

Calcific Uremic Arteriopathy After 22 Years on Hemodialysis Leading to a Fatal End

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[Supplemental Video](#)

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Introduction: Calcific uremic arteriopathy (CUA), also known as calciphylaxis, is a very rare but life-threatening condition mainly occurring in patients with end-stage renal disease (ESRD) on hemodialysis (HD). Skin lesions among patients with calciphylaxis result from reductions in the arteriolar blood flow. Reduced blood flow is caused by calcification, fibrosis, and thrombus formation primarily involving the dermo-hypodermic arterioles. Ulcerating skin lesions are suggestive of advanced severe disease. Treatment consists of intensive hemodialysis (>20 h per week), sodium thiosulfate, wound care including debridement, and limb amputation.

Case Presentation: We present a 72-year-old female with PMH of HTN, HFpEF, ACD, ESRD on HD for the past 22 years, bilateral lower extremity calciphylaxis on sodium bisulfate treatment post-dialysis for the past several months, who presented with excruciatingly painful malodorous black, leathery eschar-like weeping lesions on bilateral distal lower extremities.

Labs showed WBC 13.6, Hb 8.4, phosphorus 6.0, Creatinine 5.7, BUN 63, K 5.3, lactate 2.2

Bilateral LE X-rays revealed generalized soft tissue swelling with extensive vascular calcification.

Diagnosis: Patient was diagnosed with severe bilateral lower extremity calciphylaxis with bilateral lower extremity cellulitis, bilateral lower extremity deep venous thrombosis seen on US Doppler, mineral bone disorder with hyperphosphatemia and anemia of chronic kidney disease. TTE revealed EF 76%, severe TR, MR and AS.

Management: Unfortunately, patient could not be resumed on HD due to very low BP. Wound debridement and bilateral above the knee amputations were offered but patient chose palliative management. Sadly, patient passed away 6 days after admission.

Conclusion: Calciphylaxis is a fatal complication in ESRD patients on prolonged HD. CUA has high morbidity and an estimated six-month mortality of 50 percent. Features associated with worse prognosis include advanced disease, proximal ischemic and necrotic lesions in the skin and soft tissues, and presence of cardiovascular disease.

Learning Objectives

1. Calcific uremic arteriopathy (CUA), also known as calciphylaxis, is a very rare but life-threatening condition mainly occurring in patients with end-stage renal disease (ESRD) on hemodialysis (HD).
2. Skin lesions among patients with calciphylaxis result from reductions in the arteriolar blood flow.
3. Treatment consists of intensive hemodialysis (>20 h per week), sodium thiosulfate, wound care including debridement, and limb amputation.