Intramedullary Fixation in Severe Charcot Osteo-Neuroarthropathy with Foot Deformity Results in Adequate Correction without Loss of Correction

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My disclosure is in the Final AOFAS Mobile App

I have no potential conflict with this presentation.
Midfoot Fusion Bolt (MFB)

- Intramedullary fixation principally more stable than peripheral fixation, for example proximal femoral fractures, tibiotalocalcaneal (TTC) arthrodesis
- Compression possible
- NO rotational stability of single MFB
Multicenter study (Level III)

- 3 centers (N, Rostock, Dresden)
- Age ≥ 18 years
- Inclusion period 2009 - 2013
- Inclusion criteria = neuropathy + deformity / instability + operative correction
- Localisation Sanders
- Stadium Eichenholtz / Sella & Barette
- Radiographic angles pre-/postop/FU
- Therapy failure
- Adverse events
Radiographic angles

Radiographs WITH weight bearing

- TMT dp
- TMT lateral
- Calc - MT 5
MFB Implantation

Introduction

Methods

Results

Conclusions
Results (Level III)

- n=47 pat. (n=48 feet; Rummelsberg: n=28; Rostock: n=13; Dresden: n=6)
- Age 60.1 Jahre; male 59.6%
- Diabetes mellitus n=38 (80.9%)
- Localisation Sanders II 100%
- Eichenholtz I n=26 (54.2%)
- Sella & Barette III n=34 (70.8%)
- 3 MFB n=27 (56.2%)
- 2 MFB n=6 (12.5%)
- 1 MFB n=15 (31.3%)
- Gastroc-slide n=28 (58.3%)
Adverse events / failure

- Adverse events n=30 pat. (63.8%)
  - Wound healing problems 21%
  - Reulceration 13%
- Treatment failure n=8 (16.7%)
  - Revision loss of correction n=3 (6%)
  - Amputation n=5 (2 Major/3 foot l.)
## Angles

### Introduction

### Methods

### Results

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<th>Parameter</th>
<th>Time</th>
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<th>Range (°)</th>
<th>Change (°)</th>
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Followup (mean 12 months)

- All angles improved pre- versus postoperatively, and preoperatively versus last follow-up. The angles did not change postoperatively versus follow-up except calcaneo-5th metatarsal angle -> Adequate correction without loss of correction (94%)

- Pseudarthrosis/non-union rate 2%
Followup (mean 12 months)

- Treatment failure correlated with
  - Implantation ONLY 1 MFB
  - NO Gastroc-slide

- Loss of correction correlated with
  - Implantation ONLY 1 MFB
Charcot - MFB

Introduction

Methods

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Conclusions

- n=48, mean FU 12 months
- High overall morbidity
- Adequate correction without loss of correction (94%)
- Pseudarthrosis rate 2%
- 2 or 3 MFB necessary, best results with 3 MFB
- 1 MFB NOT enough
- Gastroc-slide useful