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Femoral neck fracture in 62 years old female patient- A case report

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Abstract

In elderly patients, femoral neck fractures occur easily with low energy trauma due to decreased bone density. Femoral neck fractures are common and account for about 50% of total hip fractures. We reported a case of femoral neck fracture in 62 years old female patient.

Keywords: femoral, fractures, trauma

Introduction

The femoral neck is an anatomical structure that receives high mechanical pressure due to the curvature of the proximal femur. So, it is not surprising that femoral neck fractures are common and account for about 50% of total hip fractures ^[1]. In younger patients, femoral neck fractures occur as a result of high energy trauma such as traffic accidents or falls, whilst in elderly patients, femoral neck fractures occur easily with low energy trauma due to decreased bone density. Around the world, there has been an increasing incidence of hip fractures with each decade, primarily due to improved life expectancies. It is estimated that by 2050, about 6 million people will experience a hip fracture ^[2].

Segmental hip fractures are rare. Most of the previously reported cases are combined ipsilateral femoral neck and intertrochanteric fractures, while in other cases, ipsilateral head and neck of femur fractures are concomitant particularly following hip dislocation. These injuries may be the result of low energy or high energy trauma. In addition, femoral neck fractures, especially the subcapital types, commonly occur following sliding hip screw fixation ^[3]. However, there was only one case of segmental femoral neck fracture that has been reported in the English literature in 1989. The routine management for femoral neck fractures is surgery but, in cases of medical contraindications or refusal of surgical treatment, non-operative treatment is performed. Perry *et al.* ^[4] reported a case of segmental fracture, in an elderly osteoporotic woman caused by a simple fall, in which there were two fracture lines involving subcapital and intertrochanteric regions. However, it is not accurate to label their case as segmental femoral neck fracture because the intertrochanteric area is not a part of the femoral neck. We reported a case of femoral Neck Fracture in 62 years old female patient.

Case Report

A 62 years old female patient visited the department with pain in right hip since 2 days. History revealed that patient had fall from stairs 1 day back and got injury on right hip. There was severe pain, limitation of movements and swelling in the same region. The patient visited the Orthopaedic department for the same.

Patient was subjected to x-ray and computed tomography (CT) scan of the right hip. On the basis of history, clinical and radiological examination, the diagnosis made was intertrochanteric fracture of the right femoral neck. Under general anaesthesia, the patient was positioned on fracture table. Gentle closed reduction was successful under image intensifier guidance. Three cannulated screws with washers were inserted in a triangular fashion. Postoperative radiograph showed a satisfactory reduction and fixation. Postoperatively, the patient was mobilized on axillary crutches with non-weight bearing on the right leg. After femoral neck fracture has healed, the patient has no hip pain or discomfort. Plain radiographs of the fifteen month follow up showed no signs of avascular necrosis.

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Discussion

The incidence of fracture of the femoral neck is increasing every year because of extended life expectancy, especially in elderly people and increased activity. Hip fractures are often simple to diagnose clinically and radiologically, with initial imaging sensitivity estimated as 90-98%. Approximately 75,000 femoral necks are fractured in the UK per annum and this is projected to rise further. If initial radiographs alone are used to exclude a neck of femur fracture then this poses the alarming possibility that up to 7,500 neck of femur fractures could have been missed [5]. Delays in diagnosis increase the risk of avascular necrosis, arthroplasty, nonunion, thromboembolic events, and mortality. This case and figures above demonstrates the need for clinicians to have a high index of suspicion when evaluating elderly patients following a fall. If there is clinical suspicion of a neck of femur fracture, then a negative radiograph is not enough and further imaging is required; magnetic resonance imaging - or computed tomography, if unavailable or contraindicated [6]. We reported a case of femoral Neck Fracture in 62 years old female patient.

Risk factors for osteoporosis include modifiable factors such as calcium/vitamin D deficiencies, physical inactivity and the smoking habit, as well as, unmodifiable factors such as family history and increasing age. As result, hip fractures cause considerable functional decline and nearly always require surgical treatment. Hip fractures more generally result from a simple fall in the elderly. During physical examination, patients with hip fracture usually present pain in the groin and inability to perform weight-bearing activities. They may exhibit shortening and external rotation of the affected limb and sometimes minor pain with little or no limitation in range of motion [7]. However, non-operative treatment of this type of fracture can causes severe complications such as AVN and non-union of the femoral head, so it is important to consider the treatments available, the patient's age and their expectations. Among complications of femoral neck fractures, AVN can occur up to 11%-80%, and non-union can occur up to 30%. The primary goal of femoral neck fracture treatment is to preserve the hip joint and to restore function to previous levels. In most cases, surgery is performed [8]. In younger patients, internal fixation is considered as the common surgical method, but in elderly patients, total hip replacement is a priority because of the risk of complications such as fixation failure and AVN of the femoral head. However, the risk of surgery or total hip replacement, such as an increased operating time and bleeding volume, may be greater than internal fixation. In addition, postoperative complications such as dislocation, infection, and loosening of the fixation screw may occur, so careful consideration is necessary. So, some practitioners advocate non-operative treatment [9].

Imaging modalities, such as plain radiographs, magnetic resonance imaging (MRI), bone scan and computed tomography (CT) can help in confirming the diagnosis [10]. As result, the diagnosis of hip fracture can usually be established through a detailed medical history, a clinical examination, and imaging findings of the symptomatic limb. A well structured and easily understood diagnostic algorithm is always useful in formulating diagnosis [11].

Conclusion

Authors found that femoral neck fracture is common among elderly. Neck fracture can be managed with cannulated screws.

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