

## Femoral fracture before removal of an intramedullary nail

### A case report

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**Summary.** *We describe a patient with a fracture of the femoral shaft treated by intramedullary nailing and who had a further fracture before the nail was removed. We are not aware of any previous reports of this complication.*

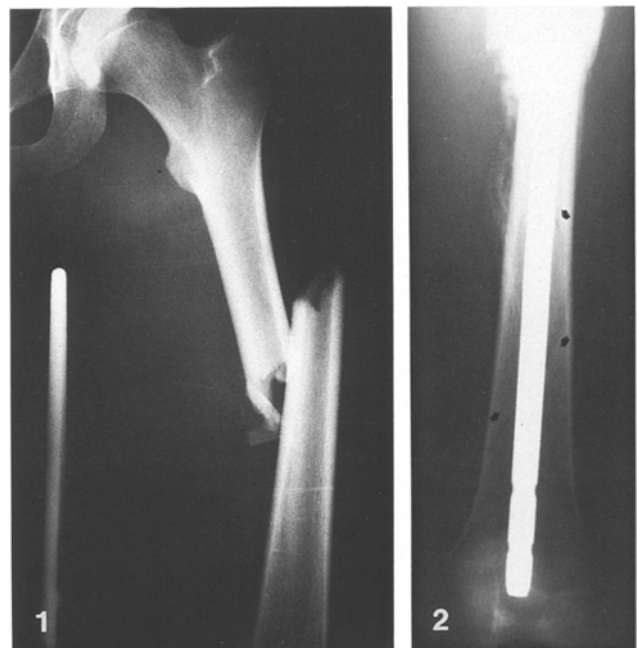
**Résumé.** *Les auteurs rapportent le cas d'une fracture de la diaphyse fémorale chez un patient déjà traité par enclouage centro-médullaire et avant l'ablation du matériel d'ostéosynthèse. Il semble que cette complication n'ait jamais été publiée dans la littérature.*

### Introduction

Refracture after removal of an intramedullary nail inserted for a femoral fracture is an uncommon complication [5]. We present a patient who sustained a further fracture before the nail was removed.

### Case report

A man, aged 18 years, sustained a fracture of the left femur (Fig. 1) in a motorcycle accident. After tibial skeletal traction for 4 days, an intramedullary nail was inserted. Extensive reaming was needed because of the narrow medullary canal; a 12 mm diameter nail was then used. He was discharged from hospital on the 6th day and was able to walk without support 2 weeks after his injury.



**Fig. 1.** Initial radiograph showing the fracture of the femoral shaft with shortening and slight comminution

**Fig. 2.** Eight weeks later, there is callus formation at the site of the previous fracture. A new undisplaced spiral fracture is seen in the lower part of the femur (arrows)

He twisted his knee playing bowls 8 weeks after the operation. He heard a crack and felt severe pain in his left thigh. Radiographs showed circumferential callus formation at the site of the first fracture with the nail in position. A new spiral fracture was visible distal to the previous injury (Fig. 2). He was treated with rest until the new fracture was consolidated.

## Discussion

Refracture of the femoral shaft has been reported after treatment by skeletal traction. It may also occur after removal of a fixation plate [2, 3], either through a screw-hole or through the site of the original fracture [1, 8].

Refracture has not been reported as a complication of intramedullary nailing [4, 7]. Only a single case has been described of refracture of the femoral shaft through the site of the original fracture 6 weeks after removal of the nail [5].

Thinning of the cortex secondary to reaming, and the fixed mid-part of the diaphysis with the free distal part, are thought to be the cause of the torsional fracture, occurring with only minor trauma in our case. As the fracture was not displaced, the patient was treated by rest, the nail remaining in position, with a satisfactory result.

## References

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