Strickland’s hypothenar fat pad flap for revision surgery in carpal tunnel syndrome: Prospective study of 34 cases


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The authors do not have conflict of interest.

Introduction

- Revision surgery for failed carpal tunnel release: low incidence (=10%)
- Fibrous adhesions around median nerve.
- Fibrous scar tissue of flexor retinaculum: median nerve trapped
- Simple neurolysis: not enough
- Protect nerve: barrier against adhesions.
- Several surgical options

MATERIAL AND METHOD

- Monocentric Prospective Study
- March 2006 - April 2014
- 6 senior surgeons
- Same surgical procedure
- 34 cases: 19 Men, 15 Women
- Mean age: 67 years (36-91)
- Hand injured: dominant Hand = 65%
- Tobacco consumption: 44%
- Type 2 Diabetes: 12%

Results

Follow-up: 24 months (34/34 patients) and 60 months (13/34 patients)

<table>
<thead>
<tr>
<th></th>
<th>34 cases</th>
<th>Paresthesia</th>
<th>Neurapraxia</th>
<th>VAS /10</th>
<th>Grip KS</th>
<th>Tactile hypoesthesia</th>
<th>SSEP area</th>
<th>Theral atrophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-up</td>
<td>34</td>
<td>34</td>
<td>24</td>
<td>6.4</td>
<td>16</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>24 m FU</td>
<td>3</td>
<td>2</td>
<td>1.4</td>
<td>19</td>
<td>13</td>
<td>6.4</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

EVA 0-3 : 85%
DN4a 4-6%

- F/U 60 months: 13 patients
  Similar results F/U 24 months
- ENG F/U 24 months: 4 patients
  Distal Latency normal
  Nerve Conduction Velocity normal

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>Excellent = 13</th>
<th>Good = 12</th>
<th>Fair = 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>MacKinnon-Dellon scale</td>
<td>53+ = 12</td>
<td>54 - 6</td>
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</table>

Satisfaction: 73%

Complications

- Per operative complication: 0
- Infection: 0
- Complex Regional Pain Syndrome: 0
- Hypertrophic scar: 0
- Reoperations: 0

Discussion

- The Hypothenar Fat Pad Flap for Management of Recalcitrant Carpal Tunnel Syndrome
  Strickland, J.W., and al.
  (J Hand Surg 1996;21A:840-848)

- The hypotenar fat-pad flap is turned across like the page of a book and used to cover the median nerve and its innervated areas.
  The ulnar artery and its end branches to the hypotenar fatty tissue can be seen near Guyon’s canal.

- Carpal canal contents are retracted ulnarly, mattress sutures are placed through the radial wall of the tunnel and back through the fat pad.

- The fat pad is placed palmar to the median nerve and dorsal to the radial leaf of the transverse carpal ligament.

- The fat pad is rotated to cover the median nerve.

POST OP CARE:

- Early active mobilisation
- After 2 weeks, physiotherapy if necessary.

- Patient Inclusion Criteria:
  - Failed primary carpal tunnel surgery (Open in 8.7% and Endoscopic in 19.6%)
  - Recurrent carpal tunnel syndrome (nodular paresthesia) = 34 patients
  - varicose veins (burning or freezing pain, itching, electric shock sensation) = 24 patients
  - Electromyographic anomalies (Distal Latency and Nerve Conduction Velocity)
  - Md-sc, neuropathy
  - Musculoskeletal consultation

- 2 reviewers: independent
- Pre- and Post-operative Evaluation:
  - Paresthesia and Neuropathy signs
  - VAS (0-10)
  - Grip strength (Jamar®)
  - SEP (c) and tactile hypoesthesia
  - Theral atrophy
  - Functional Score (DN4A/4b)

References