10-year patient reported outcomes after surgical treatment of talus fractures

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INTRODUCTION:
Talus fractures are rare injuries. To date, there is limited literature on outcomes after modern operative treatment of talus fractures. Many prior studies are limited by a small number of patients, limited follow-up, and include radiographic outcomes only. The purpose of this study was to report long-term patient-reported outcomes after operative treatment of talus fractures.
METHODS:
This was a retrospective cohort study of all patients with a talus fracture treated surgically at a level one trauma center between 2008 and 2018, with a minimum of 5 years of follow-up. Detailed demographic, injury, and radiographic data were collected. Attempts were made to contact all patients for long-term follow-up to collect the Foot and Ankle Ability Measure (FAAM) patient-reported outcome score.
RESULTS:
A total of 128 patients met inclusion criteria and were successfully contacted for follow-up. The average length of follow-up was 10.4 years (range 5.0-15.6, SD 3.2). The mean age at time of injury was 35 years (SD 9). 92 patients (72%) were male. Sixty-nine patients (54%) had an ipsilateral foot or ankle fracture. The average BMI was 27.1 (SD 4.9). Thirty-six patients (30%) were active smokers. Ten patients (8%) were diabetic, all of whom had a hemoglobin A1c of <8 at the time of injury. Thirteen patients (10%) sustained their injury at work and were treated under workman's compensation insurance.
The median injury severity score was 4.5 (IQR 4-13). There were sixty-eight talar neck fractures, of which there was 2 Hawkins type I, 20 Hawkins IIA, 30 Hawkins IIB, 12 Hawkins III, and 4 Hawkins type IV (Table 2). There were 46 fractures of the talar body, 12 of the lateral process, and three of the talar head. Twenty-one (16%) were open injuries, with 2 Gustilo type I (2%), 10 (8%) Gustilo type II, 8 (6%) Gustilo IIIA, and 1(1%) Gustilo IIIB. Thirty-eight (30%) patients underwent unplanned reoperation, of which 12 (9%) were a salvage procedure (fusion, arthroplasty, or amputation).
Median FAAM score at a mean of 10 years was 83 (IQR 58-96). Looking solely at patients who had not undergone subsequent fusion, arthroplasty, or amputation, median FAAM score was 85 (IQR 63-96). FAAM scores in patients who had undergone salvage procedures were significantly lower, with a median score of 52 (IQR 36-65). Based on previously published definitions of FAAM score interpretations, in total, there were 52 patients with excellent outcomes, 16 patients with good outcomes, 27 with fair outcomes, and 33 with poor outcomes.
In univariate analysis, factors associated with lower FAAM score included open injuries, higher injury severity score, higher body mass index (BMI), increased time to definitive surgery, the presence of a subtalar dislocation at time of injury, development of subtalar arthritis, undergoing any reoperation, and undergoing a salvage procedure. In multivariate analysis, only undergoing a salvage procedure and increasing BMI and ISS remained associated with poorer FAAM scores.
DISCUSSION AND CONCLUSION:
In a large cohort of surgically treated talus fractures, FAAM scores at a mean of 10 years were better than anticipated based on current literature.