Clinical outcomes following an open gastrocnemius recession combined with an endoscopic plantar fasciotomy

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My disclosure is in the final AOFAS mobile app. I have no potential conflicts with this presentation.
Chronic plantar fasciitis is a common pathology seen by the foot and ankle surgeon. Conservative treatment is successful in the majority of cases. Recalcitrant cases may require surgical intervention. Surgical treatment options include:

- Plantar fasciotomy
- Plantar fasciectomy
- Gastrocnemius recession
- Gastrocnemius proximal medial head release
- Extracorporeal shock-wave therapy
- Platelet rich plasma
INTRODUCTION

• Several authors have reported on the success of gastrocnemius release alone with good outcomes\textsuperscript{4-6}

• No results have been reported for the combined gastrocnemius recession and endoscopic plantar fasciotomy

• When present, both components of the pathology should be addressed: plantar fasciitis and equinus
PURPOSE

To present our preliminary findings following a combined gastrocnemius recession and endoscopic plantar fasciotomy for the treatment of plantar fasciitis recalcitrant to conservative therapy.

HYPOTHESIS

Combined gastrocnemius recession and endoscopic plantar fasciotomy is a viable treatment option with improved patient outcomes.
Materials & Methods

Retrospective chart review (1/2013 through 6/2014)

Inclusion Criteria

• ≥18 years of age
• Prior combined gastrocnemius recession and endoscopic plantar fasciotomy
• Procedure performed by one surgeon (SAB)

Exclusion Criteria

• Absence of pain and/or range of motion data
• Inadequate follow-up (<2 weeks)
• Traumatic Achilles tendon rupture in the perioperative period
Materials & Methods

Data Recorded

- Preoperative and postoperative pain
  - Measured using a visual analog scale (VAS)

- Preoperative and postoperative range of motion
  - Inversion
  - Eversion
  - Dorsiflexion
  - Plantar flexion
## Results

### Patient Demographics

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>14 (100.0%)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>47.9 ± 11.4</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>30.9 ± 7.3</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>3 (21.4%)</td>
</tr>
<tr>
<td>Women</td>
<td>11 (78.6%)</td>
</tr>
<tr>
<td>Injury Side</td>
<td></td>
</tr>
<tr>
<td>Left</td>
<td>8 (57.1%)</td>
</tr>
<tr>
<td>Right</td>
<td>6 (42.9%)</td>
</tr>
</tbody>
</table>

### Patient Comorbidities

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Complex Regional Pain Syndrome</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Depression</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>4 (28.6)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>4 (28.6)</td>
</tr>
<tr>
<td>Restless Leg Syndrome</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Smoker</td>
<td>2 (14.3)</td>
</tr>
</tbody>
</table>

Data presented as mean ± standard deviation or n (%).
Results

Pain

Follow-up (mean ± standard deviation): 3.9 ± 3.6 months

Data presented as mean ± standard error.
*Statistically significant at the 5% level (p ≤ 0.05), comparing preoperative and postoperative values.
# Results

## Range of Motion

Follow-up (mean ± standard deviation): 3.7 ± 3.8 months

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Preoperative</th>
<th>Postoperative</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorsiflexion (°)</td>
<td>-2.5 ± 7.9</td>
<td>9.3 ± 4.7*</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Plantar flexion (°)</td>
<td>40.7 ± 6.8</td>
<td>44.8 ± 8.4</td>
<td>0.083</td>
</tr>
<tr>
<td>Inversion (°)</td>
<td>27.2 ± 11.8</td>
<td>31.9 ± 10.5*</td>
<td>0.025</td>
</tr>
<tr>
<td>Eversion (°)</td>
<td>8.1 ± 4.8</td>
<td>13.6 ± 5.6*</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Data presented as mean ± standard deviation.
*Statistically significant at the 5% level (p ≤ 0.05), comparing pre-operative and post-operative values.
Discussion

- Isolated plantar fasciotomy alleviates symptoms in the majority of patients, but in the presence of gastrocnemius equinus, a combined approach is advocated.

- Combined gastrocnemius recession and plantar fasciotomy resulted in statistically significant improvements in pain and range of motion in patients with chronic plantar fasciitis.
REFERENCES


