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Title: Long-Term (15-20 years) Results of Displaced Intra-Articular Calcaneal Fractures Treated With Closed Reduction and Percutaneous Screw Fixation

Authors: Driessen MLS, Edwards MJR, Biert J, Hermans E

Affiliations: Radboudumc

Topic: Trauma and damage control

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Background:

Over the last 20 years, minimal invasive treatment with closed reduction and percutaneous screw fixation of displaced intra-articular fractures of the calcaneus has shown some good result on the short term.

Aim:

The aim of this study was to assess the treatment post-operative outcome in mobility, foot function, stability, pain and patient satisfaction after 15-20 years and to compare it with the outcome 5 years postoperative.

Methods:

The same cohort of patients who were described in 2007 was asked to participate. All patients underwent percutaneous screw fixation between 1998 and 2006. Functional outcome, range of motion and change in footwear were evaluated with the use of the American Orthopaedic Foot & Ankle Society (AOFAS) score and the Maryland Foot Score (MFS). All patients also completed a general health status form (Short Form-36 [SF-36]) and a visual analogue scale (VAS) for patient satisfaction.

Results:

Thirty-one patients were asked to fill out the questionnaires. In total 21 patients responded (68%). Thirteen participants were males, eight females. Mean age was sixty-four. In these 21 participants, 25 displaced intra-articular calcaneal fractures were seen. Sanders classification was type II in five patients, type III in thirteen patients and type IV in seven patients.

At the mean follow up time of sixteen years and seven months, the AOFAS score was 70 points the mean MFS score was 70 points. Two participants underwent arthrodesis and were excluded from average. These two participants were considered as having a poor result after primary treatment. The OAFAS questionnaire yielded good or excellent results in 38% of the participants, fair results in 24%, and poor results in 33%. The MFS was scored good or excellent in 52%, fair in 24% and as poor in 24%.



The mean SF-36 score was 62 point of 100 possible points and the mean score on the visual analogue scale for patient satisfaction was 7 points of 10 possible points.

Discussion:

We recorded a decline in OAFAS- and MFS-score of respectively 17% and 19% points and a decrease of 0.9 point on patient satisfaction in comparison to five years follow-up, which indicates on-going osteoarthritis.

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Position presenting author: underlined

Word count of abstract body: maximal 350 words