

# Management Of A Particular Form Of Neglected Posterior Dislocation Of The Knee In Precarious Settings

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## Abstract

The authors report the results (anatomic and functional) of the management of a particular form of posterior dislocated knee dislocation at the Orthopedics and Traumatology department of the Ignace Deen Hospital.

A 45-year-old patient with no previous history came to our office for a neglected dislocation of the right knee following a traffic accident (a motorcycle driver who collided with a car) in Siguiri, a town located 1000 km from the capital Conakry in Guinea-Africa. A traditional healer did the first treatment without any success. After clinical and para-clinical examination the diagnosis of an inveterate posterior dislocation was made. The management in our department was surgical (arthrodesis of the knee).

## INTRODUCTION

Complete dislocations of the knee are rare lesions and especially neglected forms are exceptional in literature. They are secondary to high energy trauma accompanied by multiple ligament ruptures, in particular the central pivot and in 10-25% with a paralysis of the common fibular nerve and less frequently a popliteal lesion [1]. The diagnosis is based on clinical history, standard radiography as well as MRI and arteriography [2].

The aim of this case is to report the results of the management of a particular form of a posterior neglected luxation of the knee taking into account our working context in a low-income country.

## CASE REPORT

A 45-year-old motorcycle driver with no previous history of trauma had a collision with a car. He presented with a closed injury of the right knee. He was treated and followed by a traditional healer without success. He consulted with our department 4 years after the accident because of lameness and functional deficits. The patient walked with a cane.

Clinical examination revealed:

- an anterior bone protrusion of the femoral condyles

- with a desquamation of the facing skin which adhered strongly to the bone;
- a posterior projection of the tibia at the level of the popliteal recess;
- a shortening of the limb 5 cm relative to the contralateral side without vasculo-nervous disorder or pain.
- the knee was blocked in extension without any mobility area (Figure 1).

The radiography of the knee showed a posterior dislocation of the knee with the formation of bone bridges between the femoral condyles and the anterior tibial tuberosity behind the femoro-tibial fusion of the patella (Figure 2).

The ultrasonography doppler performed did not show signs of arterial compression but the CT scan showed mass destruction of both the femoral and tibial articular cartilage. Then we found a formation of femoro-tibial bone bridges.

The patient was taken to the operation room. Under spinal anesthesia in the supine position we performed an antero-internal incision of 12 cm, cutaneous detachment with bone pellets and then section of the bridges. A resection of the cartilage on both sides was done, then a reduction and two spongy screws crossed X reinforced by two pins of Steiman (Figures 3 and 4) were inserted. The limb was then immobilized in a plastered knee joint.

At the 5-year follow-up the patient was reviewed and evaluated at the functional (monopodal) and radiological (Figures 5 and 6) level.

Clinically the knee was stable with a residual shortening of 1 cm and the radiograph showed good femoral-tibial bone fusion.

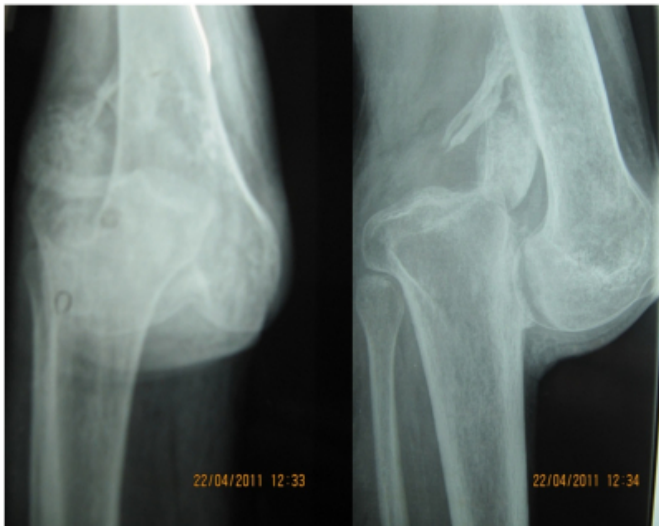
**Figure 1**

View of the knee before surgery



**Figure 2**

X-Ray before surgery



**Figure 3**

Surgical arthrodesis of the knee with incarceration of the patella



**Figure 4**

Radiography of immediate postoperative control



**Figure 5**

Functional result in monopodal standing position showing stability of the knee



**Figure 6**

Anatomical result showing the femoro-tibial bone fusion



## **DISCUSSION**

Knee dislocations are rare lesions in the literature with an incidence between 0.02 and 0.2% of orthopedic lesions [4]. Neglected forms are still exceptionally rare. Our patient's consultation time was 4 years. Such a long time since trauma has not been found in the literature. However, a neglected form of 18 months has been reported by Elmrini et al. [5] in a 30-year-old patient with knee dislocation with a malunion of the internal tibial plateau. During the 4 year period, our patient was treated by a healer without reduction of the dislocation. The knee was immobilized by the wands in extension. This long duration allowed the formation of bone bridges at the level of the anterior tibial tuberosity and the patella explaining the stability of the knee in this position of dislocation. The mechanism of trauma found was identical to that of Lachman et al. [2]: a violent trauma to the anterior tibial tuberosity of the knee flexed at 90 °.

Treatment consisted of arthrodesis of the knee fixed by two spongy screws and two pins of Steiman crossed in X. The patella was embedded as a graft in the femoro-tibial space to fill the vacuum and facilitate the fusion of bone. After the incision, the cutaneous detachment was performed with bone

pellets which allowed a wound healing without any cutaneous necrosis. The limb was then immobilized in a plastered knee joint windowed at the level of the wound for forty-five days; Alexandre R et al. [6] performed knee arthrodesis after infectious complication of total knee arthroplasty. The patient's surgery was simple:

- First-line healing of the surgical wound
- and a femoral-tibial bone fusion was obtained at the 6th month.

We did not find any sepsis or vasculo-nervous complication. The patient was very satisfied with the procedure and resumed his previous professional activities without any difficulty. A walking heel corrected the residual shortening of 1 cm observed in postoperative treatment.

## **CONCLUSION**

Knee dislocation is a rare disease and a neglected form is still exceptionally rare in the literature. The femoro-tibial

arthrodesis was the only alternative for the management of our patient with regard to the degree of destruction of both the femoral and tibial cartilage.

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