Fresh Osteochondral Allograft Transplantation for Osteochondral lesions of the Talus
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Summary:
Partial talus osteochondral allografting is a reasonable treatment option for appropriately selected patients with unipolar osteochondral lesions of the talus.

Abstract:
Introduction:
Osteochondral lesions of the talus are common sequelae of traumatic injuries of the ankle joint or osteonecrotic events involving the talar bone. Restorative treatment options are limited, especially in lesions penetrating the subchondral bone of the talar dome. Pain relief and restoration of joint congruity are important goals of cartilage repair procedures in the ankle. One biologic restoration technique, fresh osteochondral allografting, involves the transplantation of anatomically appropriate, orthotopic grafts from cadaveric donors into the osteochondral defects. We report on clinical outcomes of osteochondral allografting for symptomatic osteochondral lesions of the talus, utilizing an anterior surgical approach.

Methods:
Between 1998-2006, osteochondral allografting was performed in 13 ankles in 11 patients with osteochondral lesions of the talus. All grafts were partial, unipolar grafts of the talar dome, implanted through an anterior approach without osteotomy, under temporary distraction. Clinical evaluation was performed utilizing a 100-point Olerud-Molander Ankle Score (OMAS). Subjective outcome measures included a patient questionnaire evaluating pain, function and satisfaction.

Results:
7 Males, 4 females had a mean age of 37 years (range 26-57). 4 lesions involved the right, 5 the left ankle; 2 patients had bilateral involvement. All lesions were unipolar, with 8 affecting the medial, and 5 the lateral talar dome. Patients had an average of 1.4 previous surgeries (range 0-5) before allograft transplantation. Minimum follow-up was 24 months, mean follow-up was 38 months (range 24-107 months). Mean Olerud-Molander Ankle Score improved from 22 to 74 points (p<0.01). 4 recorded excellent (OMAS: 91-100 points), 2 good (OMAS: 61-90 points), 3 fair (OMAS: 31-60 points) and 2 poor (OMAS: 0-30 points) outcomes. 3 patients had further surgery on the ankle: One underwent arthroscopic debridement at 34 months post-op. One required arthroscopy with subsequent revision allograft at 36 months for mechanical collapse of the initial graft and went on to excellent results. One opted for conversion to arthrodesis that was performed at an outside facility for unchanged, intractable pain at 10 months after index allograft surgery. Overall graft survival rate was 11/13 (85%). All patients completed questionnaires; 91% were satisfied, 82% reported less pain, and 64% reported improved function.
Conclusions:
Fresh osteochondral allografting resulted in increased Olerud-Molander Ankle scores, as well as significant improvement in function and pain with high patient satisfaction. Partial talus osteochondral allografting is a reasonable treatment option for appropriately selected patients with unipolar osteochondral lesions of the talus. The anterior midline surgical approach under temporary external distraction reproducibly allows for ample access and visibility while reducing iatrogenic morbidity.