Functional Outcomes for Arthroscopic Microfracture for Osteochondral Lesion of the Talus at a Mean of 6.7 years in 165 Consecutive Ankles

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Background

- Arthroscopic microfracture for osteochondral lesions of the talus (OLT) has shown good functional outcomes
- However, some studies have reported that functional outcomes deteriorate over time after surgery
- The purpose of this study is to evaluate postoperative clinical outcomes using various scoring systems in a large group of OLT patients who underwent arthroscopic microfracture.

Introduction

Arthroscopic BM Stimulation

- The primary treatment strategy for symptomatic OLT that are < 15mm diameter
  - Minimally invasive
  - Technically undemanding
  - Low complication rates
  - Satisfactory clinical result

Outcomes of BM stimulation

- 21 retrospective studies
- Average AOFAS scores: 68 - 97
- Overall 86% rate of successful outcomes
- Deterioration of reparative fibrocartilage quality has been reported in up to 35% of patients within the first five years of BMS

Method

- All patients treated A/S BMS for more than 2yrs
- Symptomatic with single lesion
- Lesion of < 1.5 cm²
- 18 years ≤ age < 60 years
- Primary surgery
- Failed conservative treatment
- Demographic Data
  - Ankle: n=156
  - Mean age (range) (yr): 35.4 (18-60)
  - Sex: Male 127 (79%), Female 38 (23%)
  - Body mass index(kg/m²): 24.4 (18.1-32.6)
  - Lesion size(cm²): 7.3 (1.1-16.0)
  - Symptom duration(month): 22.9 (6-239)
  - Follow-up(month): 80.1 (24-164)

Result

- Klim J (50/F)
  - Anteroposterior direction: 10mm
  - Mediolateral direction: 10mm

- Clinical outcomes
  Functional outcomes of osteochondral lesions at the talus following arthroscopic microfracture

  - Preoperative
  - Final follow-up
  - P value
  
  | FAOS pain | 67.6 (56.5-83.3) | 88.0 (61.1-100) | <.001 |
  | FAOS symptoms | 69.7 (56.5-86.7) | 85.8 (61.7-100) | <.001 |
  | FAOS AOS | 77.4 (71.4-86.6) | 92.3 (77.7-100) | <.001 |
  | FAOS SportRec | 51.5 (35.0-75.0) | 70.4 (40-100) | <.001 |
  | FAOS QoL | 66.3 (51.5-86.0) | 78.2 (53.0-100) | <.001 |
  | AOFAS ankle-hindfoot scale | 71.6 (47.0-84.0) | 89.5 (52.0-100) | <.001 |
  | VAS | 6.2 (4.0-9.0) | 1.7 (0-6.0) | <.001 |
  | SF-36 | 62.4 (47.7-76.0) | 76.2 (41.1-100) | <.001 |

  Prognostic factors and functional outcomes of arthroscopic microfracture

  - Age at operation
  - < 30 years: 84.8 ± 12.0
  - ≥ 30 years: 85.0 ± 11.8
  - P = 0.99
  - Sex
  - Male: 84.7 ± 12.1
  - Female: 85.0 ± 12.0
  - P = 1.86
  - Body mass index
  - < 25 kg/m²: 86.1 ± 10.5
  - ≥ 25 kg/m²: 83.0 ± 14.0
  - P = 0.07
  - Symptom duration
  - < 12 months: 88.0 ± 7.8
  - ≥ 12 months: 83.2 ± 12.9
  - P = 0.46
  - Lesion size
  - < 5.0 cm²: 84.0 ± 12.1
  - ≥ 5.0 cm²: 87.0 ± 11.1
  - P = 0.23
  - Arthroscopic grade
  - A - C: 86.1 ± 10.6
  - D - F: 82.4 ± 14.2
  - P = 0.22

  The values are given on the mean, with the range in parentheses. The statistical analysis was performed using ANOVA. A p value of < 0.05 was considered significant. The authors declare no conflicts of interest.

Case

- Arthroscopic microfracture is a great treatment option for OLT in the intermediate to long-term follow-up
- Excellent functional outcomes
- Low rate of deterioration of fibrocartilage

However, further studies are necessary for evaluation of OLT through image finding (CT, MRI) and 2nd look A/S

Conclusion

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However, further studies are necessary for evaluation of OLT through image finding (CT, MRI) and 2nd look A/S