

Divergent Fracture-Dislocation Of The Ankle About 2 Cases

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Abstract: The authors report 2 cases of divergent fracture-dislocation of the ankle. They remind diagnostic problems and show the ease of diagnosis. The literature review confirms that this is a rare lesion. Pathological stages are now well codified. After reduction, the evolution is favourable rule. A year back, the results are satisfactory and 2 patients had no pain, with resumption of their daily activity.

Keywords: Ankle ; Fracture ; Dislocation ; Syndesmosis.

INTRODUCTION

The fracture-dislocation of the ankle is common in emergency departments. Intern varieties and postero-medial are the most common. Our two cases correspond to an exceptional pathological variety. Of rare similar cases have been published.

OBSERVATION 1

It is a 26 year old male victim of a highway accident with an impact point at the left ankle. Clinically, oedema was very important skin without opening or neurovascular deficit. Radiographic tests showed a central and upper dislocated ankle joint with an intact tibia and high above the tuber fibula fracture (Fig1). An urgent reduction by external manoeuvre was performed, followed by the attachment of the fibula by a plate associated with a referred syndesmosis screw. The medial collateral ligament was also repaired (Fig2). The immobilization was carried out by a plaster splint for six weeks. Syndesmosis screw was removed at the same time.



Fig1: Central and upper dislocated ankle joint with an intact tibia and high above the tuber fibula fracture



Fig2: Postoperative radiography

OBSERVATION 2

It is a 45 year old male victim of an accident with a sports point of impact on the left ankle. On physical examination, the ankle was oedematous skin without opening or neurovascular deficit. Radiological tests showed a divergent fracture-dislocation of the ankle and high above the tuber fibula fracture (Fig3). Urgent reduction external cephalic was performed. Surgery performed 3 hours after the reduction; was to repair the medial collateral ligament and implementation of two syndesmosis screws (90° ankle dorsi-flexion) (Fig4). The capital was also provided by a plaster splint for six weeks. Syndesmosis screw was removed at the same time. Outcomes at one year are satisfactory and 2 patients had no pain, with resumption of their daily activity.



Fig3: A divergent fracture-dislocation of the ankle and high above the tuber fibula fracture.

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Fig4 : Postoperative radiography

DISCUSSION

Intern fracture-dislocation and postero-medial are the most frequent. Cases of fracture-dislocation divergent are rare, and few reported in the literature. The manager is always violent traumatic (1,2,3,4). Intern and postero-medial dislocations, the most common, most often appear to result from an axial pressure of the leg on the foot in the position of plantar flexion and inversion (2, 4,5,6,7). The mechanism of dislocation tibiotalar out with the syndesmosis looks different from that of the conventional rear dislocation. Fernandes (4) on cadaveric ankles, found that forced dorsi-flexion of the foot associated with lateral rotation and pronation of the ankle caused disturbances in the distal tibio-fibular syndesmosis, leading to the ascent of the slope or posterior dislocation fibula out of his throat Edwards and DeLee (8) proposed a classification for the distal tibio-fibular diastasis without fracture. They identified four types of francs diastasis of the ankle: Type I lesions made of a side of the distal fibula subluxation without plastic deformation of the fibula; the type II characterized by a lateral subluxation of the distal fibula with plastic deformation thereof; Type III is a posterior rotatory subluxation of the fibula; Type IV is the upper dislocation of the talus between the tibia and fibula, head of a major diastasis. Our cases are a type IV. It seems that the disruption of tibio-fibular syndesmosis is rare in posterior dislocation (2). By analyzing the English and French literature, we found that four ankle talar dislocation without fracture with rupture of the syndesmosis. The dislocation is open or closed; reducing emergency is paramount for all authors. The quality of the recovery and lower incidence of complications depend mainly on early treatment. In closed forms, treatment should only be orthopaedic (9). In open varieties, it seems that the repair of ligament structures gives better results. The scale joint changes are explained by the violence of the trauma but also by arthritis may be torpid evolving. The contention is generally provided by a plaster boot without support for a period of six to eight weeks. In case of infringement of the fibular ligaments ankle, a downtime of ten to twelve weeks is anticipated (7,10). A plaster cruro-pedal principle is adopted by Wehner and Lorenz (11) and Colville et al (2). Variants can be envisaged: Mourgues et al (9) propose the temporary locking of the joint by a Steinmann pin transplants. Olerud (12) fixed the syndesmosis with a screw for six weeks. Regarding the associated lesions Mourgues et al (9) explain the relative scarcity of neurovascular lesions in these severe injuries by

breaking ligamentous structures that normally hamper the neurovascular structures. Then they have a certain freedom that avoids rupture. Musculo-tendinous lesions are found in the literature (2,11,13,14). The results are good in most cases. But some elements have a poor prognosis (9): the delay in the initiation of treatment, the lesions ligament lower ankle peroneal, rupture of the anterior tibial artery, and especially lesions of the integument with the appearance of zones necrosis are at risk of arthritis. On long-term results, the decline of the series is often less than one year. Only Colville et al (4) reported results with a mean of four years: a case of instability in eight and decreased range of motion in six patients.

CONCLUSION

Pure dislocation of the ankle is exceptional. They usually occur in a violent traumatic context. While the rupture of the lateral ligaments is classic, it is not the same for the lower tibio-fibular ligaments. Closed dislocation, often with a good prognosis, are orthopaedic treatment; open dislocations can be extremely serious mainly because of associated lesions.

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