

COMMUNUTED DISTAL FEMORAL FRACTURE AFTER RETROGRADE NAILING – SURGICAL APPROACH

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INTRODUCTION

AIM: To present the surgical approach in a patient with a comminuted distal femoral fracture after previous retrograde nailing

MATERIAL & METHOD

- ❑ 27-year-old ♂ who had a distal femoral fracture (right) after a vehicle accident
- ❑ Previous retrograde intramedullary nailing of the right femoral shaft a few years earlier
- ❑ Severe nail deformity (large angulation [about 50°])

Surgical Technique

- ❑ Lateral approach of the distal femur & osteotomy of the tibial tuberosity
- ❑ Strenuous removal of the retrograde nail
 - Proximal osteotomy of the femur
 - Drilling of the existing proximal holes
 - Drilling of a new hole in the nail before the angulation with a cobalt drill bit in order to allow longitudinal traction

MATERIAL & METHOD

Surgical Technique

- ❑ Knee joint-bridging with external fixator
- ❑ Internal fixation of the intra-articular fragments with K-wires and free screws
- ❑ The comminuted femoral metaphysis was bridged with a distal femoral plate
- ❑ Internal fixation of proximal femoral osteotomy & tibial tuberosity with 2 screws



Figure 1: The drilled hole in the nail



Figure 2: Preoperative radiograph

Figures 3-5: Postoperative (post-op) radiographs

RESULTS

- ❑ 2 months post-op
 - Removal of external fixation
 - Knee mobilization (gently) without weight-bearing
- ❑ 4 months post-op
 - Partial weight-bearing
 - Knee extension deficit of 20°
 - Deficit of voluntary quadriceps muscle activation
 - Implementation of increased physical therapy intensity



Figures 6-8: 4 months post-op

CONCLUSIONS

- ❑ Surgical approach in cases of patients with femoral fractures after previous intramedullary nailing → Intriguing & demanding for the orthopaedic surgeons, especially when patients are young
- ❑ Good preoperative planning & appropriate surgical instruments → Essential for a satisfactory outcome