Comparative Outcomes for Treatment of Articular Cartilage Lesions in the Ankle with Particulated Juvenile Cartilage Allograft: Open Versus Arthroscopic Treatment

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Introduction/Purpose: Treatment of osteochondral defects of the talus with particulated juvenile cartilage allograft is a relatively new procedure. Although other treatment options exist for large osteochondral defects of the talus, the potential advantage of particulated juvenile allograft is the ability to perform the procedure arthroscopically or through a minimal approach. No previous studies have looked at the results of an arthroscopic approach and no previous studies have compared an arthroscopic technique to an open approach. The purpose of this study was to compare the outcomes of an arthroscopic transfer technique to the previously published open technique.

Methods: A total of 34 patients underwent treatment of talar cartilage lesions with juvenile particulated cartilage allograft. Twenty of these were done arthroscopically and 14 were done with an open arthrotomy. There was no statistically significant difference between the groups with respect to age, lesion width, lesion depth, lesion length, or operative time. Scores for 6 different validated outcome measures were recorded for patients in each group pre-operatively and subsequently at 6 months, 1 year, 18 months, and 2 years.

Results: Comparing outcome measurements at each data point to baseline, there were no statistically significant post-operative differences found between open and arthroscopic approaches with regards to VAS Pain Scale, AOFAS Ankle-Hindfoot Scale, Foot and Ankle Ability Measure - Sport Scale, or SF12 Physical Health Scale.

Conclusion: Treatment of talar articular cartilage lesions with particulated juvenile cartilage allograft is associated with improved outcomes at 2 years with regards to several validated outcome measures regardless of technique utilized. At 2 years follow up, there were no statistically significant differences in outcomes utilizing an arthroscopic technique versus open technique with the numbers given. This data supports the use of particulated juvenile cartilage allograft utilizing either arthroscopic or open techniques.