

Clinical and Radiographic Outcomes of Talar Fractures

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Purpose: Talar fractures are rare injuries associated with significant morbidity and poor long-term functional outcomes. There is variability of classification systems and ongoing debate regarding definitive management. We aimed to characterize the fracture morphology and outcomes in a large consecutive series of patients.

Methods: All adult talar fractures presenting to the Edinburgh Trauma Service between 2008 and 2015 were identified from a prospective database. Fractures were classified using the Hawkins-Canale and Sneppen systems. Osteochondral “dome” type fractures were excluded. All patient records and radiographs were scrutinized for avascular necrosis (AVN), fusion procedures, and nonunion. Mechanism of injury was classified as high-energy (road-traffic accident or fall from a height >2 meters) or low-energy.

Results: 61 fractures were identified over the 7-year period, of which 6 were open fractures and 3 were bilateral. The commonest fracture pattern identified was a displaced talar neck fracture (n = 46: 8 type I, 27 type II, 6 type III, 5 type IV) followed by talar body fractures (n = 16). 35 cases were associated with multiple injuries. 34 fractures underwent operative treatment in 1 of 3 methods: anteroposterior screws, posteroanterior screws, or plates and screws. There were 5 confirmed cases of AVN, 1 case of nonunion, and 10 fusion procedures. 40 cases arose from high-energy injuries and all cases of AVN, fusion, or nonunion were seen in this group irrespective of fracture pattern. There were no cases of AVN, fusion, or nonunion in the low-energy group.

Conclusion: We present a large series of talar fractures and demonstrate that a high-energy mechanism is associated with AVN, nonunion, and the requirement for fusion. Careful initial assessment should focus on injury mechanism to identify patients at risk of a poor outcome.