11:50 – 11:55 am
Talus OCD Allograft Plugs
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Allograft mosaicplasty for treatment of talar osteochondral lesions

A multitude of different techniques have shown success in the treatment of talar osteochondral lesions. Although arthroscopically aided microfracture and debridement still remains our standard treatment for uncomplicated lesions there are situations in which this technique is not effective. Some of these situations include lesions that are greater than 15mm in diameter, cystic lesions and lesions that have failed previous microfracture and debridement. In many of these more difficult scenarios allograft talar mosaicplasty has been effective in relieving pain while maintaining ankle function.

There are many advantages of utilizing fresh non-frozen allograft talus for donor tissue. Multiple plugs may be harvested without morbidity to the patient. Unlike plugs taken from the knee, the contours of the allograft plugs nearly identically match those of the defect. The biochemical and biomechanical properties of talus cartilage are also matched. There is no risk of knee pain, which can be seen in up to 20% of those who undergo OATS procedures. The duration of the procedure is substantially shortened with the use of allograft tissue as neither dissection nor repair of harvest site is necessary.

Disadvantages of this technique include the cost of the materials needed, risk of graft rejection/resorption and the risk, albeit low, of disease transmission.

Briefly, for medial talar lesions mosaicplasty involves creation of a large tibial osteotomy. This osteotomy is larger than previously described medial malleolar osteotomies to allow for insertion of multiple plugs perpendicular to the surface of the talar dome. Predrilling for screw fixation is carried out. A “cut & crack” technique facilitates anatomic reduction and fixation of the osteotomy. Once exposed the diseased area is defined and removed with a combination of curettage and drilling. Osteochondral plugs are then harvested from the comparable area of the allograft talus. These plugs should be “bulletized” to ease insertion. Plugs are also fashioned to be 2-3mm shorter than the recipient site so that they can be inserted flush without risk of overhang. After the mosaicplasty is completed the osteotomy is replaced and rigidly fixed with screws.

Our results using this technique have been very promising with the vast majority of patients obtaining good pain relief. Many have been able to return to active lifestyles and careers following treatment.

We have encountered two complications in our cohort to date. The first was a non-displaced medial malleolar non-union that required reoperation for bone grafting. The second was a iatrogenic cyst that formed deep to a plug that was too short. This patient required retrograde drilling and backgrafting of the defect.