

Clinical Image

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Polyarticular, ulcerated tophaceous gout

<https://doi.org/10.1515/jom-2020-0316>

Received December 16, 2020; accepted February 15, 2021;
published online April 23, 2021

A 65 year old man presented to the Emergency Department with a 3 day history of copious malodorous and pasty drainage from his right elbow (per chart review, there was an ulcerated wound with drainage from the joint and the lesion had been draining for 3 days), which was swollen and painful. He had concomitant ulcerated swelling of his right first metatarsophalangeal (MTP) joint. His past medical history included a gout flare 7 years prior (which affected his first MTP joint) and chronically elevated blood pressure. The patient was afebrile and his vital signs were within normal limits, aside from the aforementioned elevated blood pressure. His serum uric acid level was 6.1 mg/dL (maximum normal serum uric acid level, 7 mg/dL), although the serum uric acid level is not always elevated in a gout flare. Plain radiographs of the elbow

revealed a partially calcified heterogeneous mass in the olecranon bursa with adjacent soft-tissue swelling (**Image A**), and plain radiographs of the foot revealed heterotopic ossification over the first MTP joint with adjacent cutaneous ulceration (**Image B**). Elbow debridement revealed purulent, chalky material in the olecranon bursa and adjacent acute cellulitis with focal areas of necrosis. Methicillin-resistant *Staphylococcus aureus* and *Proteus mirabilis* were grown from cultures obtained during the debridement, and monosodium urate crystals were visualized using polarized light microscopy. The patient was treated with naproxen, colchicine, and empiric antibiotics until the culture and sensitivity became available [1, 2]. Although he recovered from the infection, he presented to the emergency department for recurrent gout flares and developed tophaceous deposits in his left-sided first MTP, knee, and shoulder. The long-term outpatient management of his gout is unknown.



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Gout is an inflammatory arthritis in which monosodium urate crystals are deposited in and near the joints [1]. Chronic gout can lead to the formation of tophi, which can ulcerate and become infected in severe cases [3]. Long-term management options for prophylaxis include allopurinol, febuxostat, probenecid, and pegloticase [4]. Septic arthritis can mimic or coexist with gout, even when ulceration is not present. The diagnosis can be made by a combination of the patient's history and physical examination, laboratory testing, imaging, and synovial fluid analysis. This case highlights the imaging findings in tophaceous gout and the importance of a broad differential diagnosis for gout.

Research funding: None reported.

Author contributions: All authors provided substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; all authors drafted the article or revised it critically for important intellectual content; all authors gave final approval of the version of the article to be published; and all authors agree to be

accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Competing interests: None reported.

References

1. Qaseem A, Harris RP, Forciea MA; Clinical Guidelines Committee of the American College of Physicians. Management of acute and recurrent gout: a clinical practice guideline from the American College of Physicians. *Ann Intern Med* 2017;166: 58–68.
2. Khanna D, Khanna PP, Fitzgerald JD, Singh MK, Bae S, Neogi T, et al. 2012 American College of Rheumatology guidelines for management of gout. Part 2: therapy and antiinflammatory prophylaxis of acute gouty arthritis. *Arthritis Care Res* 2012;64: 1447–61.
3. Lam G, Ross FL, Chiu ES. Nonhealing ulcers in patients with tophaceous gout: a systematic review. *Adv Skin Wound Care* 2017; 30:230–7.
4. Clebak KT, Morrison A, Croad JR. Gout: rapid evidence review. *Am Fam Physician* 2020;102:533–8.