Case report

Open enucleation of the talus : 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

Enucleation or triple dislocation of the talus is a rare and serious traumatic injury [1,2], accounting in the literature for 2-10% of talar traumas [3,4]. Fewer than 80 cases of pure enucleation of the talus have been reported in the literature [5], three-quarters of which are open [3].

The prognosis is dominated by the problem of infection and osteonecrosis.

We report a case of open enucleation of the talus, surgically treated conservatively.

Case presentation

H.M 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. 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 Couchoix 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 a matter of urgency. After trimming the wound, exploration revealed soft tissue incarceration preventing reduction of the talus (fig 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, maintained by a cast boot for two months (fig 3) followed by rehabilitation, the functional result was satisfactory at the last follow-up, with no signs of radiological necrosis.

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

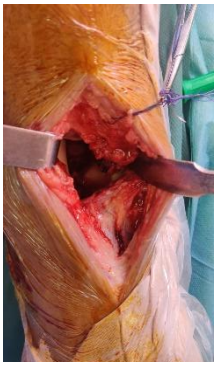

figure 2: intraoperative aspect of talus enucleationfigure 3: postoperative radiographic control

Discussion:

The talus is exposed to significant traumatic risk due to its 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.

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. The site of enucleation is variable, most often anterolateral, but may also be anteromedial or, more rarely, posteromedial.

The pathophysiological mechanism is still debated. For Pennal [8], anterolateral enucleation is due to a dual mechanism of forced plantar flexion and inversion. Plantar flexion produces rupture of the collateral ligament, while inversion entraıne rupture of the talocalcaneal ligaments. The most precise study of enucleation mechanisms is that of Leitner (in 2), who describes 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 majority of authors agree on conservative treatment of emergency enucleations [2], reserving arthrodesis for secondary septic complications and late arthrosic decompensation. Reduction of talus dislocation should be performed urgently 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 recommend 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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Conclusion:

Conservative treatment with reduction by external manoeuvre of an enucleation of the talus, whatever its variety', constitutes a major prognostic element, in order to avoid damaging by bloody reduction what remains of the vascular attachments and favouring evolution towards osteonecrosis of the talus, which remains the main complication in this rare pathology.

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