MINIMALLY INVASIVE REDUCTION AND PERCUTANEUS SCREW FIXATION FOR INTRA-ARTICULAR CALCANEAL FRACTURE

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Introduction: Calcaneal fractures make up 2% of all fractures in the human body1. The management of displaced calcaneal fractures has been a subject of controversy as it was believed to give unfortunate results with regards to its complex anatomy, precarious blood supply and limited soft tissue protection2. We present a case of percutaneous reduction by distraction with percutaneous screw fixation to reinstate calcaneal and posterior talocalcaneal facet anatomy with good functional outcome without wound-related complication.

Discussion: A 45-years-old lady with no comorbidity presented with a painful, swollen and bruised right heel following a fall from 10-feet height. Plain radiograph confirmed an intra-articular calcaneal fracture. CT showed comminuted right calcaneal fracture, Sander's Type 3 AC with sustentaculum tali depression. Intraoperatively, two 4mm Steinman pin inserted from lateral side through the calcaneal tuberosity and talar neck. One distractor and one modified external fixator mounted on each side respectively, winded apart to restore calcaneal height and length. Once reeduction achieved, first screw inserted into the sustentaculum, for width reduction and two others through calcaneal tuberosity within major fracture fragments. Postoperatively, she was allowed for ankle and foot mobilizing exercise. She was kept non-weight bearing for 6 weeks, then weight bearing with posterior wedge shoe for 6 weeks with gradual progression to unassisted full weight bearing on week 13th onwards. She returned to pre-injury functional state at month 4 - with AOFAS score of 98, without wound complication. She has no subtalar stiffness and good ankle range of motion - 40deg plantarflexion and 15deg dorsiflexion.

Conclusion: Open reduction and internal fixation techniques have reported soft-tissue complications in the range of 15% - 32%2. The soft tissue dissection and scarring that follows open reduction may lead to a compromised functional outcome. Minimally invasive techniques provide a bridge between open and conservative management providing the benefits of both.