

# Femoral Neck Fracture with Ipsilateral Trochanteric Fracture: Is there room for Osteosynthesis?

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## Abstract

Femoral neck fracture with ipsilateral trochanteric fracture is an uncommon association, which has been sparsely reported in literature. We report one such association wherein a successful attempt was made to preserve the femoral head by Osteosynthesis.

## INTRODUCTION

Femoral neck fracture occurs in young patients frequently as a result of high-energy trauma and is not uncommonly associated with other injuries.<sup>2</sup> Most common reported association is a femoral neck fracture with ipsilateral shaft fracture.<sup>9</sup> Less common association are contra lateral femoral fractures, tibial or ankle fracture, upper extremity fracture, patellar fracture, pelvic fracture, foot fracture, acetabular fracture, rib fracture, skull and facial bone fracture and spinal fracture.<sup>2</sup>

Although prosthetic replacement is frequently considered for the treatment of displaced fractures in elderly patients, efforts are focused on preserving the femoral head in physiologically young patients. Attempting an Osteosynthesis in a case with a trochanteric fracture with an ipsilateral femoral neck fracture is fraught with additional technical difficulties compared with a simple Osteosynthesis.

This case report highlights the Osteosynthetic management and subsequent out come of this rare association.

## CASE HISTORY

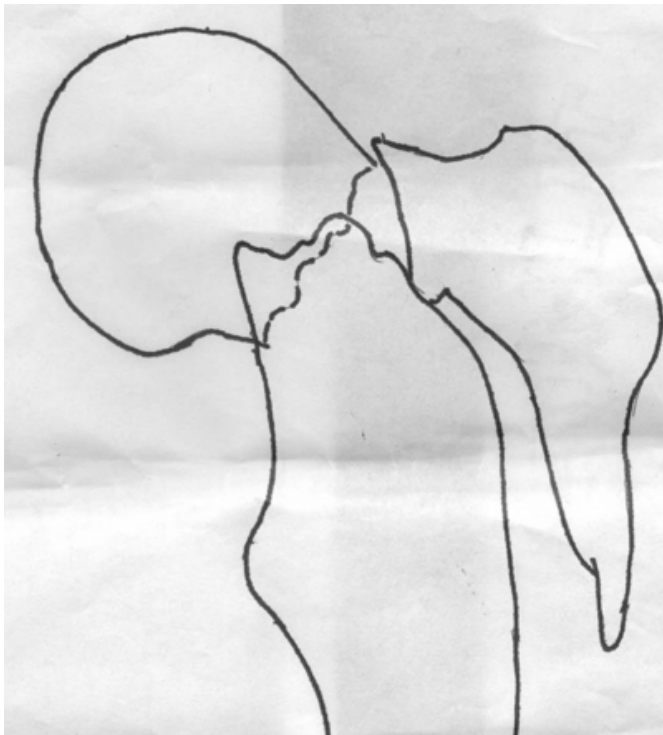
A thirty-year-old service man presented to our hospital with trauma of left hip due to a road traffic accident. On reception in the casualty the patient had an externally rotated left lower limb with shortening. There was tenderness and swelling in the left trochanteric area with echymosis. Radiographic examination revealed a femoral neck fracture with an ipsilateral trochanteric fracture (reversed obliquity) (Fig. 1 and 2). The patient was put on a traction for forty-eight

hours after which he was operated.

**Figure 1**



**Figure 2**



Operative Technique: A posterolateral approach was used to approach the trochanteric area. The trochanteric fracture was reduced to the distal fragment by a Schanz pin and a cortical screw was used to hold the reduction. This converted the three-part fracture into a two part fracture.

Reduction of the femoral neck fracture was achieved by manipulation with the help of the Schanz pin. A less than anatomical reduction was accepted to obviate the need for open reduction.

Fixation of the femoral neck by cannulated screws was precluded due to the need to fix the trochanteric fracture as well. Therefore a Richards compression hip screw was passed into the head from the trochanter at a varus angle. The compression hip screw was fixed to the barrel plate of a DCS implant, contoured to an angle of 110°. An AO cannulated screw was passed superior and parallel to the compression hip screw to avoid rotation.

The wound was closed in layers.

The weight bearing of the patient was delayed till four weeks.

The patient was followed up at regular intervals to record fracture union, range of movement and pertinent complications. The fracture united at four months (Fig.3).

**Figure 3**



At one year follow up the patient is pain free and has no evidence of avascular necrosis (Fig.4).

**Figure 4**



## DISCUSSION

Ipsilateral femoral neck fractures in association with trochanteric fractures are uncommon.<sup>3,4,6</sup> These injuries typically occur in high energy trauma. The most common association reported in literature is the occurrence of femoral neck fracture with an ipsilateral femoral shaft fracture with an incidence of 5-6%.<sup>1,9</sup> Other less common association patterns are ipsilateral intertrochanteric and shaft fractures.<sup>1</sup> Treatment of femoral neck fractures in isolation is well established. Cannulated screws, Knowles pins and sliding hip screws have been established and accepted.<sup>5,7,8</sup> The associated injuries change the configuration of the fracture

and treatment modality as well.

Henry H Banks,<sup>3</sup> while studying factors influencing the results in fractures of the femoral neck in 301 patients reported one case of femoral neck fracture associated with ipsilateral intertrochanteric and sub trochanteric fracture of the same hip. He did not elaborate on the follow up of this particular case.

Marvin H Meyers et al.<sup>6</sup> described one case of femoral neck fracture with ipsilateral intertrochanteric fracture, while commenting on the success of muscle pedicle grafting in femoral neck fractures in young adults. They used Smith-Peterson nail with a thornton side plate for stabilization. Both the fractures in this patient healed uneventfully.

Lykke N. et al.<sup>4</sup> treated two cases of combined cervical and trochanteric fracture by hemiarthroplasty. Again comments on the follow up of these patients were not made.

We believe that any surgical intervention in such cases must aim at osteosynthesis in the younger population with every effort aimed at preventing further compromise of the tenuous blood supply of the femoral head. These goals, in our opinion, were achieved in our case.

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