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Three-steps surgical intervention for calcaneal osteomyelitis: an useful tool to prevent limb amputations.

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Grade III Texas University Classification (TUC) calcaneal lesions are a limb threatening condition, as such lesions often present heel osteomyelitis and result in major amputations. Frequently traditional calcaneotomy does not lead to healing, due to persistence of heel infection. In this abstract we describe the possibility to treat heel lesions in a multiple-steps way, allowing infection draining and adopting a second-intention healing strategy. In the period between January, 2009, and December 2011, we treated 176 diabetic patients (pts) presenting grade III TUC heel lesions, both stage B (54) and D (122). All patients underwent to X-Ray and MR evaluation of the heel, resulting in a diagnosis of heel's osteomyelitis in 148 pts (OM+), 49 stage B and 99 stage D. Patients classified stage D all underwent to endovascular successful revascularization. Then, all 148 OM+ pts underwent to a three-steps surgical treatment, consisting in an initial ulcerectomy and "a la demande" heel calcaneotomy (as wide as possible, based on the MR-describe bone involvement) followed by a ten-days negative pressure wound therapy period (1st step), a dermal substitute implantation (2nd step) and an autologous skin graft performed after dermal substitute evolution (3rd step). Patients received antibiotic swab-driven treatment all period along. With this method, we obtained the healing of 122 patients (82.4%), meaning patients came back to walk. Mean healing time was 4 months. In the group of 26 non healed patients, 8 underwent to major amputation due to osteomyelitis relapse and expansion, 12 had relapsing lesion not requiring amputation (all of them had vascular reocclusions), 4 were missed at follow up and 2 died before they could undergo skin grafting. **Conclusion:** The describe three-steps surgical intervention appears to allow a good rate of healing in case of calcaneal lesions with heel osteomyelitis.