Mid- to long-term outcome of modified Triple Arthrodesis

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My disclosure is in the Final AOFAS Mobile App. I have no potential conflicts with this presentation.
Introduction

- Original Triple arthrodesis is used for correcting the sequels of paralytic disease:
  - Aim: plantigrade and stable foot
  - Technique: Subtalar, TN and CC joint fusion

- Later extension of the indication to correct arthritic joints:
  - “gold standard” for correcting acquired adult flatfoot deformity °III
Introduction

- The Diple Arthrodesis:
  - Isolated subtalar and talonavicular arthrodesis through a single medial approach
  - Sparing of the CC joint / no wound on the tension side
Aim of the study

- Mid- to long-term results of modified Triple Arthrodesis
  - Union rate
  - Progression of the disease
    - Talar tilt
    - Secondary sag of the medial arch
  - Clinical outcome
  - Satisfaction
Patients

- 94 consecutive diple arthrodeses (85 patients) included (females, 58; males, 27; mean age 66 [39 - 86] years)
- All patients were treated by one of two surgeons between 2005 and 2011
- Indication: symptomatic, rigid flatfoot deformity due to posterior tibial tendon dysfunction ° III
- In severe valgus deformity a medial displacement osteotomy of the calcaneus was additionally performed
- 11 patients underwent a fusion of the medial tarsometatarsal joint
Results: Radiographic

- Radiographic outcomes of 94 feet were analyzed
- Average follow-up of 5 years (range, 2.5-8.5 years)

Pre- and postoperative lateral view
Results: Radiographic

- Progression of ankle Valgus deformity in 6 cases (6.3 %)

- Secondary sag of the medial arch in 8 cases (9%)
Results: Radiographic

- In 3 cases
  avascular necrosis of the lateral talus body
- Nonunion in 11 feet
  (4 TN, 3 ST, 4 TN+ST)
- 1 case required revision due to overcorrection
- Wound healing problems were limited to the superficial skin
Results: Clinical Assessment

- 80 % would redo surgery

- Overall AOFAS-Score was 67 (range 16 - 100)

- Overall satisfaction after 6 years:
  - 31% very good
  - 35% good
  - 18% moderate
  - 16% bad
Conclusions

- Good and reliable clinical and radiological mid- to long-term outcome for the correction of rigid flatfoot deformity

- Main complications were:
  - Secondary valgus tilt in the ankle in 6%
  - Secondary sag of the medial arch in 9%
  - Nonunion in 12%

- Nonunion rates are comparable with other hindfoot fusion techniques using an additional lateral approach

- Avascular necrosis of the talus is a rare complication
References


