Clinical results of the open reduction and internal fixation of calcaneal fractures

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Disclosure

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

- Calcaneal fractures are common and disabling injuries occurring most often in younger males. Displaced intraarticular fractures are most concerning in terms of treatment and results. Operative treatment should be chosen for cases with substantial articular fragment dislocation more than 2 mm, joint angle of Böhler depression and widening of the heel. The aim of this study was to evaluate mid-term results of open reduction and internal fixation (ORIF) of such fractures.
Material and Methods

- 81 patients with os calcis fracture underwent surgical intervention from 2005 to 2007 in our department.
- 48 patients (44 men and 4 women) from these cases with the mean age of 48 years (range, 28 to 71 years) with dislocated Sanders II, III, and IV type fracture were treated with ORIF through the extensile lateral „Seattle“ approach.
- The pre-shaped locking screw plate was used to stabilize articular fragments after the reduction. An additional medial approach was added for the reduction and fixation of the sustentacular fragment in 9 cases.
Material and Methods

- „Seattle“ approach
Material and Methods

Broden’s views
Material and Methods

- Active ankle and especially sub talo range of motion exercise was begun 24 hours after the surgery.
- Sutures were removed at 3 weeks postoperatively.
- Transition from non-weight bearing to 30 % weight bearing was allowed at 6 weeks and to full weight bearing at 12 weeks.
- Radiological and clinical results (Ankle-Hindfoot Scale AOFAS) were evaluated at least 6 years postoperatively (range, 6 to 8 years).
Results

- All fractures healed.
- Excellent clinical results were achieved in 40 cases (84 %), good in 4 cases (8 %), satisfactory in 3 cases (6 %), and bad in 1 case (2 %).
- The mean Böhler angle was 31.8° (range, 18° to 39°) and the mean angle of Gissane was 129.0° (range, 97° to 142°).
Results

- Posttraumatic arthritis was observed in 2 cases (4 %) (grade II and III).
- Deep infection developed in 1 case (2 %) and was treated with antibiotics and implant removal after the fracture healing.
- Wound healing problems occurred in 8 cases (17 %).
Results
Conclusion

- Correct ORIF of displaced intraarticular fractures of the calcaneus is necessary to achieve good results.
- The additional medial approach has to be often added for the precise reduction and fixation of the sustentacular fragment.
- Sub talo range of motion exercises must begin early after the surgery.
References
