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Calciphylaxis Diagnosed on Skin Biopsy in a Patient With Left Posterior Tibial Artery Stenosis

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An 84-year-old woman was admitted to identify the cause of painful skin ulceration of the left lower leg. She was under hemodialysis due to end-stage renal disease (ESRD) caused by nephrosclerosis (**Figure A**). She had been medicated with warfarin because of aortic valve replacement. Enhanced computed tomography showed stenosis of the left posterior tibial artery (**Figure B**). Laboratory data indicated mild anemia, hypoalbuminemia, hypercalcemia (adjusted calcium level, 11.1 mg/dL), and hypophosphatemia (phosphate, 1.7 mg/dL), with hyperparathyroidism (intact parathyroid hormone, 74.9 pg/mL). Skin perfusion pressure (SPP) was normal. Skin biopsy indicated severe stenosis of the small arteries with medial calcification compatible with calciphylaxis (**Figure C**,**D**). Subsequent debridement followed by a skin graft improved the ulceration in addition to treatment with alfacalcidol (0.25 μg/day) and cinacalcet (12.5 mg/day; **Figure E**), and no calciphylaxis occurred over the 3-year follow-up period.

Calciphylaxis is a rare and often fatal complication of ESRD that is characterized by painful skin ulceration and necrosis. Arteriosclerosis obliterans (ASO) is a frequent complication of ESRD, and it is also one of the causes of leg ulceration. In patients with leg skin ulcers who have both calciphylaxis and ASO, and in those with risk factors for the development of calciphylaxis, such as in patients on chronic hemodialysis, that is, warfarin and lower serum albumin,[1] SPP and skin biopsy may help to diagnose the cause of leg ulceration.

Disclosures

The authors declare no conflicts of interest.

Reference

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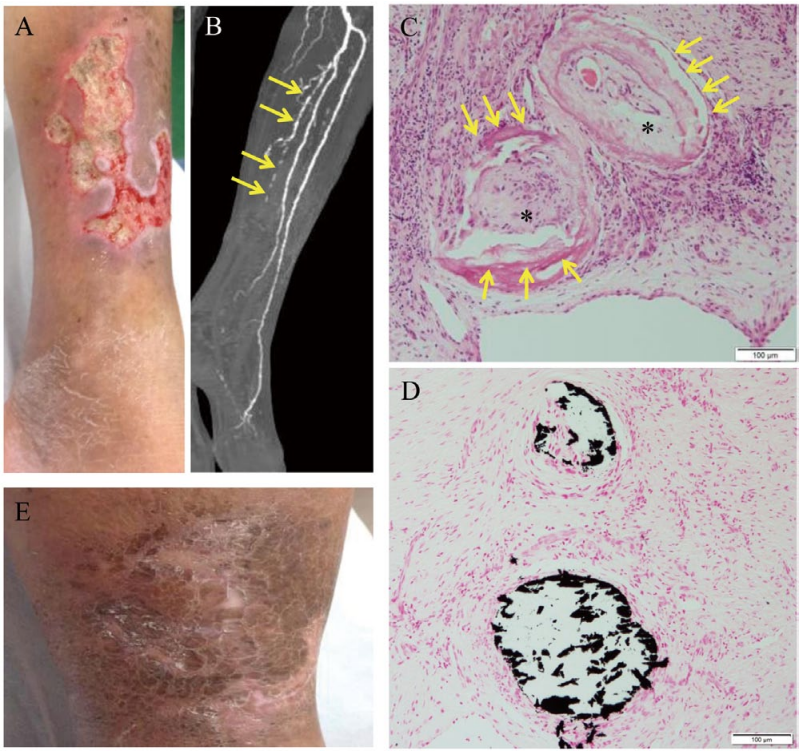

Figure. (**A**) Skin ulceration of the anterior left lower leg is evident upon admission. (**B**) Enhanced computed tomography shows stenosis of the left posterior tibial artery (arrows). (**C**,**D**) Pathology of skin biopsy, showing (**C**) severe stenosis of the small dermal arteries with intimal thickening (*) and medial calcification (arrows; **D**, von Kossa staining), compatible with calciphylaxis (scale bars, 100 μm). (**E**) Ulceration is improved after skin graft.