

# Simultaneous Bilateral Femoral Neck Fracture in a Patient with Osteoporosis- A Case Report

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## Abstract

We report a case of bilateral neck of femur fracture in a patient in osteoporotic bone, as a result of a fall from a standing position. A literature review shows all similar fractures are documented to have been associated with high velocity trauma, seizures and/or osteoporosis secondary to steroid use. As far as we are aware this is the first reported case of this fracture pattern in connection with this patient profile and history, which is similar to the vast majority of trauma patients seen.

## INTRODUCTION

We report the case of a 79 year old man who suffered simultaneous bilateral femoral neck fractures in osteoporotic bone. Fractures were as a result from a fall from a standing position. Although a very rare occurrence simultaneous bilateral neck fractures are known to be associated with high impact trauma or convulsions, and not with falls from a standing position. Also this is the first reported case of such a fracture pattern in primary osteoporosis. In a review of the English literature we were able to find only 2 other cases of similar fracture pattern associated with osteoporotic bone, however both cases were secondary to steroid induced osteoporosis (1) (6).

## CASE REPORT

The patient was a 79year old man who presented with bilateral hip pain after a fall from a standing position. He was independently mobile prior to this episode and co-morbidities included hypertension, hypercholestaemia, gout and osteoporosis. On further questioning he denied any history of treatment with steroids or any excessive alcohol use. He reported a good diet.

His vital signs were normal as were his laboratory studies. Complete blood count, Liver function tests and renal function were within normal limits. Radiographs demonstrated bilateral displaced femoral neck fractures (fig. 1) and the patient underwent bilateral hemiarthroplasty (fig 2). The patient did very well post operatively and made good progress with no complications. He was discharged when well.

**Figure 1**

Figure 1



**Figure 2**

Figure 2



## DISCUSSION

Simultaneous bilateral femoral neck fractures are an extremely rare occurrence but in most cases the aetiology is known. In younger patients it is usually due to high energy trauma such as road traffic accidents or falls from height (4).

The English literature documents multiple cases of simultaneous bilateral femoral neck fracture which occur secondary to convulsions. This mechanism was fairly common prior to the 1950s in patients treated with drug-induced convulsive therapy for psychiatric conditions but became less so with the introduction of muscle relaxants in 1957 (10). Otherwise cases exist of such a fracture pattern occurring from seizures due to hypocalcaemia (10), epilepsy (8), electric shock (9), drug-induced (8) and renal failure (2) (5).

In contrast although metabolic bone disorders account for the vast majority of unilateral proximal femur fractures, there are very few cases in the English literature where simultaneous fractures are documented with this as an aetiological factor. We were only able to find one case (6) in the literature where osteoporosis was mentioned as the main aetiological factor. Other bone related disorders resulting in such a fracture pattern included osteomalacia (3) and low vitamin D levels (7).

Although rare, simultaneous bilateral fractures of the femoral neck are associated with a higher mortality and higher length of stay (4). They also are known to be more likely to appear in patients with multiple co-morbidities and concomitant injuries, further complicating their management.

### **SUMMARY**

Although historically such fracture patterns may be

associated with high energy trauma or convulsions, the clinician must understand the relevance of primary and secondary bone disease as an aetiological factor. We present the above case of bilateral femoral neck fracture from relatively minor trauma secondary to osteoporosis.

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