

Bilateral Nodules of the Hands and Feet

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A 49-year-old man presented for evaluation of a 10-year history of progressive pain in his joints. The joint pain is localized predominantly in his hands and feet. The pain is worsened with activity and is episodic. It hampers the use of the patient's hands. The patient does not experience fatigue. The joints are not warm to the touch.

History

The patient was otherwise healthy. He reported no alcohol use or adherence to a particular diet. There is no history of trauma or injury to the hands.

Physical examination

The patient is afebrile, and his vital signs are within normal limits. The chest is clear to auscultation. Firm, asymmetrical nodules are noted bilaterally over the interphalangeal and metacarpal joints



Figure. Firm, asymmetrical nodules over the interphalangeal and metacarpal joints of the hands.

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of the hands (**Figure**); similar nodules are present near the interphalangeal and metatarsophalangeal joints of the feet. The remainder of the physical examination is unremarkable. The patient reports no stiffness or inflammation in other parts of the body.

Diagnostic studies

Results of a comprehensive metabolic profile show an elevated leukocyte count, erythrocyte sedimentation rate, and C-reactive protein level. Microscopic examination of synovial fluid aspirate reveals needle-shaped crystals; culture results are pending.

What is the most likely diagnosis?

- A. Osteoarthritis
- B. Rheumatoid arthritis

- C. Septic arthritis
- D. Tophaceous gout

Answer: D. Tophaceous gout

Tophaceous gout is characterized by the presence of tophi in the joints, which are accumulations of monosodium urate crystals that manifest in tissue with poor blood supply. Tophi accumulation can lead to skin ulceration and, in some cases, rupturing of the skin and discharge of urate crystals, which manifests in the form of a white-flecked chalky substance visible upon examination.¹ Tophaceous gout is diagnosed clinically in patients with elevated serum uric acid levels and usually manifests in patients who have a history of uncontrolled gout for 10 or more years.

Urate-lowering therapies are used in disease management in patients with a history of gout. Serum urate levels should be lowered to less than 6.0 mg/dL.²

Differential Diagnosis

Osteoarthritis can be ruled out in this patient because the characteristic Heberden and Bouchard nodes are smaller than tophi. Additionally, osteoarthritis is noted more in the distal interphalangeal and proximal interphalangeal joints. Joint aspirate in osteoarthritis does not show crystals.³

Rheumatoid arthritis is destructive to the joints without crystal deposition, and swan-neck deformities of the joints are characteristic of a diagnosis of chronic rheumatoid arthritis in the setting of inflammatory disease—neither of which were found in this patient.⁴ The absence of morning stiffness also excludes the diagnosis of RA.⁵

The patient does not have septic arthritis, which is characterized by painful, hot joints and is acute, not chronic, in nature.⁶

Patient Outcome and Follow-Up

The patient was given febuxostat, 40 mg/d and sent home once his symptoms were alleviated. The patient was scheduled for follow-up with a rheumatologist once every 3 months following.

REFERENCES

1. Harris MD, Siegel LB, Alloway JA. Gout and hyperuricemia. *Am Fam Physician*. 1999;59(4):925-934. <https://www.aafp.org/pubs/afp/issues/1999/0215/p925.html>
2. FitzGerald JD, Dalbeth N, Mikuls T, et al. 2020 American College of Rheumatology guideline for the management of gout. *Arthritis Care Res (Hoboken)*. 2020;72(6):744-760. doi:10.1002/acr.24180
3. Hinton, Ralph, et al. "Osteoarthritis: Diagnosis and Therapeutic Considerations." *Am Fam Physician*. 2002;65(5):841-849 <https://www.aafp.org/pubs/afp/issues/2002/0301/p841.html>
4. Lane R, Nallamothu SV. Swan-Neck Deformity. In: *StatPearls* [Internet]. StatPearls Publishing; April 30, 2022. <https://www.ncbi.nlm.nih.gov/books/NBK525970/>
5. Taylor PC. Update on the diagnosis and management of early rheumatoid arthritis. *Clin Med (Lond)*. 2020;20(6):561-564. doi:10.7861/clinmed.2020-0727
6. Long B, Koyfman A, Gottlieb M. Evaluation and management of septic arthritis and its mimics in the emergency department. *West J Emerg Med*. 2019;20(2):331-341. doi:10.5811/westjem.2018.10.40974