

Functional Outcome for Calcaneum Fracture Fixation with Locking Plate

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INTRODUCTION:

The calcaneum is the commonest tarsal bone fracture, and 75% of these fractures occur intraarticularly.⁽¹⁾ Due to its complexity, treating these fractures is challenging. This study evaluates the clinical and radiological outcomes of displaced intraarticular calcaneal fractures treated with calcaneal locking plate.

METHODS:

The study used a calcaneal locking plate to treat 26 patients with displaced intra-articular calcaneal fractures between January 2014 and January 2019. Radiological evaluation was conducted using ankle X-rays and preoperative Computed Tomography, and patients were followed up for at least one year. Functional outcomes were evaluated using the SF-36 health survey and radiological assessment using Böhler's Angle.

RESULTS:

After a 2-year follow-up, the mean score for functional outcome using SF-36 scoring was 55.9, despite 94.4% of postoperative Böhler's angle achieved normal range (20-40°). The correlation between the postoperative Böhler's angle and SF-36 score was only 18.7%.

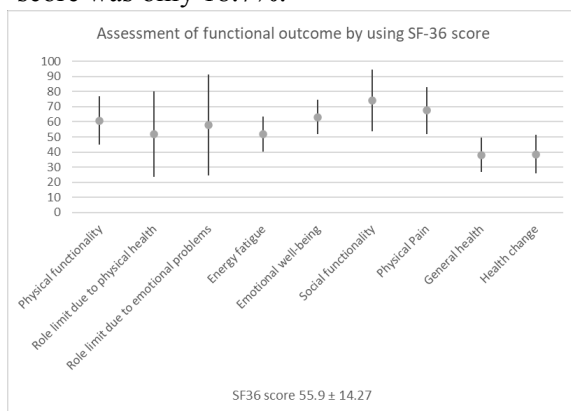


Figure 1: Functional outcome SF-36 score

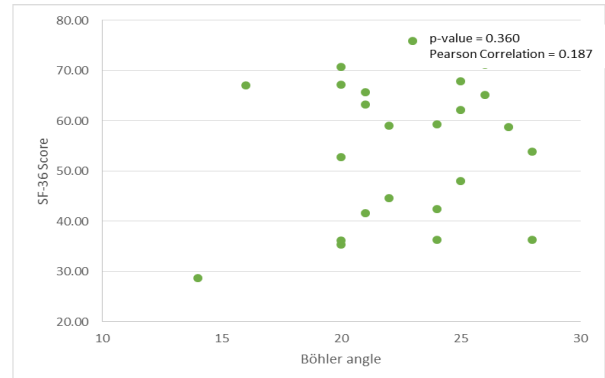


Figure 2: Correlation post-operative Böhler's angle and SF-36 score

DISCUSSIONS:

Displaced intraarticular calcaneus fracture is difficult to treat and often results in high morbidity and disability. Postoperative restoration of Böhler's angle to a normal value is important for achieving good results, but this study found that functional outcomes were average despite a high percentage of restored Böhler's angle. The congruity of the articular surface of the posterior facet had a significant impact on the functional outcome.⁽²⁾ Together with restoring Böhler's angle, the reduction of the articular surface is crucial.⁽³⁾

CONCLUSION:

Improvement in Böhler's angle did not significantly correlate with functional outcome, as it oversimplifies the complex interplay of various factors that can impact the final result. Thus, the articular surface congruity is a crucial factor to consider as it appears to be significantly affect the final outcome.

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