Posterior Arthroscopic Tibiotalocalcaneal Fusion:
Surgical Technique and early results

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Disclosure

NO CONFLICT TO DISCLOSE

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Our disclosures are in the Final AOFAS Mobile App.
We have no potential conflicts with this presentation.
Introduction

- Hindfoot arthritis is usually treated with tibiotalocalcaneal fusion
- In the vast majority there are wound problems due to previous operations
- Posterior arthroscopic tibiotalocalcaneal fusion is an alternative surgical technique
- Less invasive, with less morbidity
- Fusion is achieved with a retrograde intra-medullary nail
Patients-methods

- 5 patients: 2 ♂, 3 ♀
- Age: mean 69.8 (56, 65, 71, 78,79)
- 4 patients with trauma history
- co morbidities
  - Type II diabetes in a patient
- B.M.I.: mean 30,5 (24,7-36,3)
- Spine anaesthesia
- Thigh tourniquet
- Prone position
- Standard knee arthroscopic set
- Fluoroscopic control
Patients-methods

• Retrograde intramedullary nail T2 ankle system \textit{(Stryker)}
Surgical technique - step 1

- Arthroscopic preparation of the ankle joint
Surgical technique - step 2

- Insertion of the intra-medullary nail under fluoroscopic-arthroscopic control
- Arthroscopic preparation of the posterior facet of the subtalar joint after the insertion of the nail in order not to disturb the hindfoot alignment
- Proximal and distal locking of the nail under fluoroscopic control
Postoperative protocol - Early results

- 8-10/52 cast
- Begin full weight bearing in 6/52
- Fusion achieved in all five cases
- No major complications
- Mean hospitalization 1.2 days
- Fusion achieved in 3 months time (2,5-3,5)
Indications

- Combined arthritis of ankle and subtalar joint
- Post-traumatic arthritis
  - Avascular necrosis of the talus
  - Malleolar fracture
  - Pilon fracture
  - Os Calcis fracture
- Rheumatoid arthritis
- Polio
- Diabetic foot (Charcot of hind foot)
- Acquired flatfoot deformity (grade IV)

Contraindications

Varus deformity $>20^\circ$ or valgus deformity $>30^\circ$
Discussion

Advantages

- Minimal invasive technique
- Lower rate of nonunion
  - probably because of preserving vascularization
  - debris
- Less morbidity
  - Hospitalization less than 3 days
  - no need for blood transfusion

Technique and early experience with posterior arthroscopic tibiotalocalcaneal arthrodesis

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