Open enucleation of the talus in a case report

Abstract

We report a case of open enucleation of the talus, surgically treated conservatively. Enucleation or triple dislocation of the talus is a rare and serious traumatic injury. The study reports case of a 55 years old, was the victim of an attack by a stone with a direct point of impact on the right ankle while the foot was fixed, resulting in total functional impotence and severe pain.Enucleation of the talus is a rare lesion, rarely described in the literature. The functional prognosis of the ankle is compromised by the risk of osteonecrosis.

Keywords: enucleation of the talus**,** severe pain, osteonecrosis, traumatic injury

Introduction

TalusEnucleation or triple dislocation of the talus is a rare traumatic injury [1,2] accounting for 2-10% of talar traumas [3,4]. A review of the literature revealed fewer than 80 cases of pure enucleation of the talus [5], and the majority werea consequence of an open injury [3].

The main risk factor for this type of injury is infection, which can even lead to osteonecrosis.

We report a case in which the patient underwent open enucleation of the talus and wassurgically treated conservatively.

OBSERVATION

H. At 55 years of age, the victim of an attack by a stone,had a direct point of impact on the right ankle while the foot was fixed, resulting in total functional impotence and severe pain. Clinical examination revealed a varus deformity of the foot, with the talus protruding anteriorly and medially, associated with a 4 cm anteromedial wound classified as type II according to Cauchoix and Duparc, with no downstream vascular-nervous disorders. X-rays of the right ankle showed complete anterolateral enucleation of the talus without fracture of the malleolar pincer (fig. 1).

Surgery was performed as needed. After the wound was trimmed, exploration revealed soft tissue incarceration, preventing reduction of the talus (Figure 2). The soft tissue was therefore released, followed by reduction of the talus maintained by a trans-calcaneo-talo-tibial pin and two scapho-talar pins. The reduction was stable and maintained by a cast boot for two months (Figure 3), followed by rehabilitation. The functional result was satisfactory at the last follow-up, with no signs of radiological necrosis.

Figure 1X-ray of the right ankle showing pure anterolateral talus dislocation

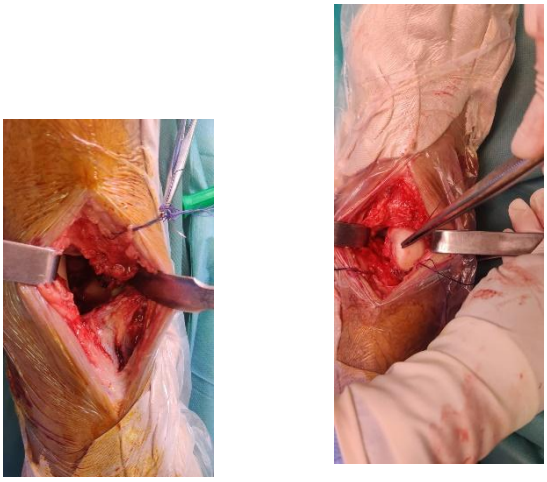

Figure 2Intraoperative aspect of talus enucleation

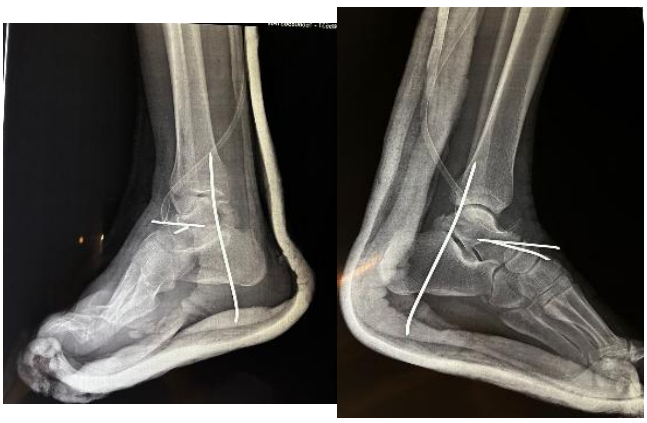

Figure 3Postoperativeradiographic control

Discussion:

The talus is exposed to significant traumatic risk due to the intermediate position between the leg and the foot and the absence of muscular or tendinous insertion. It is subjected to considerable stress during walking and other activities and is at the center of a highly mobile joint complex.

talus Enucleation isn't an usually lesion that has rarely been described in the literature. The functional prognosis of the ankle is compromised by the risk of osteonecrosis. The direction of enucleation can var.most often is dislocated anterolateraly but the displacement may also be anteromedial or, and less in posteromedial.

However, the pathophysiological mechanism is still debated. For Pennal [8], anterolateral enucleation is performed through a dual processof forced plantar flexion and inversion. Plantar flexion results in rupture of the collateral ligament, while inversion leads to a tear of the talocalcaneal ligaments. The most precise study of enucleation mechanisms is that of Leitner (in 2), who described enucleation as the ultimate stage of supination trauma—in other words, the ultimate stage of medial subtalar dislocation. The treatment advocated by the various authors is far from unequivocal. Currently, the trend go for aconservative treatment foracuteenucleations [2], reserving arthrodesis for secondary septic complications and late arthrosicevolution. The reduction of talus dislocation should be an emergency in order to prevent skin and vascular complications [10]. Tibiocalcaneal arthrodesis was adopted by Detenbeck and Kelly [3] but is a source of significant stiffness. Butel and Witvoet [9] noted the poor functional results of talectomy in enucleations of the talus and recommended triple arthrodesis as the first-line procedure, using the talus as a graft. Some authors recommend closed reduction with the aid of transcalcaneal traction [10].

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At the two-year follow-up, we found no radiological signs of talar necrosis in any of our patients.

Conclusion:

Conservative treatment with reduction by external manoeuvring of an enucleation of the talus, whatever its variety', constitutes a major prognostic element to avoid damage by bloody reduction, which remains the vascular attachments and favors evolution toward osteonecrosis of the talus, which remains the main complication in this rare pathology.

Ethical Approval:

As per international standard or university standards written ethical approval has been collected and preserved by the author(s).

Consent

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

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