

Case Report: Subcutaneous Buttock Nodule as Initial Presentation of Gout

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Manuscript Received: 9 April 2025

Manuscript Accepted: 31 May 2025

Date of Publication: 8 June 2025

This article is available from: <https://pnwjs.org/index.php/journal/article/view/10>

doi: <https://doi.org/10.70422/sq4n2b12>

BACKGROUND: Gout is a chronic condition characterized by the formation of monosodium urate crystals that lead to inflammation and pain. Chronically high uric acid levels can form tophi, characterized by granuloma-like structures in the subcutaneous tissues causing inflammation and pain. Rarely, tophi can be the initial presentation of gout. Here we present the first case of a tophaceous buttock cyst as the initial presentation of gout.

CASE PRESENTATION: A 41-year-old male presented with a subcutaneous fluid-filled cyst on the medial portion of the left buttock that became inflamed several times per month. He underwent excision of the lesion with dermatology, and subsequent dermatopathology revealed amorphous eosinophilic material within the dermis consistent with gout with granulomatous dermatitis. He then presented to the colorectal surgery department for persistent drainage from this cyst, and was found to have a sinus tract over the previous site of the cyst. He underwent anorectal exam under anesthesia and excision of left buttock sinus tract with primary closure. The patient recovered well without complications.

DISCUSSION: Tophaceous gout is typically seen in patients with poorly-controlled chronic gout. This case is representative of a growing number of patients with tophi as an initial presentation of gout. Potential risk factors for tophi as the initial presentation of gout can include chronic kidney disease and genetic risk factors linked to urate metabolism.

CONCLUSION: This is the first reported case of initial presentation of gout as a tophus on the buttock, found on biopsy to be consistent with gout. Clinicians should be aware of gout in the workup of patients with subcutaneous nodules resembling tophi, including in unconventional anatomic locations such as the buttock and hip area.

Keywords: Surgery, Case Report, Gout, Tophi, Tophus, Buttock, Gluteal, Subcutaneous, Uric Acid.

BACKGROUND

Gout is characterized by the formation of monosodium urate crystals that lead to chronic episodes of inflammation and pain. The prevalence of gout ranges from 1-4% worldwide, and is more common in men than women by a 3:1 ratio, with the incidence of gout increasing with each decade of life^{1,2}. Commonly, monosodium urate crystals will deposit in joints or tendons, causing characteristic acute gout arthritic flares. Risk factors for gout include alcohol consumption, dietary factors including meat intake, thiazide and loop diuretics, and other medical conditions including hypertension, renal insufficiency, hypertriglyceridemia, hypercholesterolemia, diabetes, and obesity³.

Chronically high uric acid levels can form tophi, characterized by granuloma-like structures in the subcutaneous tissues that cause inflammation and pain⁴. Tophi are rarely the initial presentation of gout⁴. Most commonly, tophi form in the first metatarsophalangeal joint, Achilles tendon, or finger pulps, but may form in other areas in the body as well⁵. Here we present a case of a left buttock cyst found to be consistent with a tophus as the initial presentation of gout, in a patient with no history of gout or symptoms suggestive of gout. Signed informed consent was obtained from the patient to publish this report, which was also reviewed by the authors' Institutional Review Board (IRB # 28259).

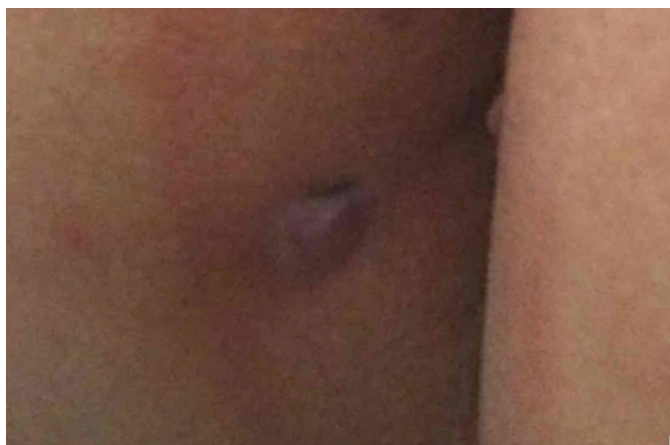


Figure 1. Photo from initial visit showing subcutaneous fluid-filled nodule on the medial portion of the left buttock with mild surrounding inflammation. The nodule measured 2.0 cm x 2.0 cm in diameters.

CASE PRESENTATION

A 41-year-old male presented with a subcutaneous lesion on the left buttock associated with recurrent pain for over two years. The lesion drained clear fluid and became inflamed and painful several times per month, especially while sitting and ambulating. He performed simple wound care with gauze bandages. He denied any other painful, pruritic, burning, or bleeding lesions anywhere else on his body, and denied a history of gout or elevated uric acid. His past medical history was significant for hyperlipidemia and a remote history of heavy alcohol use. On exam, there was a 2 cm x 2 cm subcutaneous fluid-filled cyst was noted on the medial portion of the left buttock with mild surrounding inflammation (**Figure 1**). He underwent excision of this lesion and primary closure with a dermatologist, during which white material was

drained from the subcutaneous tissue. The patient recovered well from the procedure without complications. Histologic examination of the lesion showed amorphous eosinophilic material within the dermis, consistent with gout with granulomatous dermatitis (**Figures 2, 3, and 4**).

DISCUSSION

This case demonstrates a rare initial presentation of gout as a tophus on the left medial buttock. To our knowledge, this is the only reported presentation of tophaceous gout of the buttock as the initial presentation of gout. There are a few case reports of tophi presenting on the buttock, however, these patients had gouty arthritis^{6,7}. Subcutaneous masses such as this one can be challenging to diagnose and often require a combination of clinical judgment and diagnostic testing. The most common pathologies, including follicular cyst, lipoma, and tophi, can be diagnosed clinically, with biopsy, and with imaging such as ultrasound, CT, or MRI, when there is diagnostic uncertainty. In general, excisional or punch biopsy can potentially be curative for some subcutaneous masses.

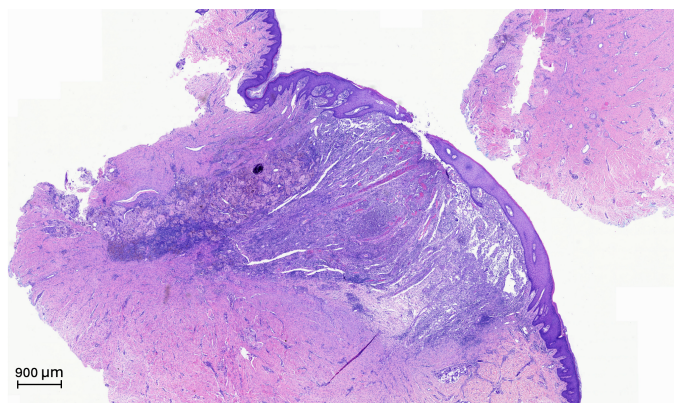


Figure 2. Light micrograph (2.5X magnification) of the buttock lesion stained with hematoxylin and eosin (H&E), revealing inflammation with embedded amorphous material.

Tophaceous gout is considered a severe form of the disease, and normally presents in patients with chronic, poorly-controlled gout. Gout most commonly presents with acute arthritis, but atypical presentations can include tophi early in the disease course, or before the onset of symptoms^{8,9}. An important risk factor for the early-onset of tophi is chronic kidney disease, with a creatinine clearance of 30-60 mL/min and genetic risk factors linked to urate metabolism¹⁰. However, some patients with tophi as the initial presentation of gout may have no risk factors, such as in this case.

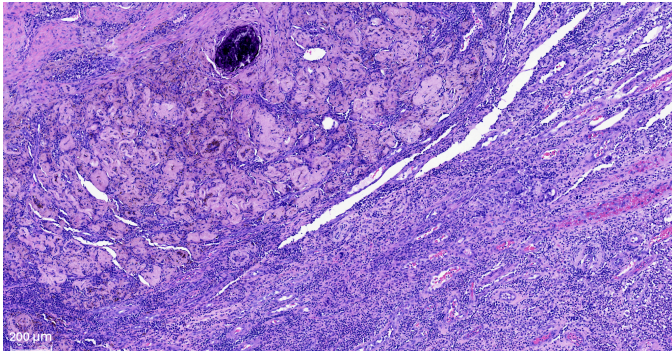


Figure 3. Light micrograph (10X magnification) stained in H&E of the buttock lesion, revealing giant cells with dense lymphocytic infiltration on the right side of the image. There is amorphous eosinophilic material on the left side of the image.

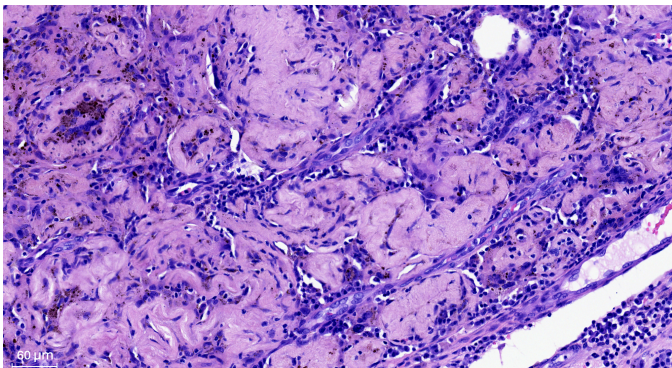


Figure 4. Light micrograph (40X magnification) stained in H&E of the buttock lesion, revealing amorphous eosinophilic material consistent with gout.

CONCLUSION

We report the first case of a patient with an initial presentation of gout as a buttock tophus. This is representative of a growing number of new gout cases with tophi as the initial presentation. Clinicians should include gout in the differential diagnosis of patients presenting with painful subcutaneous nodules, especially in the buttock or hip area, and especially in those with risk factors for gout.

Acknowledgements: We would like to thank Amber O'Connor and Charles Borzy for their contributions to this case report.

Patient Consent: Written informed consent was obtained by the authors from the patient, for publication of this case report and associated images in The Pacific Northwest Journal of Surgery. Identifying personal information has been removed. A copy of the written consent is retained by the Journal.

Competing Interests: The authors attest to having no financial or commercial associations that may create conflicts of interest with the information presented in the manuscript.

Authors' Contributions: All authors provided substantial contributions to the conception of the work or interpretation of data for the work; were involved in drafting the work or revising it; gave final approval of the version to be published; and were in agreement 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.

Funding Information: There was no funding associated with this publication.

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