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Penile gangrene in a chronic dialysis patient

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Case

A 65-year-old man presented with right arm pain after falling over. He had end-stage renal disease secondary to type II diabetes mellitus and had required haemodialysis for 1 year. Plain-film radiographs of the right arm showed a right humeral neck fracture. Urine retention due to benign prostate hypertrophy was noted after admission and relieved by a Foley catheter. However, necrotic distal glans penis and purulent discharge from the urethral orifice developed 4 days later and progressed (Figure 1). The culture results of the purulent discharge showed *Proteus mirabilis* and *Pseudomonas aeruginosa*. A non-contrast computed tomographic (CT) scan of the pelvis demonstrated calcification of the bilateral penile artery (Figure 2). His serum calcium and phosphate were 8.5 mg/dl and 7.7 mg/dl, respectively. Partial penile resection was performed to stem the progression of gangrene. Unfortunately, he died of overwhelming sepsis 5 days after the operation.

Fig. 1. Distal penile gangrene with ulceration of urethral orifice.

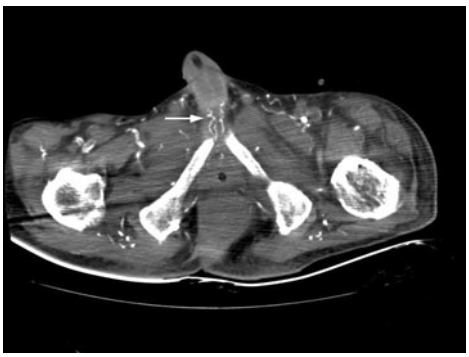

Fig. 2. Non-contrast CT scan showing bilateral penile artery calcification (arrow).

Comments

Penile gangrene is a rare but severe complication of end-stage renal disease, characterized by calcification of small- and medium-sized vessels and leading to mortality in 64% of cases [1]. Most cases are associated with diabetes mellitus, hyperparathyroidism and calciphylaxis, which would interfere with flow to the distal region and cause skin necrosis. In this case, calcium phosphate production was up to 65 mg^2/dl^2 and vascular calcification was also confirmed by CT image. Meanwhile, Foley catheter retention might have further decreased blood flow to the penile artery and subsequently facilitated distal penile gangrene. Although surgical intervention is reported to provide a better quality of life [2], neither

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partial nor total penectomy can decrease mortality [1]. Because of the high co-morbidity and mortality of penile gangrene, we should be alert to its occurrence.

Conflict of interest statement. None declared.

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