Long-Term Outcomes of a Randomized Controlled Trial Comparing Fibular Nail With Open Reduction and Internal Fixation in Patients with Unstable Ankle Fractures

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Purpose: Studies have compared open reduction and internal fixation (ORIF) with fibular nail fixation (FNF) and shown reduced wound complications with minimal difference to patient-reported outcome measures (PROMs) in the short term. Our aim is to compare the long-term outcomes of unstable ankle fractures between patients managed with ORIF and fibular nail fixation at a minimum of 10 years post randomization.

Methods: Patients from a previously conducted randomized controlled trial were contacted at a minimum of 10 years post intervention at a single study center. Case notes were retrospectively reviewed through electronic patient records and images acquired were assessed using a national image archive database. Patients were contacted at a minimum of 10 years post randomization and validated PROMs acquired.

Results: 99 patients were included (48 FNF and 51 ORIF). After 10 years 75% (33/44) of patients in the FNF group and 81% (39/48) in the ORIF group required no further reviews out with planned outpatient visits. Radiographically at 2 years post-injury, there was no statistically significant difference between groups for development of osteoarthritis (P = 0.851). There was 1 tibiotalar fusion in each group secondary to osteoarthritis, but no statistically significant difference in overall reoperation rate (P = 0.518). 61% (n = 60) of patients have so far returned PROMs at a minimum of 10 years (FNF n = 26, ORIF n = 34). No significant difference was found between groups for the mean scores of Olerud and Molander Ankle Score (FNF 81.54 vs ORIF 85.29; P = 0.418), the Manchester-Oxford Foot Questionnaire (MOXFQ) (FNF 84.74 vs ORIF 96.19; P = 0.093), EuroQol- 5D Index (FNF 0.82 vs ORIF 0.88; P = 0.672) and EuroQol-5D Visual Analogue Score (FNF 75.69 vs ORIF 77.32; P = 0.603).

Conclusion: The current study illustrates that both methods of treatment result in a satisfactory long-term outcome with no difference in late complications or PROM scores at up to 10 years in patients under 65 years old, although the study is currently underpowered.