

Rapid Fire Papers 1

[O37] A CALCIUM SULPHATE / HYDROXYAPATITE BONE GRAFT SUBSTITUTE ELUTING GENTAMICIN IN THE TREATMENT OF DIABETIC FOOT OSTEOMYELITIS: A MID-TERM FOLLOW-UP

Christine Whisstock¹, Mariagrazia Marin², Marino Bruseghin², Sasa Ninkovic¹, Daniele Raimondo¹, Antonio Volpe³, Enrico Brocco⁴

¹Diabetic Foot Clinic, Policlinico Abano Terme, Abano Terme, Italy

²Diabetic Foot Clinic, Abano Terme, Italy

³Foot and Ankle Clinic, Abano Terme, Italy

⁴Casa DI Cura Policlinico, Abano Terme, Italy

Aim: Since July 2013 our group has been using an antibiotic bone substitute, composed of calcium sulphate, hydroxyapatite and gentamicin sulphate (CSH + HA + GS), in the treatment of osteomyelitis (OM) in diabetic foot. The aim of this work was to evaluate the mid-term efficacy of this treatment regime on outcomes. A favorable outcome in diabetic foot includes no recurrence of OM, healed soft tissues and the ability to weight-bear.

Method: To date we have used the CSH + HA + GS bone substitute in 24 diabetic patients with OM. In this study we reviewed patients treated from July 2013 to December 2014, in which we used CSH + HA + GS to treat OM of the forefoot, midfoot and hindfoot, and evaluated how many patients are able to walk and fully weight-bear at present. We identified 11 pts treated during this time period; 1 with bilateral 1st metatarsal-head OM due to plantar ulcers, 5 with midfoot OM secondary to Charcot deformities and ulcers, 5 with hindfoot OM due to pressure ulcers or Charcot deformity. We continuously monitored the patients for recurrence of OM, ulcers and soft tissue inflammation in our outpatient department.

Results: Of the 11 patients, two died during follow up (both patients had calcaneal ulcers; one died in the 1st month and one in the 2nd month after treatment, both due to cardiovascular disease). For the remaining nine patients, we had an average of 25 (17–33) months follow-up. One patient did not heal, presenting with a persistent mid-foot lesion in a Charcot foot. Another patient with bilateral forefoot ulcers had a plantar ulcer recurrence under the left 1st metatarsal foot, 19 months after bone substitute application and primary healing. This patient is still weight-bearing on the right foot, as are the remaining 6 patients. In 7 patients (1 with bilateral forefoot, 4 with mid-foot and 3 with hindfoot OM) no recurrence of OM or ulcers was observed.

Conclusions: This study suggests that a CSH + HA + GS bone substitute can be used to treat diabetic foot OM. Our mid-term results show good clinical outcomes in terms of ulcer healing, no recurrence of OM and weight-bearing.