Non-operative treatment for osteochondral lesions of the talus is safe and provides improvement of clinical outcomes at 1-year follow-up

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ORTHOPEDIC SURGERY AND SPORTS MEDICINE

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Faculty disclosures

- Nothing to disclose

Rationale and objectives

- There is consensus that all osteochondral lesions of the Talus (OLT) should initially be treated non-operatively

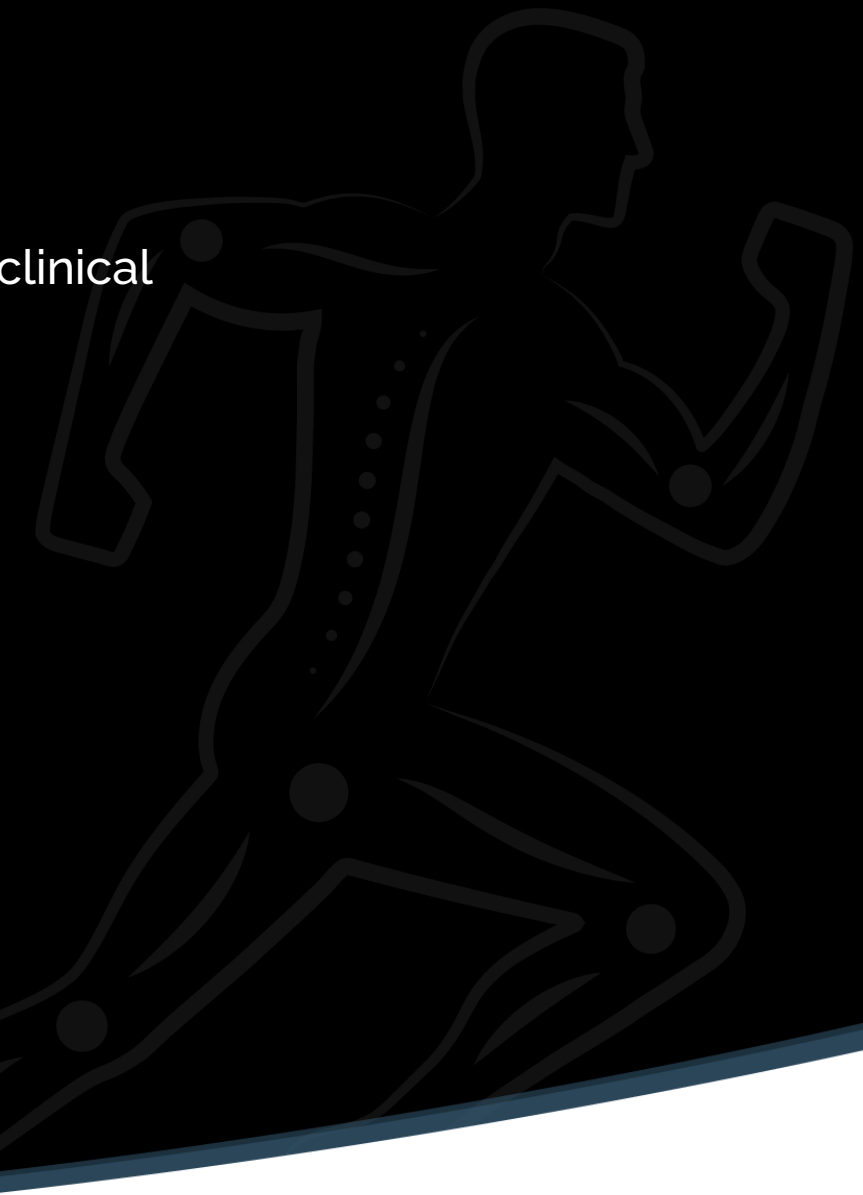
- Non-operative treatment can consist of
  - Supervised neglect
  - Physical therapy
  - Insoles
  - Bracing
  - Weight-loss
  - Injections
  - Cast immobilization

- However, no prospective data on the outcomes after non-operative treatment is currently available

Rationale and objectives

- Primary objective:
  - to demonstrate the effect of non-operative management on clinical outcomes over the course of one year

- Secondary objective:
  - to assess radiological changes over the course of one year



Methods

- We included all patients treated non-operatively for their OLT with a minimum follow-up duration of 1 year
  - Only primary (i.e. no previous surgeries) OLTs
  - Patients with concomittant injuries were excluded

- Primary outcome
  - Change in NRS pain during walking

- Secondary Outcomes
  - Change in NRS of pain during rest, running and stairclimbing
  - Change in Foot and Ankle Outcome Score (FAOS)
  - Change in lesion size on CT-scan

Methods

- Statistical analysis
  - The sample size was calculated based on a repeated measure ANOVA using significance level of 0.05 and 80% power
    This resulted in a minimum of 40 patients
  - Primary and secondary outcomes were calculated using Linear Mixed Models (LMM) with categorization

Results

- 50 patients (52 ankles) were included

Demographics	
Age (median, IQR)	24 (IQR: 17-42)
Gender (M/V)	26/24
Weight (median, IQR)	76 (IQR: 61.50-87.25)
Length, centimeters (median, IQR)	173 (IQR: 167-182)
BMI (median, IQR)	23.68 (IQR: 21.02-27.83)
Ankles (right/left)	25/27
Type of conservative management	
Physical therapy (n)	18 (36%)
Inlays (n)	3 (6%)
Injections (n)	1 (2%)
Skillfull Neglect	8 (16%)
Combination Injection – Physical Therapy	2 (4%)
Combination Physical Therapy – Inlays	7 (14%)
Combination physical therapy - Weightloss	3 (6%)
Combination Weightloss – Skillfull neglect	1 (2%)
Combination Injection – Physical Therapy - Inlays	3 (6%)
Combination Physical Therapy – Inlays – Weightloss	3 (6%)
Combination Injection – Inlays – Weightloss	1 (2%)

Results

- Change in NRS between 0-6 and 6-12 months.

NRS, difference				
	0-6 months	P-value	6-12 months	P-value
Rest	-0.40 (95%CI: -1.1, 0.3)	0.25	-0.37 (95%CI: -0.7, 0.5)	0.70
Walking	**-1.03 (95%CI: -1.8, -0.3)**	**0.01**	-1.33 (95%CI: -0.9, 0.2)	0.20
Running	**-1.30 (95%CI: -2.1, 0.6)**	**0.001**	-1.52 (95%CI: -0.9, 0.3)	0.35
Walking stairs	**-1.19 (95%CI: -1.9, -0.4)**	**0.001**	-1.49 (95%CI: -0.7, 0.2)	0.24

- Change in FAOS between 0-6 and 6-12 months.

FAOS, difference score				
Subscale	0-6 months	P-value	6-12 months	P-value
Symptoms and Stiffness	**6.2 (95%CI: 2.2, 11.4)**	**0.007**	2.4 (95%CI: -7.1, 1.4)	0.28
Pain	**3.0 (95%CI: 0.6, 10.3)**	**0.04**	3.3 (95%CI: -4.5, 4.0)	0.90
Function, daily living	3.5 (95%CI: -1.3, 9.2)	0.15	2.4 (95%CI: -4.5, 4.9)	0.92
Function, sports and recreational activities	**9.0 (95%CI: 5.1, 14.8)**	**0.00004**	5.2 (95%CI: -9.1, 3.4)	0.44
Quality of Life	**7.2 (95%CI: 1.6, 12.6)**	**0.02**	9.7 (95%CI: -2.8, 9.0)	0.34

Results

- Change in lesion size on CT between 0-12 months.

Lesion characteristics			
	Baseline	12 months	P value
Anterior-posterior, millimeters	15.0 (SD: 4.6)	14.7 (SD: 4.9)	>0.05
Medial-lateral length, millimeters	10.2 (SD: 3.4)	9.8 (SD: 3.7)	≤0.05
Cranial-caudal length, millimeters	7.6 (SD: 4.0)	7.5 (SD: 3.9)	>0.05
Surface, cm^2	1.3 (SD: 0.9)	1.2 (SD: 0.9)	>0.05
Volume cm^3	0.8 (SD: 0.7)	0.8 (SD: 0.8)	>0.05

Conclusions

- Non-operative treatment yields significant improvements regarding pain during weightbearing, running and stairclimbing at 6 months
  - These improvements are retained at 12 months

- These findings support the consensus that treatment for osteochondral lesions of the Talus should be initiated with a non-operative protocol

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