Non-restricted weight-bearing after modified Lapidus arthrodesis.

Manuel Pellegrini P/ Gerardo Muñoz M/ Giovanni Carcuro U/Marcelo Somarriva L/
Natalio Cuchacovich M/ Francisco López Q

Orthopedic Surgery Department – Clínica Las Condes – Santiago, Chile
I (and/or my co-authors) have something to disclose

My disclosure is in the Final AOFAS Mobile App.

- Manuel Pellegrini: 3B: Acumed, Actuamed (Merete); Wright Medical 6: Arthrex
- Giovanni Carcuro: 3B Arthrex, Synthes
Introduction

• Modified lapidus arthrodesis
  • Favorable outcomes and high patient satisfaction.

• Complications
  • Delayed consolidation and non-union with rates between 5-20%.
  • To prevent them, prolonged foot unloading and rigid fixation methods have been classically proposed

• We sought to investigate our clinical results and complications in patients operated on with a modified Lapidus arthrodesis and immediate weight bearing.
Introduction

• Our current protocol for lapidus arthrodesis
  • Rigid fixation with a compression screw plus locked medial neutralization plate
  • Immediate weight bearing using a rigid post-operative shoe.

• We sought to investigate our clinical results and complications in patients operated on with a modified Lapidus arthrodesis and immediate weight bearing.
Patients and Methods

- IRB approval
- Retrospective patient chart review in a single center.
- Dedicated foot and ankle orthopaedic surgeons performed all procedures.
- Patients included:
  - Older than 18 years
  - Minimum follow up of one year
  - Agreed to participate in the study.
- Patients with neuropathy, revision arthrodesis or those with concomitant midfoot/hindfoot procedures were excluded.

Non-restricted weight-bearing after modified Lapidus arthrodesis.
Patients and Methods

- All patients were operated with an inter-articular lag screw and a locking neutralization plate.
- Patients were allowed to weight bear without restriction in a rigid post-operative shoe from postoperative day one.
- An independent musculoskeletal radiologist evaluated bone consolidation of the arthrodesis in x-rays or CT scan, when available.

Non-restricted weight-bearing after modified Lapidus arthrodesis.
Results

- Fifteen patients (18 feet) with an average age of 47 years (18-66).
  - All patients were female. Mean follow up was 19 months (12-24).

- The surgical indication
  - Hallux valgus in 14 cases
  - Isolated osteoarthritis of the first cuneo metatarsal in 1 case.
# Results

<table>
<thead>
<tr>
<th>Gender</th>
<th>12 patients</th>
<th>15 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0 patients</td>
<td>0 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>45 years (18-66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Average)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre operative diagnosis</th>
<th>11 patient</th>
<th>14 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hallux valgus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st ray arthrosis</td>
<td>1 patient</td>
<td>1 feet</td>
</tr>
</tbody>
</table>

Table 1. - Patients demographics and pre operative diagnosis

*Non-restricted weight-bearing after modified Lapidus arthrodesis.*
Results

• Consolidation rate 94% (14/15)
• Average time for radiological consolidation 11 weeks (7-27).
  • 1 patient with a confirmed non-union in radiograph and CT
    • Re-arthrodesis plus autologous bone graft.
• No cases of loss of radiological correction or malalignment of the first ray at last follow-up.
• All the patients returned to their previous level of activity in an average time of 16 weeks (6-38).
• 33% of patients (5/15) had symptomatic hardware at the end of the follow up.
Results

<table>
<thead>
<tr>
<th>Condition</th>
<th>Nº</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Union</td>
<td>1</td>
</tr>
<tr>
<td>Symptomatic hardware</td>
<td>5</td>
</tr>
<tr>
<td>Loss of reduction</td>
<td>0</td>
</tr>
<tr>
<td>No complications</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 2. - Complications in feet with modified Lapidus arthrodesis
Discussion

- Limitations of the study:
  - Retrospective study
  - Case series with out comparative group
  - Low number of cases

- Our results suggest that modified Lapidus arthrodesis with rigid fixation methods and non restricted weight bearing is a safe and effective alternative to manage first ray pathology. This approach may not increase non-union rates or affect the reduction obtained.

Non-restricted weight-bearing after modified Lapidus arthrodesis.
Bibliography


