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Atypical Presentation of Calciphylaxis in an African American Male with End-Stage Renal Disease

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Figure 1. Left shin skin lesion in a patient with calciphylaxis. The wound measured 3.6 cm x 3.8 cm and consisted of 3-4 raised, pale, semi-circular, hardened scabbed areas that coalesced without surrounding erythema, purulent exudate, odor, or fluctuance, lacking ulceration or violaceous discoloration typical of calciphylaxis.

CASE REPORT

The patient is a 67-year-old blind African American male residing in a community living

center, presenting with localized pain in the left lower leg. Calciphylaxis classically presents with painful violaceous nodules, livedo reticularis, or ulceration; however, these hallmark features were notably absent

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in this case. His primary concern was a persistent, painful scabbed skin plaque monitored by the wound care team for over two weeks. His medical history included end-stage renal disease (ESRD) requiring hemodialysis, type II diabetes mellitus with peripheral neuropathy, coronary artery disease, atrial fibrillation, chronic hypotension, cirrhosis, and porokeratosis. He received ongoing management for cardiovascular disease and dialysis-dependent renal failure, and porokeratosis was monitored without recent intervention.

On physical examination, a cluster of indurated, scabbed plaques (3.6 × 3.8 cm) was observed on his left shin (**Figure 1**). The lesions were tender and mildly erythematous,

without ulceration, drainage, odor, or systemic infection signs. Due to the lesion's tenderness and persistence, he was started on low-dose oxycodone for pain, discontinued later due to side effects including sedation and hypotension.

Laboratory studies revealed a serum phosphorus level of 6.2 mg/dL and a calcium-phosphorus product of 65 mg²/dL², indicative of mineral dysregulation. His parathyroid hormone (PTH) level was markedly increased at 895 pg/mL. A 7 mm punch biopsy revealed subcutaneous calcification, fat necrosis with a foreign body giant cell reaction, and secondary suppurative inflammation extending into the subcutis. These findings confirmed calciphylaxis,

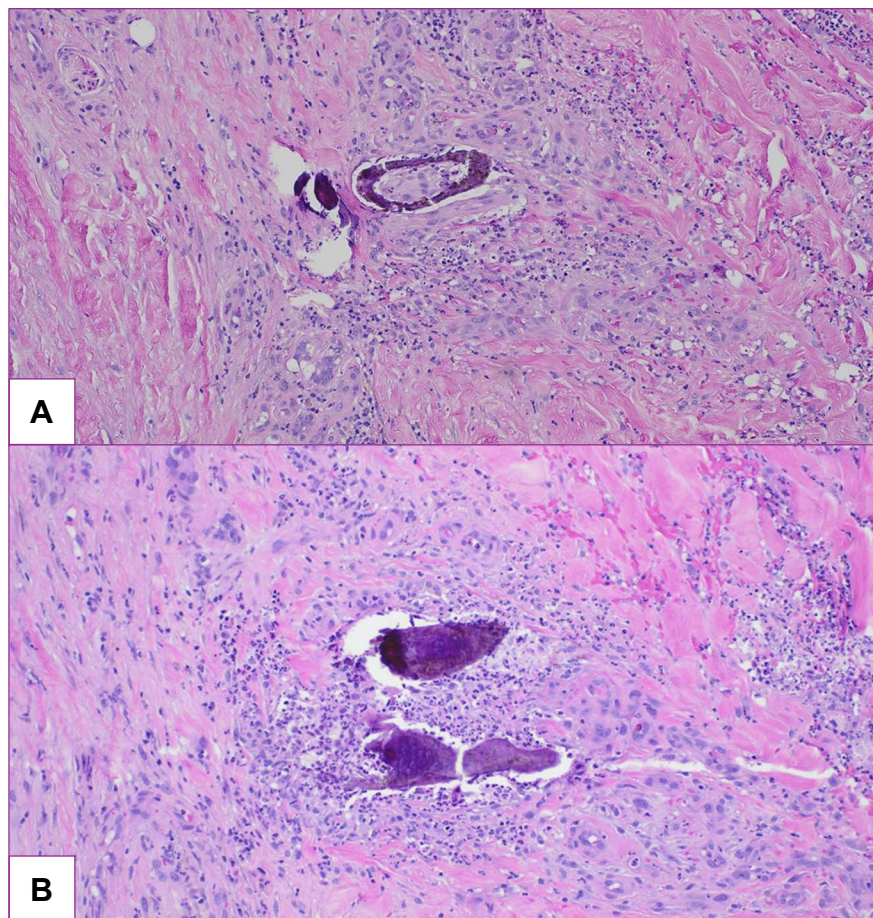


Figure 2A, B. Hematoxylin and eosin (H&E) staining of the punch biopsy showing medial calcification in blood vessels (red arrows), a diagnostic histopathologic feature of calciphylaxis.

despite the atypical presentation (**Figure 2**). Wound cultures grew methicillin-susceptible *Staphylococcus aureus*, and he was started on a 10-day course of cefadroxil.

Management was intentionally conservative due to his significant hemodynamic instability and overall medical fragility. A multidisciplinary team involving nephrology, wound care, dermatology, surgery, and palliative care was involved. Intensification of dialysis was avoided due to his chronic hypotension and poor tolerance. Sodium thiosulfate was not administered due to concerns for further hemodynamic compromise and limited anticipated benefit. Pain management transitioned to scheduled acetaminophen, topical diclofenac gel four times daily, and additional as-needed acetaminophen for breakthrough pain. Regular wound care continued under guidance of a specialized nurse.

The lesion remained moist without eschar formation, gradually debrided through autolysis, and showed granulation, contraction, and epithelialization. It was fully resurfaced with maturing scar tissue. The patient passed away related to his other comorbidities.

DISCUSSION

This case emphasizes diagnostic uncertainty in atypical calciphylaxis. The absence of classic features such as violaceous nodules or ulceration delayed diagnosis.¹⁻³ Histopathological confirmation was crucial. Calciphylaxis remains underrepresented in the literature with respect to clinical morphology in patients with darker skin types, which may contribute to delayed recognition in these populations. While surgery and pharmacologic interventions like sodium

thiosulfate are often considered, the patient's hemodynamic status necessitated a conservative approach. Multidisciplinary coordination was vital for addressing pain, wound care, and metabolic management.

CONCLUSION

Clinicians should maintain high suspicion for calciphylaxis even with atypical lesions, particularly in high-risk patients. Histopathology remains essential for definitive diagnosis in ambiguous presentations.⁴ Culturally and racially inclusive diagnostic criteria may improve recognition in underrepresented populations.

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