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Advanced surgical salvage therapy for infected diabetic feet

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ABSTRACT

Introduction: Foot infections are common among diabetic patients with peripheral neuropathy and/or peripheral arterial disease and may be the main factor that leads to major or minor lower-extremity amputation. Most deep infections in diabetic feet are preceded by an unnoticed lesion with local penetration of pathogens into deeper tissues. Knowledge of critical issues for diabetic foot management, such as ischemia, wound-healing principles, immunology and microbiology, has changed the traditional approach to the diabetic foot and has led to new advances. The application of tissue engineering, biomedicine and biotechnology with corrective and instrumental surgical techniques for the management of this disease has become an emerging field with demonstrable advantages. This study provides an updated overview of the orthopedic management for extremity salvage of the diabetic foot with deep infection.

Methods: Nine patients (10 feet), 7 men and 2 women, whose mean age at hospital admission was 53 years (ranging from 34 to 72), were evaluated retrospectively after salvage therapy of the extremities. We considered the functional clinical outcome good when the patient was able to wear shoes for insensitive feet, acceptable when the patient had residual deformity requiring custom-made orthosis and poor when the patient required extremity amputation.

Results: After a mean follow-up of 6 months (ranging from 4 to 14), an average of 7 surgical procedures were performed (ranging from 2 to 23), including angioplasty in 5 patients and amputation at the level of the Lisfranc joint in one patient. Outcomes were good in 9 feet and acceptable in one foot with braceable residual deformity.

Conclusion: We believe that an aggressive approach and the use of new technology has numerous attributes that can help to salvage the extremities of seriously ill patients.

Keywords: Diabetic foot ulcer; Topical antibiotics; Diabetic foot infection.