4-5 Years Results following AMIC Procedure with Collagen Matrix for Cartilage Reconstruction of the Talus

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Conflict of Interest and Disclose
4-5 Years Results following AMIC Procedure with Collagen Matrix for Cartilage Reconstruction of the Talus
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Why is OCL painful?!?

– increased load transfer with affection of the subchondral plate
– Less dampening & increased Intraosseous pressure
– Immunoreactive CGRP and RT 9 fibers
The AMIC procedure with collagen matrix in cartilage reconstruction of the talus shows sustainability in medium-term results in terms of pain release and regain of activity level?
Materials and Methods

- 48 Patienten (26 F, 22 M)
- Average age at surgery: 36.5 ± 3.9 Jahre (15-69)
- BMI: 24.8 ± 3.9 (22.7 to 29.4)
- Control: 1 year (FU1), 2 years (FU2), 4.4 years (FU 3) postoperatively

Scores:
- Hannover Scoring System (HSS): ankle specific, but not validated (Pain, function, ADL, sports)
- VAS scores for pain, function and satisfaction
Results

Hannover scoring system

Baseline (n=48) | FU1 (n=48) | FU2 (n=41) | FU3 (n=36)
---|---|---|---
55.6 ± 12.18 | 82.3 ± 15.64 | 88.8 ± 7.43 | 89.7 ± 8.3

Significance for an increase over time:
p = 0.008 (GLM / pillai: 0.956)
Results

VAS Score for Pain

<table>
<thead>
<tr>
<th></th>
<th>Baseline (n=48)</th>
<th>FU1 (n=48)</th>
<th>FU2 (n=41)</th>
<th>FU3 (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 ± 2,74</td>
<td>7,8 ± 2,73</td>
<td>8,9 ± 1,01</td>
<td>9,3 ± 1,26</td>
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</tbody>
</table>

Significance for an increase over time:

\[ p = 0,001 \text{ (GLM / pillai: 0,986)} \]
Results

**VAS Score for function**

<table>
<thead>
<tr>
<th></th>
<th>Baseline (n=48)</th>
<th>FU1 (n=48)</th>
<th>FU2 (n=41)</th>
<th>FU3 (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.7 ± 2.42</td>
<td>7.6 ± 3.02</td>
<td>9.1 ± 0.89</td>
<td>8.5 ± 1.37</td>
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</tbody>
</table>

Significance for an increase over time:

\[ p = 0.007 \text{ (GLM / Pillai: 0.958)} \]
Results

**VAS Score for Satisfaction**

<table>
<thead>
<tr>
<th></th>
<th>Baseline (n=48)</th>
<th>FU1 (n=48)</th>
<th>FU2 (n=41)</th>
<th>FU3 (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.6 ± 2.62</td>
<td>7.6 ± 3.19</td>
<td>9.4 ± 0.54</td>
<td>8.1 ± 2.25</td>
</tr>
</tbody>
</table>

Significance for an increase over time:

\[ p = 0.008 \text{ (GLM / pillai: 0.942)} \]
Results

Complications

There were no infections

2 patients with graft failure

- Persistent bone oedema (MRI T2 sequence) and pain
- Graft failure with inhomogeneous cartilage formation
Discussion

• The arthroscopic technique described, shows in the medium-term a sustainability of the results

• In the HSS and VAS with about 80% good results

Limitation of the study:

• No comparison group

• No long-term results

• No validaded score applied
Conclusion

The arthroscopic AMIC- procedure is a promising and safe procedure in cartilage therapy with low complication rate due to the minimally invasive technique.
References


