PQ, Sheu JJ, Li YW. Tophaceous gout of the spine: MR imaging features. *Clin Radiol* 2002;57:919-25.
4. Souza AW, Fontenele S, Carrete H Jr, Fernandes AR, Ferrari AJ. Involvement of the thoracic spine in tophaceous gout. A case report. *Clin Exp Rheumatol* 2002;20:228-30.



Figure 1. A frontal lumbar spine radiograph reveals the destruction of the left L4 and L5 pedicles.



Figure 2A. T2 weighted MRI of the spine shows a large irregular paraspinous mass between L3 and L5 (black arrows).

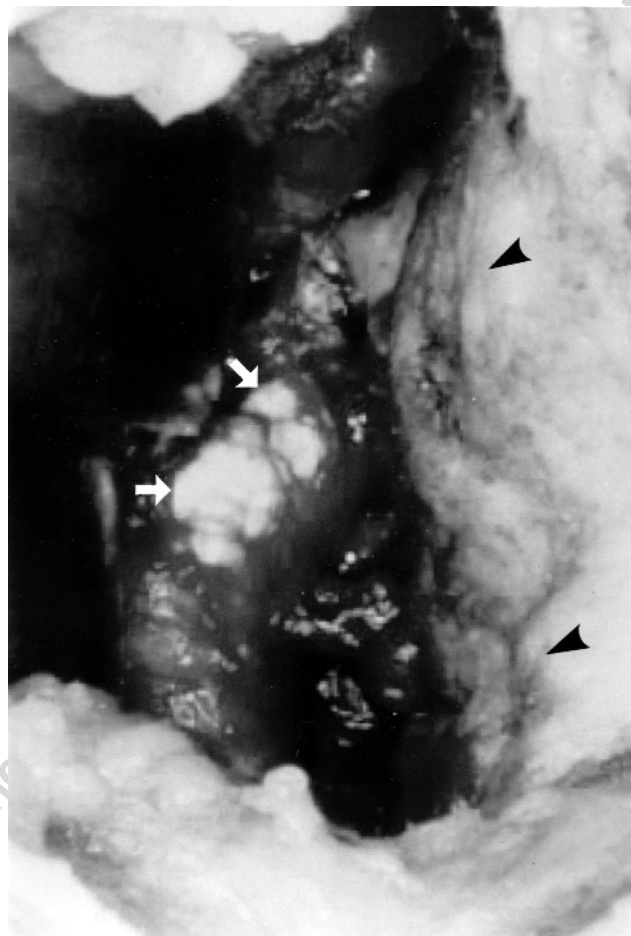


Figure 3. White chalky material (white arrows) was detected within the paravertebral muscle and was positively identified as urate crystals. Black arrows indicate the lumbar spine.

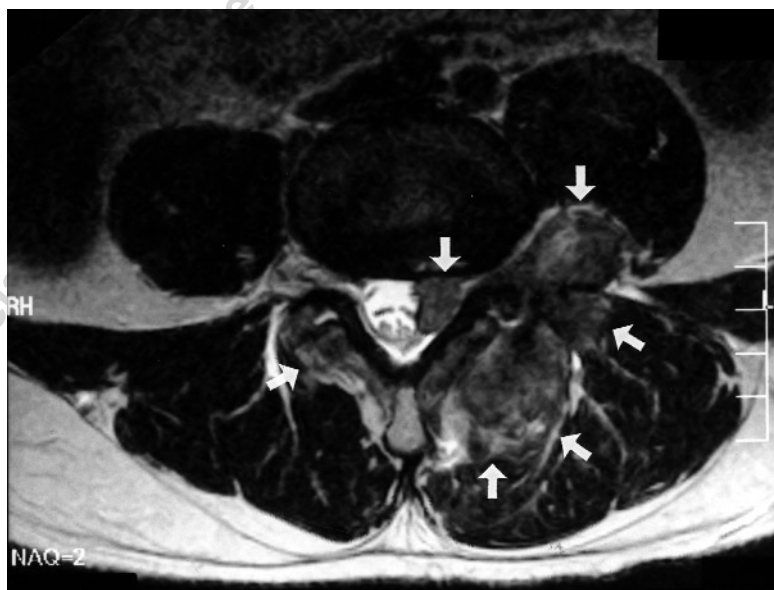


Figure 2B. The huge, predominantly left-side mass exhibits expansion within the paravertebral muscle and the spinal cavity (white arrows), with compression of the spinal nerve. The mass also exhibited heterogeneous enhancement after intravenous administration of gadolinium.