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Treatment of an Open Medial Tibiotalar Dislocation With No Associated Fracture

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ABSTRACT

Tibiotalar dislocations without associated fractures are very uncommon in adults, and only a few studies have been published regarding this injury. More than 50% of these dislocations will be posteromedial, with a high incidence of open injuries, and 25% are pure posterior dislocations. In the present report, we discuss our experience and management of a medial tibiotalar dislocation with no associated fracture. In the present case, the patient was brought to the operating room on presentation to our facility and underwent irrigation and debridement with primary closure of his wound. He was immobilized postoperatively. The patient tolerated the operation well and did not sustain any postoperative complications. He was able to regain function of the injured extremity until he was lost to follow-up. Regarding treatment, the surgery should be speedy, gentle to the soft tissue, and with as little implanted material as possible. Although we do not advocate that our management and treatment of this injury become the standard, the present case provides a good example of some of the challenges often encountered when treating these injuries.

Tibiotalar dislocations without associated fractures are very uncommon in adults (21). Most of these dislocations will be posteromedial and associated with an open wound (21). Although the number of patients who have sustained these injuries has been limited, it appears that patients with pure tibiotalar dislocations will generally not have clinical symptoms of instability or radiographic changes suggestive of degenerative joint disease at long-term follow-up (22). The purpose of the present case report was to discuss our experience and management of a pure tibiotalar dislocation without an associated fracture.

Case Report

Mechanism of Injury

Our patient was an otherwise healthy 23-year-old male with a previous rupture of his left Achilles tendon at the age of 19. That Achilles tendon rupture had been sustained while playing basketball and had been surgically repaired without complications. The patient reported that the Achilles tendon had been repaired using

Fig. 1. Clinical view of the ankle dislocation in the field.

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Fig. 2. (*A*) Lateral radiograph of the ankle. (*B*) Anteroposterior radiograph of the ankle.

a standard, open technique, which was in accordance with his surgical scar. He continued to participate in recreational basketball thereafter and was playing basketball when he sustained the injury shown in Fig. 1. According to his report, he had gone up for a rebound and had landed on an opponent's foot, rolling his right ankle inward. No reduction or any other treatment was attempted in the field other than a splint, and he was transferred to our medical facility for management of the injury.

Initial Treatment

On arrival at our facility, he was in pain and had an obvious deformity about the right ankle. Appropriate pain medications were delivered, and radiographs were obtained (Fig. 2). The splint was removed, showing the injured ankle (Fig. 3). Although minimal gross contamination of the wound was present, it was irrigated with 1 L of normal saline in the trauma bay, and reduction was attempted after conscious sedation of the patient. Despite adequate patient relaxation, multiple attempts at reduction failed, and the patient was brought immediately to the operating room for formal irrigation, debridement, and reduction.

Operative Procedure

General endotracheal anesthesia was induced, and the wound, measuring approximately 10 cm over the lateral aspect of the ankle, was explored. The patient was given 2 g of cefazolin before anesthetic induction; he was not given tetanus prophylaxis. The extensor hallucis longus was ruptured at a level just proximal to the musculotendinous junction, with both ends visible through the opening in the skin. The foot could be translated medially, revealing an intact tibial plafond and syndesmosis (Fig. 4). No grossly chondral lesions on the talus or the plafond were visible. The lateral and medial ligaments of the ankle had been avulsed from the talus. The peroneal tendons were intact and without injury.

All nonviable tissue was removed from the wound, and 9 L of normal saline were used for irrigation with low-pressure tubing. The talus was then reduced into the ankle mortise by translating the foot posteriorly and subsequently bringing it laterally. The reduction was not difficult, and the hallux was noted to be fixed in a flexed position at the interphalangeal joint after reduction. The ankle was stressed both anteriorly and posteriorly to ensure relative stability within the mortise, and no gross subluxation was noted, with less than 1 cm of translation in both directions. Gravel was present on the medial

Fig. 3. Clinical view of the ankle after splint removal.

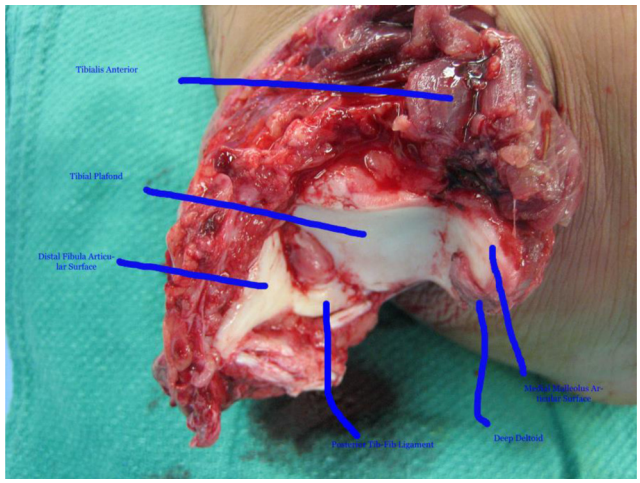

Fig. 4. Tibial plafond exposed in the operating room.