Age Stratification and Related Outcomes for Osteochondral Lesions of the Talus

Presenting:

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Summary:
Osteochondral lesions of the talus (OLT) can have a variable prognosis dependent upon multiple factors. We hypothesized that age was a significant component in predicting those who are more likely to succeed with osteochondral micro-fracture or drilling. Our data supports the belief that patients under the age of 18 are significantly more likely to have good or excellent results, regardless of other lesion characteristics. This may assist in the development of a treatment algorithm to predict those patients which will have superior results with micro-fracture/drilling of OLT lesions.

Abstract:
Background:
Osteochondral lesions of the talus can have a variable prognosis with treatment guidelines predicated upon structural characteristics of the lesion. There has been relatively little published in the literature stratifying age against outcomes in the operative treatment of these lesions. We hypothesized that a younger patient population would experience superior results when compared to a matched older population after having micro-fracture or drilling performed for osteochondral lesions of the talus.

Study Design:
Retrospective review; Level of evidence - 4

Methods:
A retrospective review of clinical and radiographic records of all patients treated operatively for osteochondral lesions of the talus from 2003 to 2008 was performed at our institution. One-hundred and thirty-three consecutive patients were identified with lesions of the talus that underwent arthroscopic micro-fracture or drilling. Patients were grouped based on age: less than 20 years, 21 to 40 years, 41 to 60 years and those over 60 years of age. Average patient age was 34.7 years (range, 12-83 years). Average period of follow-up until was 6.98 months (range, 1.45 -39.4 months). This patient population was treated with arthroscopic excision and curettage of the osteochondral lesions and subsequent micro-fracture or antegrade drilling for appropriately staged lesions. Patient outcomes were tracked using American Orthopaedic Foot and Ankle Society (AOFAS) Ankle/Hindfoot scores and stratified according to age.

Results:
Average AOFAS ankle/hindfoot scores were determined for each group pre- and post-operatively. An overall improvement within the collective patient population was shown with 80% of patients reporting good or excellent results. Stratification of age demonstrated a significant difference between those under and those above the age of 20 years. All sixteen patients under the age of 16 years had excellent or good results, while those under the age of 18 years had an excellent or good rate of 95.8%. The success rate dropped marginally to 92.6% good or excellent results for those 20 years or less. A correlation was noted between reduction in edema surrounding the osteochondral lesions on MRI at one year and those with superior outcomes.
Conclusions:
Arthroscopic micro-fracturing and drilling techniques for osteochondral lesions of the talus resulted in the majority of patients experiencing excellent or good results, particularly those less than 18 years of age. The use of age stratification in the treatment of these lesions may help in the development of an algorithm to predict outcomes in patients being treated for articular injuries of the talus.