

Section: SURGERY

Abstract: CIR-01

Photodynamic therapy for the treatment of Osteomyelitis in the Diabetic Foot: A case series

Sofia Torres Velloso, Gustavo Lolli, Lais de Barros Glaeser, João Antonio Correa, Luciene do Nascimento Lima

Centro Universitário FMABC, Santo André, Brazil

sofia.velloso@aluno.fmabc.net

INTRODUCTION: Type 2 Diabetes Mellitus is a highly prevalent disease, with severe complications such as diabetic foot, which is characterized by the formation of ulcers, neuropathy, and vascular alterations that can become infected and progress to osteomyelitis. This condition may require amputation due to limitations in the management of microorganisms resistant to antibiotic therapy. Thus, photodynamic therapy (PDT) emerges as a promising approach, using photosensitizing agents and LED light to generate reactive oxygen species that destroy bacteria without the risk of resistance. Studies indicate that PDT is effective in reducing the infected area and promoting tissue recovery, offering a less invasive and more efficient alternative compared to amputations. This study aims to evaluate the results of PDT in the treatment of osteomyelitis in advanced cases of diabetic foot, highlighting its potential to preserve limbs and improve patient prognosis. **METHODS:** Prospective study evaluating the results of PDT in the treatment of osteomyelitis in patients at the university's hospital. Data collection was performed through the analysis of patients' medical records and photographic records of the treatment evolution. **RESULTS:** The study evaluated 16 patients with diabetic foot osteomyelitis, with 75% men and a mean age of 59 years. All were patients with diabetes mellitus, most of them insulin-dependent. Adjunctive PDT was performed in an average of 5.25 sessions. Complete healing was observed in 93.75% of the cases, and only 6.25% progressed to major amputation. The healing time varied widely, and the most frequent site of osteomyelitis was the hallux. Only one patient did not have complete preservation of the affected limb, reinforcing the low rate of unfavorable outcomes in the study. **DISCUSSION:** The results demonstrated high rates of healing and limb preservation in patients with diabetic foot osteomyelitis treated with adjunctive photodynamic therapy. These findings reinforce the potential of PDT as a complementary strategy in the management of these infections, especially in cases with a high risk of amputation. **CONCLUSION:** Adjunctive photodynamic therapy proved to be a promising approach in the treatment of diabetic foot osteomyelitis, presenting high rates of healing, improvement of osteomyelitis, and limb preservation.

KEYWORDS: Photodynamic therapy; Osteomyelitis; Diabetic foot; Amputation.