

## **THE USE OF CALCIUM SULPHATE BIO COMPOSITE WITH ANTIBIOTICS FOR INFECTED LOWER LIMB METALWORK**

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We describe a case series using calcium sulphate bio composite with antibiotics (Cerament/Stimulan) in treating infected metalwork in the lower limb.

Eight patients aged 22–74 (7 males, 1 female) presented with clinical evidence of infected limb metal work from previous orthopaedic surgery. Metal work removal with application of either cerament in 5 cases (10–20ml including 175mg–350mg gentamycin) or stimulan in 3 cases (10–20ml including either 1g vancomycin or clindamycin 1.2g or 100mg tigecycline) into the site was performed. Supplemental systemic antibiotic therapy (oral/intravenous) was instituted based on intraoperative tissue culture and sensitivity.

Four patients had infected ankle metalwork, 2 patients infected distal tibial metalwork and 2 had infected external fixators. Metal work was removed in all cases. The mean pre operative CRP was 15.8mg/l (range 1–56mg/l). The mean postoperative CRP at 1 month was 20.5mg/l (range 2–98mg/l). The mean pre op WCC was  $7.9 \times 10^9$  (range 4.7–10.5  $\times 10^9$ ). Mean post op WCC at 1 month was  $7.1 \times 10^9$  (range 5.0–9.2  $\times 10^9$ ). The organisms cultured included enterobacter, staphylococcus aureus, staphylococcus epidermidis, staphylococcus cohnii, stenotrophomonas, acinetobacter, group B streptococcus, enterococcus and escherichia coli. No additional procedures were required in any case. All surgical wounds went on to heal uneventfully. Infection control and union was achieved both clinically and radiologically in all cases.

Our results support the use of a calcium sulphate bio composite with antibiotic as an adjuvant for effective local infection control in cases with implant related bone sepsis. The technique is well tolerated with no systemic or local side effects. We believe that implant removal, debridement and local antibiotic delivery can minimise the need for prolonged systemic antibiotic therapy in such cases.