

Section: SURGERY

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Photodynamic therapy for osteomyelitis in diabetic foot: a case series

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INTRODUCTION: Type 2 diabetes mellitus (T2DM) affects approximately 10% of the Brazilian population. Diabetic foot is characterized by ulcers that may progress to osteomyelitis and, in many cases, require amputation. Photodynamic therapy (PDT) uses photosensitizing agents and LED light to generate reactive oxygen species that destroy bacteria without a risk of resistance. This reduces the infected area and offers a less invasive alternative to amputation. **METHODS:** This prospective, nonrandomized, uncontrolled study assessed PDT outcomes in the treatment of osteomyelitis among eight patients with diabetic foot ulcers treated at a university hospital. **RESULTS:** Patients had lesions of different etiologies, including fistulas, penetrating trauma, and burns with bone involvement. PDT was initiated after failure of prolonged antibiotic therapy or as part of initial treatment. Clinical and radiographic follow-up showed complete healing in five patients and partial improvement in three, with no signs of active infection. **DISCUSSION:** This case series demonstrates that PDT is an effective and safe alternative for treating osteomyelitis associated with diabetic foot, particularly infections caused by multidrug-resistant microorganisms. PDT promotes bacterial destruction without inducing resistance, favoring healing and reducing the need for amputations. Of the eight patients treated, five achieved complete healing and three showed substantial improvement. **CONCLUSION:** PDT effectively reduced the infectious burden and promoted tissue healing. These findings reinforce the feasibility of PDT as an adjunct to conventional antibiotic therapy.

KEYWORDS: Photodynamic therapy; Osteomyelitis; Diabetic foot; Amputation; Diabetes mellitus; DM