

Case Report

Pure talonavicular subluxation

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ABSTRACT

Talon-navicular dislocation of the tarsus is a rare injury that can be easily overlooked in emergency settings. This report details the case of a 26-year-old man who experienced a right foot injury due to a fall resulting in plantar hyperflexion. Initially misdiagnosed as an ankle sprain, further evaluation revealed a plantar sub-dislocation of the navicular bone, confirmed by radiological imaging.

Keywords: Talon-navicular dislocation, Foot injury, Radiology

INTRODUCTION

Talon-navicular dislocation of the tarsus is an extremely rare injury.¹ This rarity is explained by the importance of the ligamentous links formed by the tarsal scaphoid with the talus and calcaneus. In our case report, we discuss the mechanisms of injury and the therapeutic management of talonavicular dislocation.

CASE REPORT

A 26-year-old man with no significant medical history presented to the emergency department for a right foot injury following a domestic accident (fall down stairs), caused by a mechanism of plantar hyperflexion, resulting in complete and painful functional impairment of the right foot and ankle. Initially, the injury was diagnosed as a simple ankle sprain, and the patient was treated with symptomatic management, as well as the R.I.C.E. protocol (rest, ice, compression, elevation). One week later, with no improvement in symptoms, the patient consulted our facility for a specialized opinion.

The clinical examination revealed a swollen foot fixed in equinus, with a bony prominence on the dorsal surface.

Any movement of the forefoot was painful and impossible, with no associated neurovascular disorders.

The patient underwent a standard X-ray, which showed a plantar subluxation of the navicular bone, without any associated fractures. The calcaneocuboid and subtalar joints were in place.

Surgical exploration was performed under spinal anesthesia, through a dorsal approach centered on the talonavicular joint. It revealed a talonavicular subluxation with rupture of the dorsal and plantar ligament attachments. The reduction of the subluxation was maintained by broaching, followed by immobilization in a plaster boot without weight-bearing for two months.

After two months of immobilization, the patient began a rehabilitation program aimed at restoring the range of motion, strengthening the ankle muscles, and improving foot function. The post-operative follow-up ensured that no complications, such as infection or instability, occurred. The functional prognosis was generally favorable, and long-term surveillance was recommended to prevent any potential sequelae or complications.



Figure 1: Clinical image of the foot.



Figure 2: X-ray showing partial loss of contact between the articular surfaces of talus and navicular bone.

DISCUSSION

The talonavicular dislocation is extremely rare. The rarity of these lesions is explained by the importance of the ligamentous links formed by the tarsal scaphoid with the talus and calcaneus and this injury may go unrecognized in the emergency department. The mechanism most often reported is plantar flexion-compression which is it in our case.^{1,2}

According to estimates, there are 3.6/100000 cases of this injury yearly. The medial and lateral longitudinal columns of the midfoot are disrupted in TNJ dislocation, which often follows high-energy trauma.^{3,4}

CT-scan was not done to check for associated injuries as recommended by other authors.⁵

Emergency reduction of the of the dislocation is essential for all authors. It is performed under general anaesthesia, usually by orthopedic maneuver: traction is exerted on the foot in dorsal hyperflexion and eversion. Surgical treatment in cases of instability.

Reduction must be early and stable, and is most often surgical, osteosynthesis can be achieved by screws, screw plates or, more often, by Kirschner Broaches involving the talonavicular and naviculo-cuneiform joints, as we did in the case of our patient.

This broaching must be protected by a boot cast for 8 weeks.^{6,7}

Isolated dislocation is an impossible variety for most majority of authors.⁸

Post-traumatic arthritis remains complication. Several therapeutic have been reported in the literature. Dick and Watson-Jones suggested triple arthrodesis, but with no results.⁹⁻¹¹

The functional prognosis after treatment is generally favorable, with full recovery of foot and ankle function. However, long-term monitoring is recommended to prevent possible complications.¹²

CONCLUSION

Talonavicular dislocation is a serious injury, positive diagnosis is based on standard radiography, which is sometimes difficult to interpret, when symptoms are in doubt a CT scan should be requested.

Early diagnosis and perfect anatomical reduction of the lesions are the only ways to guarantee good functional prognosis.

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