



LOCAL USE OF ANTIBIOTIC BEADS FOR THE TREATMENT OF FOOT OSTEOMYELITIS IN PATIENTS WITH TYPE 2 DIABETES

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Introduction: Diabetic foot osteomyelitis (DFO) is one of the most common causes of hospitalization and may lead to lower-extremity amputation. Optimal management of DFO plays a key role in patient prognosis. We evaluated the utility of combined topical and systemic antibiotic treatment in the management of DFO in type 2 diabetes.

Materials/methods: Patients with DFO hospitalized in the Second Department of Internal Medicine and in the Orthopedic Department were recorded for a period of 4 years. In this population, local antibiotic delivery systems (calcium sulphate beads with gentamicin, HERAFILL[®]) were used in combination with surgical debridement and systemic antibiotic therapy.

Patients were regularly followed up in the Outpatient Clinic of Diabetic Foot, Orthopedic Outpatient Clinic and Outpatient Clinic of Infectious Diseases.



Figure 1. 76-year-old male with DFO at 5th metatarsal, postoperatively and after operation with HERAFILL beads placement .

Results: Twelve (7 males) type 2 diabetic patients with an average age of 58 years developed DFO, most frequently localized in the forefoot.

These were admitted with fever and soft tissue infection. DFO was documented by imaging studies (X-rays and Magnetic Resonance Imaging). Blood cultures and tissue cultures from the infected areas were collected. The most frequent (80%) pathogen was Staphylococcus Aureus (MRSA). All patients were subjected to surgical debridement of the affected bone. Intra-operatively, calcium sulfate beads with gentamicin (HERAFILL[®]) were placed.

Post-operatively, patients received intravenous and oral antibiotic treatment until clinical and microbiological remission. During the follow up, none of the twelve patients experienced a relapse.



Figure 2. 65-year-old male with DFO at 4th metatarsal, post- intra- and after-operation, with HERAFILL BEADS placement.

Conclusion: The use of local antibiotic delivery system is a promising modality that needs to be further considered in the treatment of DFO in patients with type 2 diabetes.



Figure 3. 69-year-old female with DFO at heel, post- intra- and after-operation, with HERAFILL BEADS placement.