Disseminated Cutaneous Gout Mimicking Calcinosis Cutis: A Rare Clinical Presentation

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A 56-year-old non-alcoholic man presented with multiple firm to hard subcutaneous asymptomatic nodules on metacarpophalangeal (MCP) joints, small finger joints of both hands, bilateral elbows, shin of the tibia, tarsal joints of the bilateral great toes, and left second toe, size ranging from 3 × 2 to 4 × 5 cm. Nodules are firm, mobile, and non-tender, having yellowish-white discoloration in the center [Figures 1 and 2]. On needle extirpation, chalky white content was expressed. The patient is a known case of chronic kidney disease (CKD) for a 5-year duration and has a deranged renal profile on hemodialysis. However, serum uric acid was within the normal limit of 4.9 mg/dl.[1] His blood sugar, triglyceride level, serum parathyroid hormone, calcium, and phosphorous levels were within normal levels. A biopsy was performed with a differential diagnosis of metastatic calcification and gout. Jung *et al.* with their findings, explained that serum urate levels are usually elevated in gout. However, gout can even occur in the absence of hyperuricemia, limiting the diagnostic utility of measuring serum uric acid levels.[1]

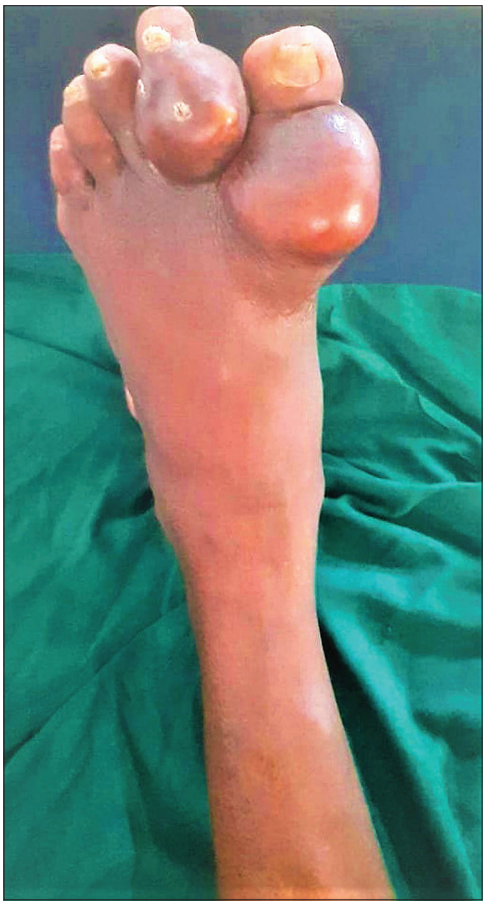

Figure 1: Two firm to hard subcutaneous nodules showing yellowish-white discoloration in the center

Histopathological findings showed thinned-out keratinized stratified squamous epithelium. The dermis showed needle-shaped crystal-forming nodular aggregate and wassurrounded by dense

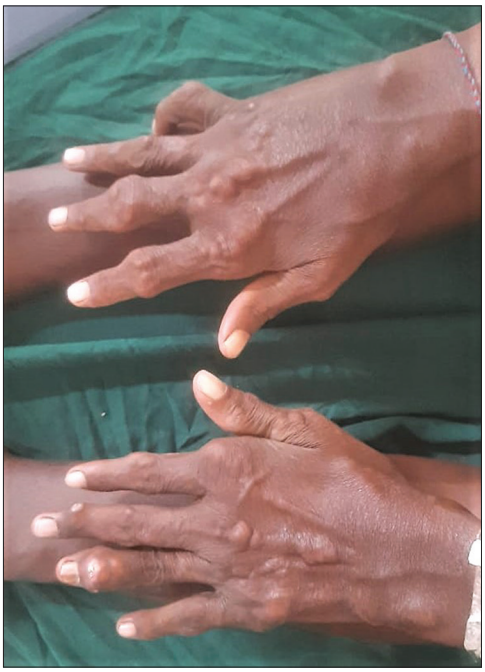

Figure 2: Multiple firm to hard subcutaneous nodules of varying size over small joints of fingers bilaterally, having visible yellowish-white discoloration in the center on distal interphalangeal(DIP) joint of left side ring finger

How to cite this article: Madhual S, Mishra S, Panda M. Disseminated cutaneous gout mimicking calcinosis cutis: A rare clinical presentation. Indian Dermatol Online J 2024;15:174-5.

Received: 01-Jun-2023. **Revised:** 21-Sep-2023. **Accepted:** 01-Oct-2023. **Published:** 22-Dec-2023.

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Access this article online

Website: https://journals.lww.com/idoj

DOI: 10.4103/idoj.idoj_423_23

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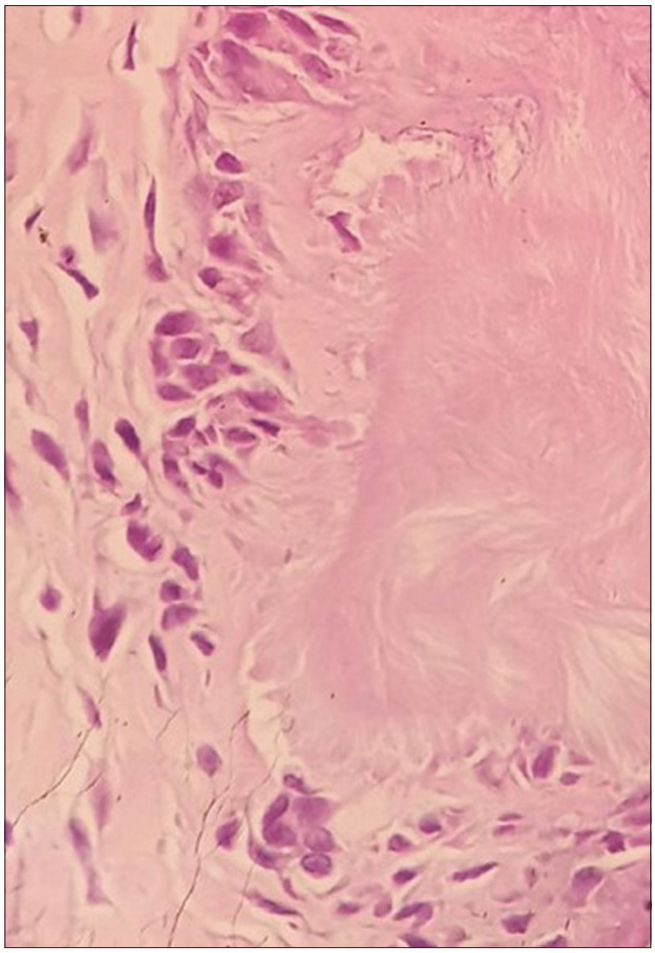

Figure 3: Dermis showing needle-shaped crystal-forming nodular aggregate and is surrounded by dense inflammation comprised of multiple granulomas consisting of histiocytes, lymphocytes, Langhans, and foreign body giant cells (H and E) (10×)

inflammation comprised of multiple granulomas consisting of histiocytes, lymphocytes, Langhans, and foreign body giant cells [Figures 3 and 4]. These findings can be considered confirmatory findings for gout as polarized microscopy could not be performed due to a lack of availability in our setting.

Gout is a common metabolic disorder caused by the deposition of monosodium urate crystal deposition in skin soft tissue and articular and periarticular tissues.[2] Due to abnormal uric acid metabolism, the uric acid crystallizes and gets deposited in synovial spaces, causing recurrent arthritis. Chronic cutaneous gout is characterized by tophi, which is present intradermally and in subcutis. Usually, it includes four clinical stages: asymptomatic hyperuricemia, acute gout, intercritical, and tophaceous gout.[3] Metastatic calcinosis cutis is presented in a similar manner in patients of end-stage renal disease with altered serum calcium and phosphate,[4] but in our case, serum calcium and phosphorus levels were found to be normal, which excluded metastatic calcinosis cutis. Therefore, we are reporting a case of disseminated gout, which can be

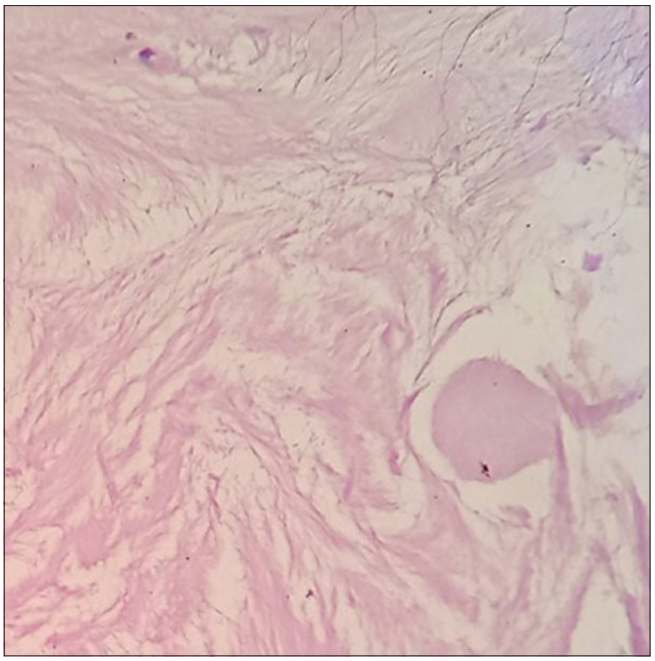

Figure 4: High-power view showing needle-shaped crystals (H & E 40x)

manifested morphologically as calcinosis cutis, which was rarely reported in the literature.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Acknowledgement

This work was supported by IMS and SUM Hospital and the Department of Dermatology for help in collecting images used in this study with a proper consent form.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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