Closed Total Dislocation of Talus Without Any Accompanying Fractures

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Total talar dislocation, ie, disruption of the talus from the calcaneus, navicula, and tibia, is a rare and severe injury. We present a case of closed peritalar dislocation without any accompanying fractures and, thus, discuss the conflicts encountered in this rare injury. A 25-year-old male patient presented with severe pain, swelling, and deformity in his right ankle within 30 minutes of a fall from a height. There were no wounds around the ankle. Radiographs revealed that the talus was disrupted from the calcaneus, navicula, and tibia moving in the anterolateral direction. No accompanying fractures were seen in the talus or in surrounding bones. After an unsuccessful closed reduction attempt, a further decision was open reduction. It was seen that the interposed joint capsula was preventing reduction. After reduction, stability of the ankle was checked and found to be satisfactory, so no fixation material was used. It has been 2 years since the first injury, and the patient is functioning well, with no pain. The ankle has the same range of motion as the unaffected side. No sign of an avascular necrosis or sclerosis is seen on the final radiographs. Closed total dislocation of the talus without any accompanying fractures is a rare entity. The injury is open to various important complications, such as avascular necrosis, infection in patients with open wounds, and arthritic changes. To achieve a good outcome, early reduction of the dislocation has key importance. (J Am Podiatr Med Assoc 103(1): 73-75, 2013)
the cartilage was intact, contusion was obvious in the superolateral aspect of the talus. After reduction with manual distraction, the joint capsule was repaired. The stability of the ankle was checked in passive dorsiflexion, plantarflexion, and forced eversion and inversion and was found to be satisfactory, so no fixation material was used. The leg was placed in a below-the-knee cast for 6 weeks. After removal of the cast, physical rehabilitation was initiated to improve range of motion of the ankle, and full weightbearing was allowed. No complications were seen during follow-up.

It has been 2 years since the initial injury, and the patient is functioning very well, with no pain. The ankle has the same range of motion as the unaffected side. No signs of an avascular necrosis or sclerosis can be seen on the final radiographs (Fig. 2).

**Discussion**

Peritalar dislocation is a rarely encountered entity. In the literature, there are reports about talar dislocations, but identical cases are very few. Most of these cases are about either peritalar dislocations accompanied by fractures of surrounding bones or total extrusion of the talus.\(^1\)\(^-\)\(^4\)\(^-\)\(^7\) Closed peritalar dislocations account for a small number of these cases.\(^5\)\(^,\)\(^6\) However, the talus has no muscular attachments; it has rather stable localization, and dislocation of the talus can occur only as a result of a high-energy trauma. Thus it is not confusing to see accompanying fractures or burst-type open wounds in such cases. In the present patient, dislocation of the talus was also due to a high-energy trauma, but it was a pure dislocation, and no open wounds or fractures were evident.

In patients with peritalar dislocation, a variety of complications, such as avascular necrosis of the talus or surrounding bones, infection, and post-traumatic arthrosis, can be seen depending on the severity of the injury.\(^1\)\(^-\)\(^3\)\(^,\)\(^7\) Complications are more common in patients with open wounds or accompanying fractures.\(^1\)\(^-\)\(^3\)\(^,\)\(^7\) Wagner et al\(^2\) described six patients with total dislocation of the talus, and avascular necrosis was observed in five to some extent. In two different reports by Assal and Stern\(^1\) and Brewster and Maffulli,\(^3\) the authors reported arthritic changes in the ankles of the patients they treated for total dislocation of the talus with open wounds. The most catastrophic complication after treatment of a totally dislocated talus was reported by Ely et al\(^7\), and their patient had to undergo a below-the-knee amputation procedure owing to resistant infection at the injury site. In the literature, one of the few cases identical to the present one was presented by Taymaz and Gunal.\(^5\) Their patient had closed total dislocation of the talus, and after treatment by closed reduction, the final outcome was good, and no complications were observed. We also have not seen any complications during follow-up of the present patient, and the functional results were completely satisfying. Because the patient does not have any symptoms, control magnetic resonance imaging was not needed.

The interval between the time of the injury and the surgical intervention was less than an hour in the present case, and reduction was urgently
achieved. In our opinion, avascular necrosis could be avoided because there were no open wounds at the time of presentation and successful urgent reduction was achieved. Thus, we concluded that early reduction is mandatory to minimize the possibility of complications. For a successful result, a closed reduction maneuver should be attempted as the first choice. In the case of failure, open reduction could be needed, as it was in the case reported by Korovessis et al\(^6\) and also in the present case. The talus has good stability in its original position, although it has no muscular attachments. The surrounding ligaments and the congruency of its articular surfaces support this stability. That is why in cases of peritalar dislocation, no internal fixation should be necessary after reduction unless there is a burst-type open wound or an accompanying fracture. Still, Korovessis et al\(^6\) used a Steinman pin to fix the talus in its original place. For the present case, we applied only a below-the-knee cast for 6 weeks after reduction, and full weightbearing was allowed afterward.

Closed total dislocation of the talus without any accompanying fractures is a rare entity. The injury is open to various important complications, such as avascular necrosis, infection in patients with open wounds, and arthritic changes. To achieve a good outcome, early reduction of the dislocation has key importance.

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**References**