

Subtalar Dislocation Associated with a Ruptured Tibialis Posterior Tendon: A Rare Case Report

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Abstract

We report a case on a rare ankle injury which occurred after an opened trauma of the left ankle, associating a lateral subtalar dislocation with a ruptured tibialis posterior tendon. We treated him surgically with a good evolution clinic and radiological.

Introduction

Subtalar dislocation is a rare trauma injury. It represents about 1% of all trauma dislocations of the legs [1]. It constitutes 15% of the trauma injury of the talus [2]. This dislocation mainly affects young men, following a violent trauma with foot blocked on the ground [3].

We report a rare case of a woman of 32 years who had an opened lateral subtalar dislocation with a ruptured tibialis posterior tendon caused by a road traffic accident. She underwent surgical reduction with tendon repair, temporary fixing the ankle joint with a Steinmann pin and complementary immobilization in a splint.

Case Presentation

It was about a young woman of 32 years, admitted in the surgical emergency for an open trauma of the left ankle due to road traffic accident. Physical exams found an open ankle injury with exposed talus and minimal chondral lesion, an everted foot distortion with loss of normal landmarks of the ankle in its anatomical form. (Figure 1a, Figure 1b). Peripheral vascular examination found a warm foot with well perceived distal pulses. X-ray of the left ankle showed a lateral subtalar dislocation with no associated fracture (Figure 2). After conditioning the patient, reduction of the dislocation was performed in the emergency theater under general anesthesia with difficulty due to the soft tissue wounds (Figure 3). Surgical exploration found an exposed talus bone with ruptured tibialis posterior tendon. The tibialis posterior nerve and artery were contused. We did a repair of the tibialis posterior tendon by subcutaneous passage and tendinous suture, according to Pulvertaft repair technique (Figure 3). We fixed the ankle joint temporarily with a Steinmann



Figure 1 a: Clinical aspect of a subtalar dislocation.



Figure 1 b: Clinical aspect of a subtalar dislocation.



Figure 3 b: Clinical aspect after reduction of the dislocation and suture of the tibialis posterior tendon.



Figure 2: X-ray of the ankle showing a subtalar dislocation without fracture.



Figure 3 c: Clinical aspect after reduction of the dislocation and suture of the tibialis posterior tendon.



Figure 3 a: Clinical aspect after reduction of the dislocation and suture of the tibialis posterior tendon.



Figure 4 a: Radiological control during immediate postop period.

pin with immobilization in a splint to control the subtalar joint's instability (Figure 4). Immediate post-operative period consisted of a clinical monitoring of the operative wound especially the distal pulses during a period of 5 days at the orthopedic ward; we administrated thrombolytic treatment and parenteral antibiotics.

We reviewed the patient after the fourth week. Clinical and radiological exams showed good results at 8 weeks. The Steinmann pin and splint ablation was performed at 8 weeks. We began amplitude rehabilitation, proprioceptive response and muscular building of the ankle joint. Clinical and radiological results during follow up at 8 months were satisfactory. According to the Gay and Evrard score, our functional results were satisfactory with a score at 14.

Discussion

Isolated subtalar dislocation was described for the first time in 1811 by Judcy [4]. This trauma entity has been classified since 1853 in medial, lateral, anterior and posterior dislocation, while taking the displacement of the foot in relation to the bone talus [5]. It is a rare injury but not exceptional, which represent about 1% of trauma injury of the foot and 1-2% of all leg dislocations. Open subtalar dislocation represents 46% of all subtalar dislocations (all disconcerted varieties) [5-6], this cutaneous opening constitutes an element for bad long-term prognosis [5]. Generally, this skin wound is secondary to a high energy trauma and associated with ankle fracture which frequently affects the posterior process of the talus bone, the head of the talus



Figure 4 b: Radiological control during immediate postop period.

bone, the lateral malleolus, the medial malleolus and the base of fifth metatarsus.

The particularity of our case, it is about a case of an open subtalar dislocation associated with a ruptured tibiocalcaneal ligament without ankle fracture, which constitutes a rare injury association.

Hoexum F et al [1] in a meta-analysis on a general review of the English literature (66 articles have been included for a total number of 528 publications) during a period of 24 years between January 1988 and December 2012, male predominance has been noted in 76% (318 Men /419 women = 76%) and the right foot was affected in 61% (122/200 = 61%). The Average age was 33, 8 years with extremes of 19 years and 86 years. The etiology of these dislocations is road traffic accidents in 43, 7% (157/359), falls in 32, 9% (118/359), sport accidents in 13, 9% (50/359), sprains in 5, 3% (19/359) and other mechanisms in 4, 2% (15/359). Dislocation was medial in 71, 5% (352/492), lateral in 26, 0% (128/492), posterior in 1, 6% (8/492) and anterior in 0,8% (4/492). Open dislocation was found in 22, 5% (67/298), associated bone injury was found in 61, 4% (216/352). According to the meta-analysis, the global results of the literature were good in 52, 3% (172/329), fair in 25, 2% (83/329) and poor in 22,5% (74/329).

In our personal experience we have described a case of medial subtalar dislocation without skin opening reduced by external maneuver with splint immobilization which had excellent final results [3]. Some complications are possible: infection, trophic trouble, necrosis of talus is the dangerous complication, but it's exceptional [7,8].

Conclusion

Lateral opened subtalar dislocations without fracture are rarely met in trauma emergencies. They require urgent reduction, with a surgical exploration to search for associated injuries such as: the rupture of tibiocalcaneal ligament.

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