A medial portal to arthroscopically access the posterior ankle joint in the supine position

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Our disclosures are in the Final AOFAS Program Book
We have no potential conflicts with this presentation
Purpose:
• Assess the safety of a medial portal used for supine ankle arthroscopy

Background:
• Use of ankle arthroscopy increasing
  – expanding indications-ie: fracture, fusion
• Posterior aspect of the ankle difficult to access
• Various posterior portals have been described
  – Most common posterolateral portal in supine position
    • Problem: instruments work towards NV bundle
  – Alternative prone posterior arthroscopy
    • Problem: requires pre-operative decision, inaccessible from standard supine position
Technique:

• Standard anterior ankle arthroscopy
  – Anteromedial and anterolateral portals

• Medial portal
  – Outside-in technique
  – Between tendons of Tibialis Posterior and FDL
  – At joint line - approx 1cm above tip of medial malleolus
  – Skin incision, blunt dissection, bluntly pierce capsule
  – Instruments visualized in joint prior to use
Methods:

• Retrospective review, single surgeon
• 225 pts who had undergone ankle arthroscopy using the medial portal from 2003-2011 were contacted by phone to assess for any post-operative complications.
• 109 completed phone interview
• 38 of those patients who identified a complication returned for follow-up

<table>
<thead>
<tr>
<th>PT CHARACTERISTICS</th>
<th>109 pts</th>
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<tbody>
<tr>
<td>Sex</td>
<td>47 females (43%)</td>
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<tr>
<td>Avg Age</td>
<td>46 (range 19-75)</td>
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<td>Other procedure at time of arthroscopy</td>
<td>64 (58.7%)</td>
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<tr>
<td>Follow-up</td>
<td>830 days (range 11-2836 days)</td>
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Results:

• Self-reported complication rate: 33% (36/109)
  – bleeding 3/109 (2.7%)
  – infection requiring antibiotics 11/109 (10%)
  – numbness or tingling 22/109 (20.1%)
• 19 ongoing numbness at follow up visit
  – superficial peroneal nerve 7/109 (6%)
  – deep peroneal 2/109 (1.8%)
  – tibial nerve 3/109 (2.7%)
  – Sural/saphenous/non-dermatomal 7/109 (6%)
Results:

- 3 pts with tibial nerve symptoms
  - All were brought back for further exam/investigations
    - One had scope in 2009 for talar OCD, open tib post debridement, NC fusion, lateral ligament reconstruction
      - Because of incomplete resolution of symptoms pt underwent EMG studies which were negative at the ankle
    - One had scope in 2003 with hardware removal for previous pilon
    - One had a scope in 2009 for medial and lateral OCDs with debridement (shaver thru PM portal)
      - At follow up - both had no objective signs of nerve injury-normal sensation, negative Tinels documented in chart
Discussion:

- High self reported complication rate
  - Limits of telephone questionnaire
  - 58% had open procedure performed with arthroscopy
- Posterior ankle arthroscopy
  - Overall complication rate 8.5%
    - 4/186 patients had plantar numbness
    - One case of plantar numbness failed to resolve.
      - Nickisch JBJS 2012
  - 2 case reports in literature of tibial nerve injury with posteromedial portal used in prone arthroscopy
- No tibial nerve injury documented at the ankle joint in our series
Conclusion:

• Supine ankle arthroscopy using the medial portal is safe
  – Single patient positioning
  – Access to entire joint in one surgery

• No significant tibial nerve injuries were identified.

• CAUTION:
  – use only blunt dissection to access the joint
  – confirm access to the joint using the arthroscope in an anterior portal
  – use instruments within the joint only under direct visualization
References:


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