Osteochondral autograft transfer combined with periarticular osteotomy for the treatment of osteochondral defect of the talus in varus ankle

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Disclosure

The authors have no financial conflicts to disclose.
Introduction

- Osteochondral lesion of the talus (OLTs) is among the most common foot and ankle disorders.
- Varus ankle malalignment causes stress concentration on medial side of the joint, resulting in OLTs and osteoarthritis.
- For large symptomatic OLTs (> 15mm in diameter) involving posteromedial aspect of talar dome, osteochondral autograft transplantation is usually warranted.
Introduction

- This article highlights the distal tibial double osteotomy for the management of patient with concomitant large OLTs and varus ankle malalignment.
Methods

- Jan 2012 - Jul 2015, 15 patients (8 males, 7 females).
- The average age was 55.4 (range, 34 to 69) years old.

- Oblique medial malleolar osteotomy to expose the talar lesion,
- Then osteochondral autograft transplantation and distal tibial opening-wedge osteotomy.

- Weight bearing X-rays for the measurement of tibial articular surface (TAS) angle and tibial lateral surface (TLS) angle.
- The American Orthopaedic Foot and Ankle Society-Ankle and Hindfoot (AOFAS-AH) questionnaires and Visual Analog Scale (VAS)
- In 5 cases arthroscopy was performed 12 months postoperatively and the cartilage repair was assessed with the criteria of the International Cartilage Repair Society.
Results

- Thirteen patients completed the follow-up with a mean of 21.2 months.
- The average talar lesion was $170.0 \text{mm}^2$, and the average depth was 11.4 mm.
- The mean time of bone healing was 8.5 weeks.
- No patient reported donor site morbidity by the last follow-up.
Results

- The mean AOFAS-AH score and VAS score improved from 53 to 90 points ($p < 0.05$), 6.7 to 1.9 points ($p < 0.05$), respectively.
- The mean TAS angle improved from 83.1 to 90.3 degrees ($p < 0.05$).
- The radiolucent area of the cysts disappeared on the plain radiographs in all cases.
- The mean International Cartilage Repair Society arthroscopic score from follow-up arthroscopy was $(9\pm1)$ points.
## Results

<table>
<thead>
<tr>
<th>parameters</th>
<th>Before surgery</th>
<th>After surgery</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOFAS-AH</td>
<td>53 ± 15</td>
<td>90 ± 6</td>
<td>9.6</td>
<td>&lt;0.0001*</td>
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<tr>
<td>VAS</td>
<td>6.7 ± 1.4</td>
<td>1.9 ± 1.2</td>
<td>-14</td>
<td>&lt;0.0001*</td>
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<tr>
<td>TAS angle</td>
<td>83.1 ± 3.9</td>
<td>90.3 ± 2.4</td>
<td>5.4</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>TLS angle</td>
<td>78.3 ± 3.6</td>
<td>79.6 ± 3.3</td>
<td>2.2</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>
Conclusion

- The use of osteochondral autograft transfer combined with supramalleolar osteotomy is an effective option for the treatment of osteochondral defect of the talus in varus ankle.
- It provides excellent visualization of the talar defect and favorable biomechanical environment for the ankle joint.
References