Ankle Arthroscopy in a Hanging Position Combined with Hindfoot Endoscopy for the Treatment of Concurrent Anterior and Posterior Impingement Syndrome of the Ankle

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Disclosure

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My disclosure is in the Final AOFAS Program Book and in the Orthopaedic Surgeon’s Disclosure Program database.

I have no potential conflicts with this presentation.
I have nothing to disclose
Introduction

- Anterior and posterior ankle impingements can be simultaneously combined
  
  *Henderson and La Valette. Foot Ankle Int, 2004*

- When anterior and posterior impingements are simultaneously combined, it is sometimes inevitable that a pathology is left untreated when either anterior ankle arthroscopy or hindfoot endoscopy is used.

- To combine these two techniques, surgery must be stopped and the patient’s position changed from supine to prone or vice versa which wastes time and increases the risks of contamination.
Materials and Methods

We developed a method that allows anterior ankle arthroscopy and hindfoot endoscopy to be performed without the need for repositioning from supine to prone.

Patients

- May 2009 ~ September 2010
- 22 ankles (20 men, 2 women) with concurrent anterior and posterior ankle impingement syndrome
  - Mean age at surgery: 22.6 years (range, 20 to 46 years)
  - The mean duration of follow-up was 15.4 months (range, 12 to 29 months)
Under spinal or general anesthesia, the patient was placed in a prone position with the knees placed just proximal to the distal edge of the operating table.

A leg holder was then applied around the involved thigh to hold the affected limb and provide counterforce against ankle traction.
Methods

- After standard preparation and draping, a Coban was wrapped around the involved calf.
- Non-invasive distraction straps were then applied around the ankle and attached to a shoulder-holding traction frame, with an “S” hook, and 135 N (30 lb) of traction was applied.
Anterior ankle arthroscopy was performed first to address anterior lesions followed by hindfoot endoscopy after releasing the ankle suspension and extending the knee to treat posterior lesions.
## Results

### Preoperative indications and their results

<table>
<thead>
<tr>
<th>cases</th>
<th>Patients Count</th>
<th>Mean Preop AOFAS score/FFI</th>
<th>Mean Postop AOFAS score/FFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anterior pathology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posterior pathology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anterolateral soft tissue impingement</td>
<td>2</td>
<td>60.5 /42.5</td>
<td>83.0/13.5</td>
</tr>
<tr>
<td>Posterior soft tissue impingement</td>
<td>12</td>
<td>65.2/45.5</td>
<td>87.6/17.2</td>
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<tr>
<td>Os trigonum syndrome ± FHL tenosynovitis</td>
<td>2</td>
<td>59.0/50.5</td>
<td>82.5/19.0</td>
</tr>
<tr>
<td>Anterolateral soft tissue impingement + OCL of anterior talus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Os trigonum syndrome ± FHL tenosynovitis</td>
<td>2</td>
<td>59.5/50.0</td>
<td>81.5/21.0</td>
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<tr>
<td>Anterior bony impingement</td>
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<td></td>
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<tr>
<td>Posterior soft tissue impingement</td>
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<td>62/44</td>
<td>86/12</td>
</tr>
<tr>
<td>Os trigonum syndrome ± FHL tenosynovitis</td>
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<td>58.3/43.7</td>
<td>86.7/18.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>62.6/45.8</strong></td>
<td><strong>86.0/17.2</strong></td>
</tr>
</tbody>
</table>

OCL, Osteochondral lesion; FFI, Foot Function Index
Results

- Mean American Orthopedic Foot and Ankle Society (AOFAS) score increased from 62.6 preoperatively to 86.0 at final follow-up ($p < 0.01$).
- Foot Function Index (FFI) improved from 45.8 to 17.2 ($p < 0.005$).
- Eighteen patients were very satisfied or satisfied with the results and 2 patients were dissatisfied.
- No complication, such as, compartment syndrome, related to ankle distraction in a hanging position occurred.
Ankle arthroscopy in a prone position with the ankle hung up on a shoulder-holding traction frame combined with hindfoot endoscopy provides a useful means for treating anterior and posterior ankle impingement that does not require changing the patient’s position from supine to prone.


