Nodular Lesions on the Hands of an ESKD Patient on Hemodialysis

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Case Description
This case describes a 39-year-old man with ESKD secondary to lupus nephritis, who had been on hemodialysis for 6 years. He also had total parathyroidectomy 2 years ago for severe secondary hyperparathyroidism and received a stable dose of calcitriol 0.5 μg/d and calcium carbonate 4.5 g/d in divided doses since then. During a regular review, he complained of multiple nontender nodules along the side of his fingers. Physical examination showed multiple nontender nodules along the side of his fingers. He had been on calcium and vitamin D replacement. Over-replacement can occur, leading to a positive calcium balance and subsequent promotion of calcifications. The dosages of calcitriol and calcium carbonate were thus down-titrated to achieve a plasma calcium level 8.0–8.8 mg/dl. The patient was further educated regarding the nature of the nodules and reminded of the importance of a low phosphate and calcium diet. Upon review in the clinic 4 months later, his plasma calcium level was 8.9 mg/dl and his plasma phosphate level was 6.5 mg/dl. He was asymptomatic, but the finger nodules remained unchanged. Given the patient is asymptomatic throughout, we did not use sodium thiosulfate, which may be a therapeutic option for severe metastatic calcifications (3, 4). Calcific uremic arteriolopathy remains a possibility, although the location of the lesions and the absence of pain makes it less likely.

Teaching Points

- Over-replacement of calcium and vitamin D is often overlooked as a cause of metastatic calcinosis cutis in ESKD patients with parathyroidectomy.
- Compared with calcinosis cutis, which usually presents as painless calcified nodules, calcific uremic arteriolopathy is characterized by areas of excruciatingly painful ischemic necrosis and violaceous plaque-like subcutaneous nodules or ulcers with eschars.
- Lesions of calcific uremic arteriolopathy also tend to develop in areas with greatest adiposity, such as the trunk and lower extremities (e.g., thigh), while calcinosis cutis tends to occur at periarticular sites.

Disclosures
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**Author Contributions**
W. Fung conceptualized the study, was responsible for data curation and wrote the original draft; C-C. Szeto provided supervision; and all authors reviewed and edited the manuscript.

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![Figure 1.](image)

**Figure 1.** Clinical photo and plain X ray of the patient’s hand. (A) Multiple nodules are observed on the patient’s palms and fingers. (B) Plain roentgenogram of the hands reveals calcified digital arteries and multiple nodular calcifications along the blood vessels.