Treatment Of Intra-Articular Calcaneal Fractures Using Sinus Tarsi Approach And Only Screws

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Introduction/Purpose: Displaced intra-articular calcaneal fracture have been usually treated with open reduction and internal fixation using extensile lateral approach, however this management has been associated with high rates of soft tissues complications. Minimally invasive approaches might be an alternative to reduce these complications and improve the outcomes. Our aims were to describe the radiological and clinical outcomes of patients with intra-articular calcaneal fractures treated with a minimally invasive surgical technique. To determine if the Böhler’s angle is restored and maintained through the time. To determine the posterior facet joint reduction using CT scan. To report the frequency the soft tissue complications, days of hospitalization after the surgery, and the need of secondary procedures or additional admissions using this technique.

Methods: Retrospective review of patients with intra-articular calcaneal fractures treated with sinus tarsi approach and fixation only with screws between January 2014 and July 2016. Twenty fractures in 15 patients were included. The clinical files and imagenology studies were analyzed.

Results: The mean age was 47 years. Eighteen males and 2 females. One open fracture. Ten smoker patients. Two with diabetes mellitus. Ten cases were joint depression fractures and 10 were tongue fractures of the Essex Lopresti classification. Ten cases were Sanders II and 10 Sanders III. The mean Böhler’s angle was 2º preoperative, 22º in the postoperative and 19º at the last follow up. Postoperative posterior facet joint reduction was good or excellent in 19 cases. The mean days of hospitalization was 2.9. Two cases needed hardware removal. One patient had minor soft tissue complications. No patient had major complications.

Conclusion: Our experience showed a low soft tissue complications rate, an adequate correction of the posterior facet joint reduction and adequate correction and maintenance of the Böhler’s angle, few days of hospitalization after the surgery, and no need of secondary surgical procedures due to acute complications. We conclude this is a suitable alternative in order to reduce the soft tissue complications with accurate correction and preservation of the radiological parameters.