

Reduction Technique in 3 Parts Pertrochanteric Femur Fracture

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INTRODUCTION:

Although rarely seen in young adult population, pertrochanter femoral fractures can be caused by high-energy injuries resulting in comminuted fracture configuration¹. In this case report, we share a case of pertrochanteric fracture with extension to lesser trochanter, its intra-operative challenges and reduction technique.

REPORT:

43-years-old man with epilepsy had a fall sustaining closed fracture pertrochanter right femur with lesser trochanter extension. Patient was stabilized and planned for operation using long proximal femoral nail.

Intra-operatively, there were difficulties in reduction of fracture. The maneuver of traction, adduction and internal rotation has little control over proximal fracture fragments. Instead, a Shanz pin was inserted into distal fracture fragment for “joystick” control. A bone hook was introduced into proximal thigh incision to reduce the middle fragment by hooking and pulling it laterally. The reduction was maintained with multiple k-wires and carefully placed with trajectory away from intramedullary canal to avoid overlapping with subsequent step of proximal femur reaming. Once reduction is stabilized, the entry point for insertion of guidewire and proximal femur reaming was established. The proximal femoral nail was then inserted without any displacement and screw blade was inserted into center-center of femoral head. Distal screws were inserted.

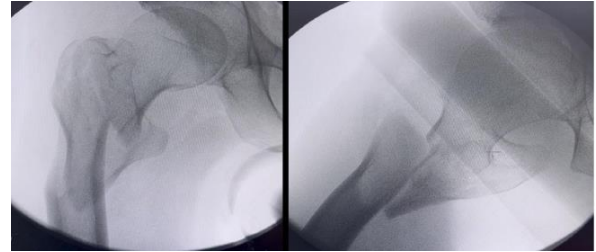


Figure 1: X-ray of right proximal femur on traction

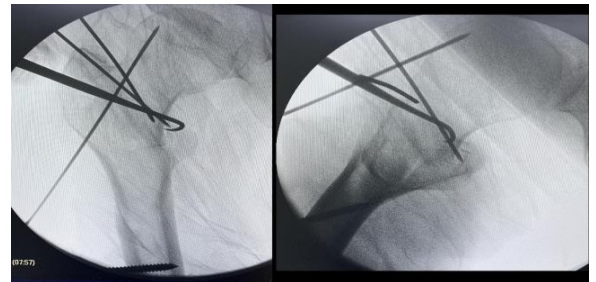


Figure 2: X-ray of right proximal femur with reduction using Shanz pin over distal fragment and bone hook on middle fragment

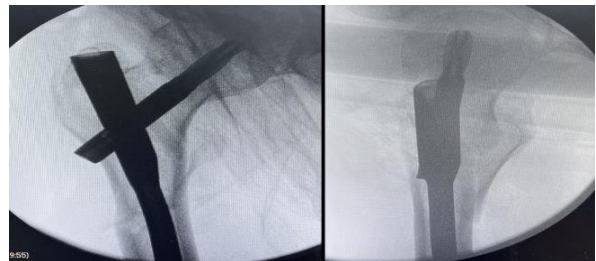


Figure 3: X-ray of right proximal femur post-fixation with Proximal Femoral Nail

CONCLUSION:

The reduction of proximal femoral fractures is important before commencing on the entry point for implant insertion. This case report recommends the use of several reduction technique such as Shanz pin, bone hook and k-wires to achieve proper reduction.

REFERENCES:

1. Gao, Y.-S. et al. (2018) “A novel cerclage wiring technique in intertrochanteric femoral fractures treated by intramedullary nails in young adults,” *BMC Musculoskeletal Disorders*, 19(1).