



TREATMENT OF CHRONIC OSTEOMYELITIS WITH AN ABSORBABLE GENTAMYCIN-LOADED BIOCOMPOSITE: A RETROSPECTIVE CONSECUTIVE SERIES OF 97 CASES

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Aim

Chronic osteomyelitis (OM) is usually treated with surgical excision of infected bone and subsequent dead space management to prevent local recurrence. We report outcome after antibiotic loaded biocomposite (ALB) for management of infected bone defects.

Method

We report a consecutive series of 97 patients with chronic OM treated at one institution by a multidisciplinary team, using a single-stage revision protocol inspired by a recently published study.

The treatment protocol includes surgical debridement, tissue sampling, dead-space management using the ALB, stabilization and empirical antibiotic therapy adjusted based on culturing. Closure was performed directly, with a local flap, a free flap or secondarily.

This series includes all patients operated using the ALB at our institution, since its implementation 26 months ago. The senior author (HG) performed 65 (67%) of the operations. The remaining procedures were performed by 14 different surgeons.

Results

Mean age was 66.2 years (26 to 92). In 41 patients, OM followed an overlying soft-tissue infection, 30 followed surgical management of a closed fracture in the affected bone, 18 followed elective surgical procedures in the area, 5 followed open fractures of the affected bone, 2 were spontaneous following bacteremia and 1 patient had previously been diagnosed with OM in the affected bone.

Seventy one (73,2%) of the included patients had systemic comorbidities (Cierny-Mader Class B hosts), thirty eight were diabetics, twenty-three were active smokers and twenty-five had a past history of smoking, fourteen consumed alcohol in quantities constituting alcohol abuse and 9 had a previous history of alcohol abuse.

Patients were followed-up by chart review for a mean of 5.8 months (0 to 25). Twelve patients required a soft-tissue revision after a mean time of 2.2 months (0 to 12). Eleven patients required bone revision after a mean time of 3.4 months (0 to 10) where the ALB was re-applied in nine cases. Six patients required amputation after a mean time of 3.2 months (0 to 12). Two patients died after a 1 and 5 months respectively. Seventy patients (73%) had no adverse events following surgery.

Conclusions

An acceptable outcome was obtained considering a heterogeneous population with a high comorbidity rate and considerable smoking and alcohol abuse.