

Isolated Medial Subtalar Joint Dislocation during Soccer (Football) Game: A Case Report and Review of the Literature

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Abstract:- Ankle injuries are common in sports such as football and soccer and one of the most serious and most rare is the subtalar dislocation. This injury is rare, touches young male patients and usually associated to fractures of the talus, the malleoli or the fifth metatarsal. Usually, this injury occurs in high-energy trauma, but it is very rare in sports injuries. Here we present the case of a 36-year-old male with an isolated Medial Subtalar Joint Dislocation after a severe tackle in a football (soccer) game. We performed a closed reduction under general anesthesia, and then a short-leg cast was applied for 4 weeks, followed by active and passive range of motion. At one-year follow up from trauma, the patient had a pain-free ankle with active full range of motion. For isolated medial subtalar dislocation occurring during sports activities, the first choice is the conservative treatment: Immediate closed reduction needs to be achieved followed by a short immobilization. Active/passive range of motion need to be started early to avoid joint stiffness.

Keywords:- Subtalar; Dislocation; Soccer; Joint; Isolated; Medial.

I. INTRODUCTION

Ankle injuries are common in sports such as football and soccer [1] and one of the most serious and most rare is the subtalar dislocation. It is the dislocation of two joints: the talocalcaneal and the talonavicular joints [2]. This injury is rare, touches young male patients and usually associated to fractures of the talus, the malleoli or the fifth metatarsal [1, 3]. In English literature, there are a few cases of isolated dislocation of the subtalar joint [4] and the medial form represent 80% [2]: the calcaneus and the rest of the foot dislocate laterally in relation to the talus [4]. Usually, this injury occurs in high- energy trauma, such motor or vehicle accidents [5] but it is very rare in sports injuries [6]. Here, we present the case of a 21-year-old male with an isolated Medial Subtalar Joint Dislocation after a severe tackle in a football (soccer) game.

II. CASE PRESENTATION

A 21-year-old man was admitted to the emergency room with an ankle injury following a sports accident (violent tackle during a soccer game). He presented with a significant deformity of the right ankle in medial plantar flexion (Figure 1). X-rays (face and profile of the right ankle) confirmed the diagnosis of an isolated medial subtalar joint dislocation: the calcaneus and the rest of the foot were dislocated medially to the talus (Figure 2). In the operating room, we performed a closed reduction under general anesthesia. The ankle was stable and the reduction was confirmed by fluoroscopy. A short leg cast was applied for 4 weeks without weight bearing. On post-reduction radiographs, the dislocation was reduced (Figure 3). After 4 weeks of follow-up, the cast was removed and the patient began functional rehabilitation with passive and active range-of-motion exercises were undertaken with partial weight-bearing. Full weight-bearing was allowed after 12 weeks. After one year of follow-up from trauma, the patient had a pain-free ankle with active full range of motion.

III. DISCUSSION

The medial subtalar joint dislocation is a rare injury, which accounts <1%-2% of all foot dislocations [7,8]. The most common cause is a fall from height [9]. In this injury, the both navicular and calcaneus dislocate in relation to the talus [3]. There are 3 types of subtalar dislocation, based on the direction of the rest foot and calcaneum in relation to the talus: medial, lateral and posterior subtalar joint dislocation [7]. Later, an anterior form was added by Maigne and Burger [10]. Medial dislocation is caused by a forced inversion of the forefoot, the talocalcaneal and talonavicular ligaments break, the talus remains in his normal position at and subtalar joint dislocation occurs [4]. For isolated medial subtalar dislocation occurring during sports activities, the first choice is the conservative treatment [2]. In 33 studies about 439 patients with isolated subtalar dislocation, 85% were treated with closed reduction followed by immobilization for 3 to 6 weeks and good to excellent results were obtained [11]. The period of immobilization remains controversial [3]. Some authors [12] reported that

reducing the period of immobilization could decrease the rate of joint stiffness. Others judged that 4 weeks period remains insufficient time for healing [10]. In our case, after a closed reduction, a short-leg cast was applied for 4 weeks followed by active and passive range of motion to avoid joint stiffness, as recommended by most authors [4]. Posttraumatic arthritis, osteonecrosis of the talus and subtalar joint stiffness are the most severe long-term complications [13], and we do not report any of these complications in our patient. At one-year follow up from trauma, our patient had a pain-free ankle with active full range of motion, even if 80% of subtalar dislocations demonstrate a small decrease of the subtalar and/or ankle range of motion [14].

IV. CONCLUSION

Isolated medial subtalar dislocations usually occur in high- energy trauma, but it is very rare in sports injuries. The first choice is the conservative treatment. Immediate closed reduction needs to be achieved followed by a short immobilization then active/passive range of motion to avoid joint stiffness, as recommended by most authors.

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FIGURES



Fig. 1: Clinical image showing a deformed right ankle in medial plantar flexion

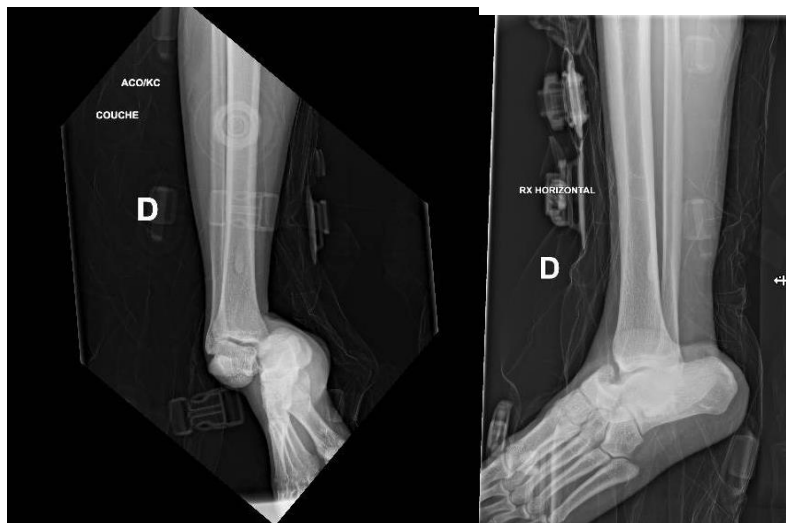


Fig. 2: Antero-posterior and lateral radiographs of the right ankle showing an isolated medial subtalar joint dislocation with the calcaneus and the rest foot dislocated medially in relation to the talus.



Fig. 3: Post-reduction radiographs of the right ankle showing reduction of the medial subtalar dislocation under cast