An unusual area for calciphylaxis in a critically ill patient

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Case presentation

A 53-year-old gentleman with history of end-stage renal disease (ESRD) secondary to hypertension followed by a gunshot wound to the left flank region, presented to the hospital with complaints of fever, chills and severe pain in the groin area. In the emergency department he was found to have a blood pressure (BP) of 70/40 mmHg, heart rate (HR) of 130/min, respiratory rate (RR) 22/min and a temperature of 38 °C. The rest of his physical examination was significant for a toxic-appearing gentleman in mild distress. Lungs were clear to auscultation and percussion. His heart sounds were distant, but had normal characteristics and no murmurs were auscultated. His abdomen was soft, non-tender, non-distended with active bowel sounds and no hepato-splenomegaly. His penis was depicted in the **Figure 1**. The patient underwent blood cultures, which were positive for gram-positive cocci in pairs and chain. The patient was then admitted to the intensive care unit (ICU). Upon arrival to the ICU and after receiving 1000 cc of 0.9% physiologic solutions, his BP was 100/60 mmHg, HR 100/min and RR 18/min. The patient indicated that the changes depicted in **Figure 1** had started months prior to his admission, when he was involved in a motor vehicle accident in which he endured trauma to his penis. The distribution of dry gangrene was uncommon given the diffuse nature of trauma. The patient denied any acute symptoms following the incident, but gradually developed pain over his penis, which later turned to constant itching. Staphylococcus aureus was grown off a penile swab and a penile radiograph showed significant calcification in the small vessels. The urology service was consulted and provided the diagnosis of calciphylaxis of the penis. The recommendation by urology was surgical removal of the penis. However, the patient refused such intervention. Over the next 24 hours the patient was transferred to the ward and 3 days later was discharged home to follow up with his primary care physician.

Arterial calcification is commonly observed in patients with chronic renal insufficiency. "Calciphylaxis" was introduced as a term by Selye in 1962 to describe metastatic calcifications in animal models. A more precise term, “calcific uremic arteriolopathy” is nowadays used instead of calciphylaxis. The exact cause of this condition remains unknown.

Key words: Calciphylaxis, calcific uremic arteriolopathy, sepsis, end-stage renal disease, penile lesions.

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Figure 1. Penile calciphylaxis (calcific uremic arteriolopathy)