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Programme and Abstracts



DFSG Secretariat

Nordre Fasanvej 113, 2nd floor
2000 Frederiksberg
Denmark
Tel.: +45 70 20 03 05

dfsg@dfsg.org
www.dfsg.org

[P034] LOCAL DELIVERY OF ANTIBIOTICS VIA HIGHLY PURIFIED CALCIUM SULPHATE BEADS AS AN ADJUNCT TO SURGICAL DEBRIDEMENT IN THE ACUTE MANAGEMENT OF DIABETIC FOOT OSTEOMYELITIS

Michael Pierides¹, Alexandros Leonidas Liarakos¹

¹Kettering General Hospital, Kettering, United Kingdom

Aim: Is there a role for the use of a local delivery device of antibiotics (LDDA) alongside acute surgical debridement to treat cases of septic patients with acute diabetic foot osteomyelitis (OM)? The use of antibiotics delivered directly into the bone in treating diabetic foot osteomyelitis has been described successfully in case series by a variety of authors eg Jogleja *et al* (2015) and Gauland (2011) but these cases are in chronic/subacute OM and the patients were not admitted as an emergency.

Method: 5 patients underwent acute surgical debridement following an acute admission. The LDDA consists of highly purified synthetic (HPS) calcium sulphate and it was mixed with 1g Vancomycin and 80mg Gentamicin. The operations were carried out by either a vascular surgeon and/or an orthopaedic surgeon with a special interest in diabetic foot disease and who are a formal part of the regional diabetic foot MDT of northamptonshire. The data collection included clinic letters, NHS primary care software database (system1) and individual patient hospital records.

Results / Discussion: All patients had confirmed osteomyelitis with either MRI and/or bone samples. The site of OM and the ulcer varied. 2 patients: hallux and 1st metatarsophalangeal joint, 2 patients: plantar area on a background of chronic charcot deformity and one patient with calcaneal OM. All patients deteriorated requiring an emergency admission despite being on appropriate oral or intravenous antibiotics (2 patients for 3 weeks, 1 patient for 19 weeks, 1 patient for 38 weeks and 1 patient on/off antibiotics for 44 weeks) as well as offloading and vascular optimisation. 4 out of the 5 patients post operatively remain healed in excess of a year currently. The one who hasn't yet, is the patient with calcaneal OM who has ongoing improvement.

Conclusion: 4 out of the 5 patients have healed and with only 1 requiring a minor amputation. The numbers are a clear limitation. Our impression which requires scientific backing is that these outcomes are better than for patients with a similar clinical picture locally that had the same management but no local antibiotic therapy. We do not believe that local delivery of antibiotics should replace surgical debridement or treatment of systemic symptoms with IV antibiotics but more as an adjunct that could well be valuable in preventing relapses down the line as well as reduce the extent of primary or relapse requiring surgery. Further research is needed to validate this theory.