

A new method of treating patients with diabetic foot ulcers and osteomyelitis using antibiotic impregnated calcium sulphate

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Background: Osteomyelitis can be limb and life threatening and have devastating consequences. It can be managed medically or surgically. Antibiotics can be locally delivered using methyl methacrylate or impregnated absorbable gauze. Calcium sulphate-based antibiotic therapy allows high concentration local delivery of a combination of antibiotics. Diabetic patients are predisposed to infection with a varied and complex microbial load.

Aim(s)/Objective(s): To establish the outcomes of patients with diabetic foot ulcers and osteomyelitis treated with calcium sulphate (Stimulan) and antibiotics.

Method(s): Retrospective data collection of patients treated with stimulan for osteomyelitis of the foot treated by 2 consultants at Wirral University Teaching Hospital Trust between March 2014 and December 2015. Clinic documentation, MDT outcome and imaging were reviewed.

Results: 49 patients treated. Vancomycin 1 g in stimulan in 7 patients and 42 with vancomycin and gentamicin 240mg. 38/49 forefoot, 9/49 hindfoot and 2/49 midfoot. A multitude of organisms were identified including staphylococcus

aureus, citrobacter, pseudomonas, haemolytic streptococcus, e. coli and enterococcus. All patients were discussed at MDT. Patients received augmentin and the antibiotics were changed based on microbiology results. 86% (42/49) had no further surgery within 6 months. 14% (7/49) patients went on to have further surgery linked to their initial procedure.

Follow up 6 months – 24 months.

Discussion and/or Conclusion(s): In our experience, antibiotic loaded stimulan provides safe and effective local delivery of high concentration antibiotics in the presence of osteomyelitis reducing the need for more extensive surgery in a compliant patient.