

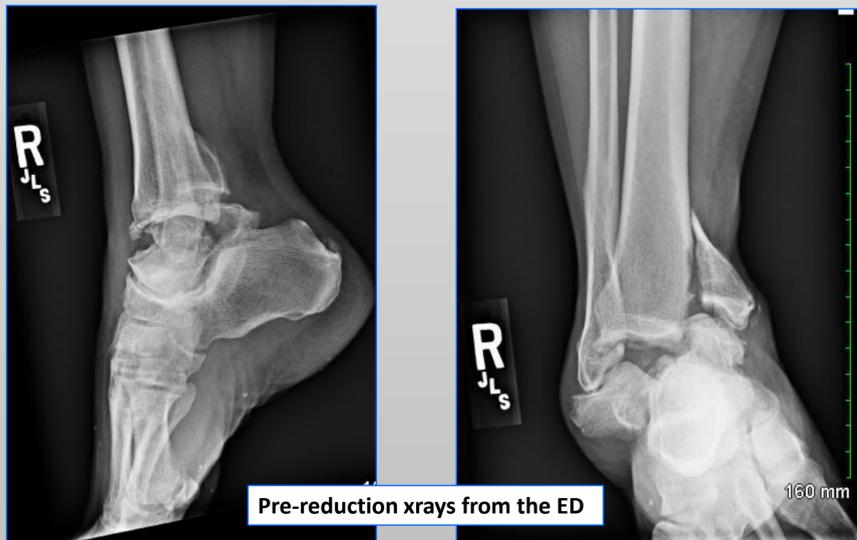
A Combination of a Dislocated Sagittal Plane Talar Body Fracture, Transverse Talar Neck fracture, and a Medial Malleolus Fracture: A Case Report

Statement of Purpose

Talus fractures with associated medial malleolus fractures are uncommon in the literature. We report a unique case that involves a sagittal talar body, transverse talar neck, and vertical medial malleolus fracture with dislocation. This was treated with open reduction and internal fixation of the talus and medial malleolus along with application of a delta frame external fixator. Due to the fracture pattern the patient was also kept non weight bearing for four months, which is longer than other case reports reported in the literature.

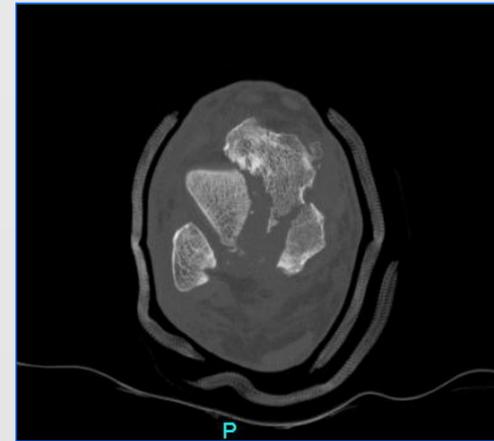
Literature Review

There are not many cases with this type of fracture pattern documented in literature. There was only one case reported of a sagittal talar body, transverse talar neck, and medial malleolus fracture by Isaacs et al. However, this fracture pattern was non-displaced and the patient was kept non-weight bearing for 6 weeks. Arkesh et al. reviewed seven cases that involved a fracture of the talus and medial malleolus. In the review, the post-operative non-weight bearing status varied from 6 weeks to 3 months and varied based on severity of injury.



Financial Disclosures

No financial disclosures.



Case Study

A 55 year old male with past medical history of depression presented to the ED after falling off of a roof that was approximately eight feet high. He landed on both of his feet but presented with right ankle and back pain. On xray it was noted that the patient had a closed dislocated sagittal talar body fracture, a talar neck fracture as well as a vertical medial malleolus fracture.

Closed reduction was performed in the ED under conscious sedation and the patient was admitted to the hospital for pain control. The following day he was taken to the OR for ORIF of the talus with application of a delta external fixator. The talus was exposed using anterolateral and anteromedial incisions. The talus fractures were fixated using 4-0 cannulated screws in the sagittal and transverse planes. The patient returned to the OR 10 days later for fixation of the medial malleolus using 4-0 and 5-0 cannulated screws.

The external fixator was removed 10 weeks after the initial surgery. The patient remained non-weight bearing during this time. At four months post operatively the patient began to slowly transition to normal ambulation in a patellar tendon weight bearing brace. Six months post operatively xrays began to show signs of avascular necrosis of the talar body. At nine months patient is walking in a custom molded foot and ankle orthoses with minimal pain. There is avascular necrosis noted on plain films but there are no signs of talar collapse. At the one year follow up there is radiographic evidence of AVN of the talar body. Clinically patient is ambulating without pain. He complains of mild pain when he has been on his feet for long periods of time. Overall, he has been doing well and is highly satisfied with his results.



Analysis & Discussion

Arkesh et al. showed after the 12 month follow up that his patient had mild pain with prolonged standing or walking. Isaacs et al showed after the 12 month follow up that his patient had mild pain with walking on uneven surface, mild loss of plantarflexion and dorsiflexion, and osteoarthritis of the subtalar joint. In both cases the patient was satisfied with the result. In the presented case the patient was kept non-weight bearing for 4 months due to the severity of the injury. The hope was to keep as much pressure off the talus to prevent any avascular necrosis or talar collapse. After four months of non-weight bearing along with the application of the external fixator was not enough to prevent avascular necrosis of the talus. Clinically the patient is walking with minimal pain. Overall, he is highly satisfied with the outcome. To our knowledge this is the first reported case that involved a dislocated sagittal talar body, talar neck, and medial malleolus fracture.

References

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