The Talar Body Prosthesis Treated End Stage Ankle Arthrosis

Thos Harnroongroj, MD
Department of Orthopaedics, Siriraj hospital, Mahidol university, Bangkok, Thailand
Conflict of interest

“The author has no conflicts to disclose”
Background

End stage ankle arthrosis with failure of conservative treatment

Ankle arthrodesis (AA)
- Adjacent joint degeneration
- Report of long-term dissatisfaction
- Nonunion

Total ankle replacement (TAR)
- Aseptic loosening
- Revision rate of 9 - 23 %
- Questionable long-term satisfactory outcome

Daniels TR et al. JBJS Am. 2014
Strasser NL et al. FAI. 2012
Krause FG et al. JBJS Am. 2011
Fuchs S et al. BJS. 2003
Talar Body Prosthesis (TBP)

- Invented by Harnroongroj, T since 1974
- Treatment of avascular necrosis of the talus with satisfactory mid to long-term foot and ankle function
- We used TBP treated end-stage ankle arthrosis with insufficient bone quality of talar dome.

Harnroongroj T et al. JBJSAm. 2014
Harnroongroj T et al. JBJSAm. 1997
Objective

- Studied the results of TBP treated end stage ankle arthrosis at 5 to 10-year follow up
Materials & methods (1)

• Retrospective cohort study

• Inclusion criteria:
  - Grade 3 Bargon and Henkemeyer radiographic ankle arthrosis
  - Deformed talar body

• Exclusion criteria:
  - Neurological/neuromuscular disorders
  - Hip/knee/foot problems & impeded walking ability
  - Age > 70 years old

• Surgical technique: TBP insertion + tensor fascia lata (TFL) replacement at distal end of tibia
Materials & methods (2)

• 23 patients were included:
  - 13 Male: 10 Female
  - Average age: 54.70 (39-70) years old
  - Average BMI: 25.56 (21.89-29.76) kg/m²

• We studied:
  - Pre and latest American Orthopaedics Foot and Ankle Society (AOFAS) ankle-hindfoot score
  - Latest follow up range of motion (ROM)
  - Radiographic neighboring joint arthrosis
## Results

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results</th>
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<tbody>
<tr>
<td>Mean follow up period (years)</td>
<td>6.48 (5-10)</td>
</tr>
<tr>
<td>Median (Range) AOFAS ankle-hindfoot score</td>
<td></td>
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<tr>
<td>- Preoperative period</td>
<td>36 (31-58)</td>
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<tr>
<td>- Latest follow up</td>
<td>75 (61-83)</td>
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<tr>
<td>Range of motion (ROM)</td>
<td></td>
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<tr>
<td>- Dorsiflexion (°)</td>
<td>3° (0°-5°)</td>
</tr>
<tr>
<td>- Plantarflexion (°)</td>
<td>22° (15° - 29°)</td>
</tr>
<tr>
<td>Radiographic neighboring joint arthrosis</td>
<td>No</td>
</tr>
</tbody>
</table>
7 years after index operation
10 years after index operation
Discussions and Conclusions

• TBP + TFL replacement at distal end of tibia showed satisfactory foot and ankle function at 5 to 10-year follow up.
• Comparable AOFAS to arthrodesis and total ankle replacement
• No evidence of prosthesis failure or neighboring joint arthrosis.

Strasser NL et al. FAI. 2012
Krause FG et al. JBJSAm. 2011
References

• Harnroongroj T, Harnroongroj T. The Talar Body Prosthesis: Results at Ten to Thirty-six Years of Follow up. JBJSAm. 2014;96:1211-1217.


• Strasser NL, Turner NS. Functional Outcomes After Ankle Arthrodesis in Elderly Patients. FAI. 2012;33(9):699-703.


• Harnroongoj T, Vanadurongwan V. The Talar Body Prosthesis. JBJSAm. 1997;79:1313-1322.