Clinical Outcomes of Modified-Brostrom Procedure using Suture Bridge Technique for Overweight Patients

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Byung-Ki Cho

My disclosure is in the Final Program Book and in the AOFAS database

I have no potential conflicts with this presentation
**Chronic Ankle Instability**

- **Modified-Brostrom procedure**
  - **Standard surgical technique** for anatomic lig. repair
  - Excellent clinical & functional results

- **Relative contra-indication of MBP**
  - Long duration of instability ( > 10 years)
  - Generalized ligament laxity
  - Failed previous MBP
  - Severe obesity (over-weight)
  - High-demand athletes
Chronic Ankle Instability in overweight patients

Stronger ankle stability by new modification (ligament reattachment) of Brostrom procedure?
Suture bridge technique in ankle
 Demographics

✓ 18 obese cases (18 pts) with chronic ankle instability
✓ Followed up > 2yr after MBP done by one surgeon
✓ Patients with BMI (body-mass index) > 30
✓ Surgical technique randomly assigned
✓ Age / Sex: 34.4 yrs, M / F (27 / 5)
✓ Follow up: mean 2.8 years
✓ MRI & concomitant A/S procedure
Surgical procedure

Periosteal stripping & double suture anchor apply

Secured capsule & ATF ligament with suture anchor
Surgical procedure

Reinforcement by crossed 4 strand of Fiberwires

Suture bridge technique by Pushlock knotless anchor
Clinical results

<table>
<thead>
<tr>
<th></th>
<th>Preop</th>
<th>POD(3Mo)</th>
<th>POD(6Mo)</th>
<th>POD(1yr)</th>
<th>Final F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suture bridge</td>
<td>41.5</td>
<td>76.9</td>
<td>88.2</td>
<td>90.8</td>
<td>86.2</td>
</tr>
</tbody>
</table>

- Satisfaction rate by Sefton grading system → 83% (4 excellent, 11 good, 3 fair)
- Period to return to running exercise → mean 4.4 months

BMI

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<tr>
<th></th>
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<th>POD(6Mo)</th>
<th>POD(1yr)</th>
<th>Final F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suture bridge</td>
<td>31.4</td>
<td>31.6</td>
<td>30.2</td>
<td>28.2</td>
<td>25.8</td>
</tr>
</tbody>
</table>

(Mann-Whitney test)
Radiological results

<table>
<thead>
<tr>
<th>Suture Bridge</th>
<th>Preop</th>
<th>POD(3Mo)</th>
<th>POD(6Mo)</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>4.5°</td>
<td>4.7°</td>
<td>5.5°</td>
</tr>
<tr>
<td>Talar translation</td>
<td>10.7 mm</td>
<td>4.5 mm</td>
<td>4.4 mm</td>
<td>4.9 mm</td>
<td>5.4 mm</td>
</tr>
</tbody>
</table>
Conclusion

- Satisfactory short-term clinical outcomes
- Restoration of the ankle stability resulted in the return to active exercise and the decrease of BMI
- Alternative option of reconstruction using allograft

MBP using Suture bridge technique
- Effective treatment methods for chronic ankle instability in overweight patients
- Further evaluations for longevity of stability?
< References >

