

## CLINICAL IMAGES

## *Pseudomonas* infection in a postoperative foot wound

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Figure 1: (A) Green discoloration of a postoperative wound in a 57-year-old man with type 2 diabetes mellitus three weeks after amputation of a gangrenous big toe. (B) Green debris removed from the wound. (C) The wound is ready for grafting after six months of comprehensive wound care and antimicrobial treatment.

A 57-year-old man with type 2 diabetes mellitus of 20 years' duration presented three weeks after amputation of a gangrenous big toe with a large nonhealing, infected foot wound at the surgical site. The wound had increased in size within days and had become infected despite regular professional foot care. He had been prescribed oral amoxicillin–clavulanate for 10 days, followed by oral ciprofloxacin for another 10 days. The patient took insulin twice daily but had poor diabetes control, with a hemoglobin A<sub>1c</sub> level of 8.5% (normal 3.3%–6.4%). He had no previous ulceration and his only known comorbidity was well-controlled hypertension.

On examination, his peripheral pulses were weak and he had a severe loss of foot sensation bilaterally. The wound base had substantial green discoloration (Figure 1A, B) associated with a sweet smell presumptive of *Pseudomonas aeruginosa* infection. Quantitative deep tissue and bone cultures grew *P. aeruginosa* and methicillin-resistant *Staphylococcus aureus* strains. The green discoloration disappeared after one month of parenteral antibiotics, including vancomycin and imipenem, and topical silver-impregnated dressings. Antimicrobial treatment continued until wound cultures grew no more pathogens. Subsequently, the wound became appropriate for skin grafting six months after admission (Figure

1C), and the patient was able to walk three weeks after the procedure. Nine months later, he had a small (3 × 2 cm) noninfected wound overlying the graft and was still ambulatory.

Patients with poorly controlled diabetes complicated by peripheral neuropathy or peripheral arterial disease are at increased risk for postoperative infection.<sup>1,2</sup> *S. aureus* is the most frequently cultured micro-organism, and *P. aeruginosa* is among the most prevalent gram-negative organisms isolated from diabetic foot wounds.<sup>3</sup> The classic occurrence of green discoloration results from several pigments secreted by *P. aeruginosa*. Because *P. aeruginosa* has a predilection for growth in moist environments, comprehensive wound care avoiding soaking and maceration is essential, along with intensive antimicrobial therapy.<sup>4</sup>

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