Clinical Outcomes after augmentation of deltoid ligament with suture anchor in bimalleolar equivalent fractures

Hyun-woo PARK, MD., Ho-seong JANG, MD.
Department of Orthopedic Surgery
College of Medicine of Dankook University
Clinical Outcomes after augmentation of deltoide ligament with suture anchor in bimalleolar equivalent fractures

Hyun-woo PARK, MD., Ho-seong JANG, MD.
Department of Orthopedic Surgery
College of Medicine of Dankook University

My disclosure is in the Final AOFAS Program Book.
I have no potential conflicts with this presentation.
Introduction

- Fracture of medial malleolus can be usually treated by OR & IF
- But diastasis of medial clear space had been treated non-surgically in bimalleolar equivalent fractures.
Introduction

- Rationale of this procedure: After conservative treatment for deltoid ligament injury, residual instabilities can be a problem.
Materials & Methods

- Patient Data:
  - Between 2007 and 2013
  - 15 cases of repaired deltoid group
    - Injury mechanism (Lauge-Hansen classification)
      - Supination-Ext.rotation type: 11 cases
      - Pronation-Ext.rotation type: 4 cases
    - Mean f/u period: 12.5 month
  - 25 cases of non-repaired deltoid group
    - Injury mechanism (Lauge-Hansen classification)
      - Supination-Ext.rotation type: 19 cases
      - Pronation-Ext.rotation type: 6 cases
    - Mean f/u period: 13.4 month
Materials & Methods

- **Surgical procedures:**
  1) OR & IF of lateral malleolar fractures
  2) under varus stress, repair deltoid ligament and augment with anchor suture
Materials & Methods

- Valgus stress view
- Medial clear space
- ROM limitation
- AOFAS score

Valgus stress view

Repaired

Non-repaired
## Results

<table>
<thead>
<tr>
<th></th>
<th>Repaired deltoid group</th>
<th>Non-repaired deltoid group</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medial clear space (Pre-operative)</td>
<td>9.29</td>
<td>7.03</td>
<td>0.002</td>
</tr>
<tr>
<td>Medial clear space (Post-operative)</td>
<td>3.61</td>
<td>3.35</td>
<td>0.309</td>
</tr>
<tr>
<td>ROM limitation</td>
<td>5.7º</td>
<td>4.8º</td>
<td>0.938</td>
</tr>
<tr>
<td>AOFAS score</td>
<td>90.7</td>
<td>85.2</td>
<td>0.002</td>
</tr>
</tbody>
</table>

- The surgically repaired deltoid group was more stable in varus stress view and earlier recovery.
Conclusions

We concluded that **repaired deltoid ligament and augmented with anchor suture** was a good option of treatment for bimalleolar equivalent fractures.
References

THANK YOU FOR YOUR ATTENTION!