Antibiotic Impregnated Cement Spacer for Salvage of Diabetic Osteomyelitis
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**Summary:** Severe infection associated with osteomyelitis of the foot in diabetic patients was successfully treated with extensive debridement and use of ACS, which filled the void created by debridement. This procedure allowed avoidance of amputation in diabetic patients for whom amputation was indicated based on current practice.

**Background:** Florid infection and osteomyelitis of the forefoot in patients with diabetic neuropathy often requires minor amputation, with risk of subsequent reulceration and reamputation in addition to patient dissatisfaction. The extensive debridement necessary for salvage may create large dead space and loose soft tissue that may lead to failure. An antibiotic-impregnated cement spacer (ACS) can fill the cavity created by debridement, stabilize the tissues, and release antibiotic locally to resolve residual infection. This report summarizes our experience with a cohort of our first twenty patients with diabetic forefoot infections and osteomyelitis.

**Methods:** The current study includes 23 cases, or sites of infection, of osteomyelitis and associated severe infection involving 9 lesser metatarsal heads, 7 first metatarsophalangeal joints, 5 hallucal interphalangeal joints, and 2 proximal interphalangeal joints in 20 consecutive patients, age 60.3±13.4 years. Cement impregnated with gentamycin was used in all cases. Vancomycin was added in 9 cases and amikacin in 1 case. Extensive meticulous debridement and ACS placement to fill the gap were employed in all cases. Deep cultures were taken routinely. Fixation with multiple Kirschner wires was used as necessary. Mean follow-up was 21.2±10.2 months.

**Results:** Of 23 cases, 21 (91.3%) healed and 2 required toe amputation. The ACS was left permanently in 10 patients, removed with arthrodesis in 6, and removed without arthrodesis in 5. One patient recovered but subsequently underwent amputation below the knee due to infection of a different site.

**Conclusions:** Severe infection associated with osteomyelitis of the foot in diabetic patients was successfully treated with extensive debridement and use of ACS, which filled the void created by debridement. This procedure allowed avoidance of amputation in diabetic patients for whom amputation was indicated based on current practice.