Wrecked Calcaneum: ORIF With Primary Subtalar Fusion; A Case Report

Theenesh B, A Che-Ahmad, Adham SA
Department of Orthopaedics, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan

INTRODUCTION:

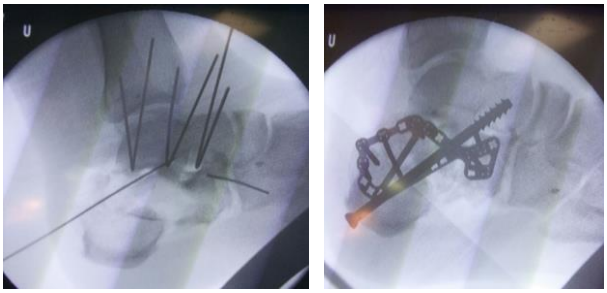
The calcaneum is the most frequently fractured tarsal bone and comprises 2% of all fractures. Approximately three quarters of these calcaneal fractures are intra-articular and treatment of these fractures is difficult. Treatment modalities range from conservative management to open reduction and internal fixation (ORIF) and subtalar fusion. ORIF of intra-articular calcaneal fractures leads to good and excellent results in 60-80% of the patients. But 2-17% of patients require secondary subtalar fusions because of the development of a painful subtalar arthritis. This has a direct correlation with the degree of subtalar comminution.

CASE REPORT

We are reporting a case of a 46-year-old man who was involved in an alleged motor vehicle accident. He sustained open comminuted fracture of right calcaneum with subtalar subluxation and underwent urgent wound debridement with cross ankle external fixation. Two weeks later, open reduction, internal fixation with calcaneal locking plate and primary subtalar fusion with cannulated screws were done. Patient was discharged home after an uncomplicated post operative stay in the ward of 5 days

DISCUSSION:

The treatment of comminuted intra-articular calcaneal fractures is still very much debated. Although several authors have reported good results in these fractures that were managed operatively, prognosis remain poor for some cases especially those with severe comminution. In his case series, Sanders reported secondary fusions in 7 of 30 (23%) Sanders Type III fractures and in 8 of 11 (73%) Type IV fractures. However, the results of secondary subtalar fusion after an intra-articular calcaneal fracture are not always satisfying. Themann et al. found only 10/17 (59%) good and excellent results using the AOFAS Score. The 7 patients (41%) with fair and poor results had an impaired ROM of the ankle joint with a secondary painful arthritis in the adjacent joints. Hence, a primary fusion after open reduction and internal fixation of the calcaneum at the same setting is recommended in selected cases.



▲ Intra-operative images

CONCLUSION:

Primary subtalar fusion with ORIF of the calcaneum is certainly an option in treatment of severely comminuted intra-articular calcaneal fractures.

REFERENCES:

1. Sanders et al., Clinical Orthopaedic and Related Research; The Operative Treatment in 120 Displaced Intraarticular Calcaneal Fractures, 1993
2. Potenza et al., Injury Journal ; Primary Subtalar Arthrodesis for The Treatment of Comminuted Intraarticular Calcaneal Fractures, 2010
3. Barbara D et al., Foot and Ankle International; Primary Subtalar Arthrodesis in Calcaneal fractures, 2006
4. Huefner et al., t al. , Foot and Ankle International; Subtalar Arthrodesis in Comminuted Calcaneal fractures, 2010