

**INTEREST OF BROACHING OF THE FIBULA IN DISTAL QUARTER LEG FRACTURE
ABOUT 150 CASES**

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ABSTRACT

Fractures of the two bones of the leg are frequent injuries in trauma, moreover the fracture of the fibula is a therapeutic problem due to the frequency of vicious calluses, this frequent location in the fibula is often neglected especially in fractures of the distal quarter of the leg. Our goal is to demonstrate the value of broaching the fibula in the conservation of length, rotation and axis of the leg. This is a retrospective study with 150 leg fractures over 10 years (2010-2020). We studied the time to consolidation, support and complications.

KEYWORDS: Fracture, distal two bones, leg, pinning of the fibula.

INTRODUCTION

Fractures of the two bones of the leg are frequent injuries in trauma. Several studies have emphasized the importance of fibular realignment in fractures of the distal quarter of the leg,^[1,2] due to its important role in leg rotation and length disorders. Therefore, the systematic treatment of the fibula is not consensual, varying between functional treatment and systematic surgical fixation.^[3,4] However, both patient and fracture characteristics need to be considered to select the appropriate treatment option.

CASE PRESENTATION

This is a preliminary study conducted on 150 patients over a period of 10 years ranging between 2010 and 2020 and who were involved in some form of trauma and fractures of both bones of the leg. All patients gave consent to have their cases published.

The average age of our patients is 38 years old with extremes between 18 years and 65 years, 68.3% male, right side in 75.2% of cases, road accidents were the cause in 60% of cases, open fractures in 70%, complex in 45%, spiral in 30%, the rest transverse or oblique type (fig 1&2).



Fig. 1: Comminuted metaphyso-epiphyseal fracture of the tibia with fracture of the fibula.



Fig. 2: x-ray of spiral fracture.

Pinning was systematic with a closed focus in 90% of cases, 1 pin in 80% of cases with a diameter of 22-30. Central medullary nailing of the tibia in 70% of cases (fig3).



Fig 3: Nailing of the tibia with pinning of the fibula.

Rehabilitation is started after 3 weeks in 85% of cases. Support was authorized after 6 weeks in the case of intramedullary nailing, 8 weeks after external fixator and 10 weeks after tibial plates. The union rate was 85% with

no functional sequelae. Delayed union in 4 cases (external fixator) (Fig4), pseudarthrosis in 4 cases (fig5). Cal vicious in 2 cases.



Fig. 4: Delayed union after 4 months.



Fig 5: Pseudarthrosis of the tibia.

DISCUSSION

Several criteria have been established to better locate these fractures, including: the criteria recommended by Muller in 1990,^[5] concerning the passage of the middle of the fracture through the epiphyseal square whose side is equal to the greatest width of the epiphysis. It is estimated at 52.6 mm.^[6] Based on Muller's definition of the epiphyseal square, the OA / OTA classification.^[7] divides the leg into four segments: proximal, diaphyseal, distal and malleolar.

Ruedi and Allgower.^[8] were the first to establish the conventional principles and technique for open reduction of distal tibial articular fracture.

During the years that followed, these principles remained the norm in the management of this type of fracture because they understood the importance of the relaxation of the fibula in the conservation of length and the rotational disorders that can cause reconstruction. of a

distal tibial fracture without osteosynthesis of the fibula.^[8,9,10]

These principles are based on case series studies which concluded that the non-realignment of the fibula generates an added pressure on the tibial articular surface and thus would be a precursor of osteoarthritis.^[11,12]

Although the literature emphasizes reconstruction of the fibula in tibial mortise joint fractures, there is no consensus when it comes to a distal extra-articular fracture of the tibia. authors insist on the need for realignment of the fibula when the fracture involves distal tibio-fibular syndesmosis.^[13,14]

Marsh and al. reported a risk of increased incidence of infection with fibular fixation in fractures of the two bones of the distal quarter of the leg. In our study, there was no significant difference in the prevalence of infection as an adverse effect of fibular fixation.

CONCLUSION

Fixation of the finds its interest in fractures of the distal quarter of the leg, including fractures involving distal tibio-fibular syndesmosis. However, there is no consensus when the fracture is extra-articular from the tibial mortise.

Conflict of interest

None.

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