

## Case Report

## Triple Anterolateral Dislocation of the Talus: A Case Report

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## Abstract

The triple dislocation of the talus is the rarest but most serious traumatic lesion of the hindfoot. We report a case of closed anterolateral enucleation of the talus, treated conservatively with a good functional result in the trauma-orthopedic II Department of the Military Hospital Mohammed V of Rabat. Currently, most authors agree on the conservative treatment of enucleations in emergency and reserves the arthrodesis for septic and osteoarthritic complications.

**Keywords:** Triple dislocation; Talus; Conservative treatment

## Introduction

Triple dislocation of the talus or enucleation of the talus is an extremely rare and serious lesion, representing 2 to 10% of talian traumatism [1,2]. The talus loses all its vascular connections, and its vitality is compromised [3]. The prognosis for this type of lesion is dominated by the risk of osteonecrosis [3].

Three-quarters of talus enucleation cases reported in the literature are open [4]. We report a case of closed anterolateral enucleation of the talus, treated conservatively with a good functional result in the trauma-orthopedic service II of the Military Hospital Mohammed V of Rabat.

## Observation

Mr. H.J, a 29-year-old man with no previous medical or surgical history, who suffered a road accident resulting in closed right foot trauma with total functional impotence and severe pain. The clinical examination showed a large distortion of the right foot in adduction, supination and inversion and a Varus attitude of the right ankle. With a talus projecting outwards and forwards (Figure 1). Without cutaneous opening or vascular-nervous complications.

X-ray of the ankle indicated complete anterolateral enucleation of the talus (Figure 2). CT with 3D reconstruction revealed the triple dislocation of the talus associated with a parcel fracture of the taller head (Figure 3).

The reduction of the dislocated embankment was performed by external maneuver, by digital pressure after having put the foot in supination and in forced equine. The stability of the hindfoot was maintained by two cross wires (Figure 4). The ankle was immobilized in a plastered boot for two months followed by rehabilitation. Support was allowed in the fourth month and resumption of work in the eighth month after the accident.

At one year of follow-up, the ankle was painless, stable with satisfactory mobility.

## Discussion

Enucleation of the talus is a rare lesion that is poorly described in the literature, occurring after very serious traumas, as evidenced



Figure 1: Clinical image showing the deformity of the ankle.



Figure 2: Face and profile x-ray of the ankle showing the radiographic appearance of the triple anterolateral dislocation.

by the frequency of cutaneous opening. Less than 80 cases of pure enucleation have been reported in the literature, three-quarters of which are open [4].

Road accidents and falls from a high place with reception on the heels; the most common etiologies foot total dislocations of the talus [5].

The physio pathological mechanism is still debatable. According to Penal [6], anterolateral enucleation is due to a double mechanism of forced plantar flexion and inversion. Plantar flexion produces collateral ligament rupture while inversion causes rupture of talocalcaneal ligaments. However, the most precise study of the



**Figure 3:** CT scans (A) and 3D reconstruction images (B) showing anterolateral enucleation of the talus associated with a parcel fracture of the talar head.



**Figure 4:** Fce and profile X-rays after reduction and stabilization with two wires.

enucleation mechanisms remains that of Leitner [7]; which describes enucleation as the ultimate stage of medial taller dislocation.

The frequency of associated lesions (bone, cutaneous or less frequently vascular lesions) can be explained by the violence of the trauma [8].

The treatment of enucleation of the talus is a very controversial subject. If former authors advocated early talectomy followed by triple arthrodesis [9]; Butel and Witvoet in 1967 demonstrated the poor functional results of talectomy, and concluded the need for triple arthrodesis [8]. Currently conservative treatment remains the first choice of any therapeutic approach. Arthrodesis is reserved for secondary complications [10].

The reduction must be carried out urgently, under general anesthesia using the pulling maneuver [11,12]. Malgaigne [13] recommends exerting an impulse on the head of the astragalus to guide it towards the articular sphere. Additional post-reduction restraint is required for an average of 45 days [11,12].

Among the late complications of total enucleations, osteonecrosis is the most common. Its frequency varies from 50 to 100%, the values being much closer to the last digit [5,10,14]. Our case, escapes this type of complications.

## Conclusion

The triple dislocation of the talus is the rarest but most serious traumatic lesion of the hindfoot. Currently, most authors agree on the conservative treatment of enucleations in emergency and reserves the arthrodesis for septic and osteoarthritic complications.

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