Early Results of Minimal Invasive Suture-tape Augmentation for Chronic Ankle Instability

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Early Results of Minimal Invasive Suture-tape Augmentation for Chronic Ankle Instability

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My disclosure is in the final AOFAS mobile App

I have no potential conflicts with this presentation
Limitations of MBP

✓ Contraindications of MBP
  → debate on possibility of MBP application

✓ Consistent application without consideration about character of individual pt.
  → differences of age, activity, occupation, Bwt..
  → necessity of patient-specific Brostrom procedure?

✓ Common complications following MBP
  → skin irritation by suture materials
Demographics

- 24 consecutive patients < 40 years with chronic lateral ankle instability
- Female patients with body weight < 70kg
- Followed up > 2 yrs after op. done by one surgeon
- Follow-up: mean 2.6 yrs
- MRI & concomitant A/S procedure
  → exclusion of patients with OLT
  → ant. soft tissue impingement syndrome (11)
  → loose body (1)
Surgical procedure

Pathway of ATF & CF ligaments

Identification of anchor position using C-arm
Surgical procedure

- Passage of suture-tape beneath peroneal tendons
- Fixation of 1st anchor to fibular
**Surgical procedure**

- Fixation of 3rd anchor to talar neck
- Scar appearance
Clinical results

<table>
<thead>
<tr>
<th>Evaluation tool</th>
<th>Preop</th>
<th>POD(6Mo)</th>
<th>Final F/U</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot &amp; Ankle Outcome Score</td>
<td>56.2</td>
<td>84.6</td>
<td>90.5</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Foot &amp; Ankle Ability Measure</td>
<td>48.8</td>
<td>83.4</td>
<td>94.2</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

✓ Satisfaction rate by Sefton grading system
  → 91.7% (22 / 24 patients) achieved satisfactory results
  → Pt’s satisfaction score for op. scar: 98.5 points

Cx.

✓ Skin irritation by suture materials: 0 case
✓ Local wound infection: 0 case
✓ Chronic inflammation (swelling): 1 case
  → MBP & suture tape removal for F.B reaction
Radiological results

Stress radiograph

<table>
<thead>
<tr>
<th></th>
<th>Preop</th>
<th>POD(3Mo)</th>
<th>POD(1yr)</th>
<th>Final F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talar tilt angle</td>
<td>16.3°</td>
<td>3.8°</td>
<td>4.2°</td>
<td>4.5°</td>
</tr>
<tr>
<td>Anterior talar translation</td>
<td>12.4 mm</td>
<td>4.1 mm</td>
<td>4.4 mm</td>
<td>4.1 mm</td>
</tr>
</tbody>
</table>
## Functional results

<table>
<thead>
<tr>
<th>Exercise category</th>
<th>Period to return (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jogging</td>
<td>11.4 wks</td>
</tr>
<tr>
<td>Spurt running</td>
<td>20.8 wks</td>
</tr>
<tr>
<td>Jumping</td>
<td>14.6 wks</td>
</tr>
<tr>
<td>Walking on uneven ground</td>
<td>14.2 wks</td>
</tr>
<tr>
<td>One leg standing ( &gt;1min)</td>
<td>10.8 wks</td>
</tr>
<tr>
<td>Going-down stairs</td>
<td>13.4 wks</td>
</tr>
<tr>
<td>Squatting</td>
<td>8.8 wks</td>
</tr>
</tbody>
</table>
Conclusion

Internal brace technique

Ligament Augmentation using the FiberWire tape®

• Comparable short-term clinical & functional results
• Advantage of minimal invasive surgery with no postoperative skin irritation
• Effective Tx. method for well-selected patients
• Alternative option of modified-Brostrom procedure?
• Application range of internal brace technique?
< References >

