

Extreme Soft Tissue Complication Following Closed Comminuted Fracture of Calcaneus

¹Su Y; ¹Loo CP; ¹Mohd FM;

¹Department of Orthopaedic Surgery, Hospital Sultan Ismail, Johor.

INTRODUCTION

Comminuted fracture of the calcaneus is usually associated with high-energy mechanism. It often presents with challenging soft tissue condition(s) surrounding the calcaneus that must be addressed concurrently when managing the fracture.

REPORT:

We report a case of a 17-year old schoolboy who presented with right ankle pain and swelling following a motor vehicle accident.

On examination, his right ankle was grossly swollen, with concomitant edema and ecchymosis around the ankle. There was otherwise no sign and symptom to suggest compartment syndrome.

Plain radiographs and CT ankle revealed comminuted fracture of the right calcaneus, lateral calcaneal blowout and Bohler angle of 10 degrees.

He was admitted to the ward, and was put under RICE protocol. Few days later, multiple circumferential hemorrhagic fracture blisters gradually formed. After the swelling and blisters have almost resolved by three weeks, percutaneous screw fixation of the calcaneus was performed. Intraoperatively, it was noted that the posterior heel region has developed full-thickness skin necrosis. Ten days later, the necrosed skin was excised, followed by reverse sural artery pedicle flap coverage.

Three months after the surgery, the flap was viable and direct closure was achieved. The patient was able to perform partial weight bearing ambulation.



Figure 1: Soft tissue condition of the right ankle and foot on day 7 post trauma.



Figure 2: Full thickness skin necrosis of posterior heel (left), and flap condition after three months (right).

CONCLUSION:

Minimal invasive fixation of the calcaneus minimizes insult to the already-damaged soft tissue surrounding the calcaneus.

When the soft tissue condition is beyond salvage, the reverse sural flap is an excellent option for coverage of the posterior heel.

Therefore, following sound orthoplastic principles in the management of soft tissue defects associated with calcaneal fractures is of paramount importance.

REFERENCES:

1. Troy S et al., Foot Ankle Clinics, 2007 doi: 10.1016/j.fcl.2006.12.003
2. Bibbo C et al., Clinics in Podiatric Medicine and Surgery 2018 doi: 10.1016/j.cpm.2018.10.012