Tarsal Tunnel Syndrome: Outcomes of Surgical Treatment in 31 patients

Bastias G, Gutierrez R, Layseca A, Bergeret JP Verschae G
Foot and Ankle Unit
Hospital del Trabajador
Santiago, Chile
• No conflicts to disclose
• My disclosure is in the final AOFAS mobile app
• I have no potential conflicts with this presentation
Introduction

- Tarsal tunnel syndrome (TTS) is an entrapment neuropathy of the posterior tibial nerve or its branches within its fibroosseous tunnel beneath the flexor retinaculum on the medial side of the ankle.
Introduction

- Management of this neuropathy is complex with unclear outcomes in current literature.
- Operative treatment has been reported to have good-excellent results in space occupying lesions.
- Post-traumatic TTS is usually related to poor results.
Patients and Methods

• We included all patients who underwent tarsal tunnel release at our institution from January 2011 to December 2013.

• Clinical data was collected including:
  
  ✓ Physical exam findings
  ✓ Duration of symptoms
  ✓ Trauma History
  ✓ Intraoperative findings
  ✓ Workmen’s Compensation involvement
  ✓ Outcome according to patient’s postoperative symptoms
Results

• 31 patients
  – Male: 11
  – Female: 20

• Mean Age: 45 years (Range 19-66)

• Duration of Symptoms: 12 weeks (Range 1-36)
  – 38.7% of the patients received plantar fasciitis

• Previous foot and ankle fracture history: 22 patients (73.3%)

• 18 patients with worker’s compensation involvement
Results

• Clinical Findings
  – Medial ankle pain: 100% (31 pts.)
  – Paresthesias: 87% (27 pts.)
  – Positive Tinel sign: 52% (16 pts.)

• Diagnosis was made clinically in all patients with abnormal electrodiagnostic findings in 27 patients (87%).
Results

- Intraoperative Findings:
  - Varicosities: 15 pts.
  - Fibrosis/Scarring: 9 pts
  - Hypertrophic Retinaculum: 6 pts.
  - Space Occupying Lesions (SOL): 1 pt.
Results

• Clinical Outcomes:
  – Favorable: 20 pts. (64.5%)
    • 4.5 weeks in average
    • Improvement up to 12 weeks postoperatively
    • 18/20 patients with less than 6 months of symptoms
  – Not Favorable: 11 pts.
    • No changes: 8 pts
    • Worsening of symptoms postoperative: 3 pts

• Complications (25%):
  – Symptomatic scar: 4 pts.
  – Revision surgery: 3 pts
  – Wound complication: 3 pts.
  – Deep wound infection: 2 pts.
  – CRPS 1 pt.
<table>
<thead>
<tr>
<th></th>
<th>Favorable</th>
<th>Not Favorable</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>8 (42.73%)</td>
<td>3 (27.27%)</td>
<td>p=0.45</td>
</tr>
<tr>
<td>Male</td>
<td>11 (55.00%)</td>
<td>9 (45.00%)</td>
<td></td>
</tr>
<tr>
<td>Worker’s compensation</td>
<td>8 (44.44%)</td>
<td>10 (55.56%)</td>
<td>p=0.03</td>
</tr>
<tr>
<td>Trauma history</td>
<td>13 (59.09%)</td>
<td>6 (75.00%)</td>
<td>p=0.67</td>
</tr>
<tr>
<td>Paresthesias</td>
<td>17 (62.96%)</td>
<td>10 (37.04%)</td>
<td>P=0.63</td>
</tr>
<tr>
<td>Tinel</td>
<td>11 (68.75%)</td>
<td>5 (31.25%)</td>
<td>p=0.47</td>
</tr>
<tr>
<td>Hypertrophic retinaculum</td>
<td>6 (83.33%)</td>
<td>1 (16.67%)</td>
<td>p=0.36</td>
</tr>
<tr>
<td>Varicosities</td>
<td>8 (53.33%)</td>
<td>7 (46.67%)</td>
<td>p=0.47</td>
</tr>
<tr>
<td>Fibrosis</td>
<td>5 (62.50%)</td>
<td>3 (37.50%)</td>
<td>p=0.99</td>
</tr>
<tr>
<td>&lt; 6 months symptoms</td>
<td>18 (90%)</td>
<td>7 (72.72%)</td>
<td>P=0.05</td>
</tr>
</tbody>
</table>
Conclusions

• Tarsal tunnel release outcomes depend on patient selection.

• In our study, patients subject to workmen’s compensation was statistically associated with worse clinical outcome.

• Contrary to current literature, traumatic STT was not associated with worse outcome.

• Tarsal tunnel release for space occupying lesions (mainly varicosities), were associated with symptom relief, but without statistical significance.
Bibliography


