

Limb Preserving Surgical Treatment of Osteomyelitis in the Foot

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Introduction/Purpose: Osteomyelitis of the foot and ankle is a challenging problem. In the literature the outcome of limb preserving surgical treatment is characterized by a high percentage of osteomyelitis recurrence and revision surgery. The aim of this study was to evaluate the outcome of limb preserving surgery of osteomyelitis in the foot.

Methods: From 2013 to 2015 42 patients with a mean age of 66 years underwent surgical treatment of osteomyelitis in the foot. Patients who were treated with amputations were excluded from the study. In all patients initial surgery with debridement, bone resection, bone biopsy, jet lavage and gentamycin inlay was performed. Depending on the clinical findings revision surgery and finally resection arthroplasty or arthrodesis followed. All patients had an antibiotic treatment for 6 weeks. The location of the osteomyelitis, the applied surgical procedure, the number of surgical procedures, the number of postoperative complications, the recurrence rate of osteomyelitis, the recurrence rate of foot ulceration and the histological findings were documented.

Results: Forty-two patients (28 diabetics) were included in the study. The mean follow up was 19.7 months. The location of osteomyelitis showed the following distribution: minor toes (24%), great toe (19%), metatarsals (33%), midfoot (13%), hindfoot (11%). Twenty-six patients showed a foot ulceration. Bone biopsy confirmed chronic osteomyelitis in 28, acute osteomyelitis in 7 patients. After control of wound infection surgery consisted of a resection arthroplasty in 14 patients, an arthrodesis in 12 patients. The mean number of surgical procedures was 3. The complication rate was 14.2%. Osteomyelitis recurrence was found in 4 patients. Patients treated with a resection arthroplasty showed no ulcer recurrence however in 50% of the patients who had been treated with a MTP1 or IP 1 arthrodesis a recurrent ulcer was seen ($p < 0.05$).

Conclusion: Limb preserving surgical treatment of osteomyelitis in the foot shows a high complication rate. Resection arthroplasty of the forefoot in comparison to arthrodesis provides significantly better results with less ulcer recurrence .

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