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Simultaneous bilateral hip fractures following a simple fall in an elderly patient: A case report

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ABSTRACT

Bilateral fractured necks of femur are rare, particularly in the absence of high energy trauma or metabolic bone disease. We describe a case of an 89 year old man with no history of metabolic bone disease who presented with bilateral neck of femur fractures following a simple fall. Clinicians must be vigilant to ensure that bilateral neck of femur fractures are identified and treated appropriately.

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1. Introduction

Unilateral hip fractures in elderly patients are extremely common, but bilateral simultaneous hip fractures are not. There are several cases of bilateral simultaneous hip fractures in elderly patients described in the literature, but they describe bilateral hip fractures caused by higher energy forces or in patients with metabolic disease. To our knowledge only four case reports exist in the literature describing a bilateral hip fracture following a low energy fall in a patient without metabolic disease.

2. Case report

An 89 year old man was admitted to our trauma unit following a simple fall from standing height. He fell on his way to the kitchen at 10pm after feeling his legs give way. He described no other prodromal symptoms and no loss of consciousness. He lay on the floor overnight for 14h and was discovered by his daughter the following morning. His past medical history included a stomach ulcer, dermatitis and bilateral age related macular degeneration. He had no history of osteoporosis or other metabolic bone disease. Prior to admission he lived alone with no carers and mobilised

around his house with one stick. He seldom left his house and his daughter did his shopping and errands for him. On examination he complained of pain in both hips and his left hip was shortened and externally rotated. A plain AP radiograph of the patient's pelvis revealed a clear left sided intracapsular Garden type 3 fractured neck of femur, and appearances suspicious of a fractured right neck of femur (Fig. 1). A subsequent internal rotation view (Fig. 2) radiograph of the patient's right hip confirmed a Garden type 3 intracapsular right neck of femur. The pelvic radiographs showed a Singh index of 4⁽¹⁾, and there was no abnormality on chest radiograph. Blood tests revealed a raised white cell count of 18.7, a raised urea of 10.7 and a raised Creatine Kinase of 1300, but were otherwise unremarkable. The estimated glomerular filtration rate was greater than 60.

Surgical treatment was discussed with the patient and his family and informed consent was obtained. He underwent bilateral sequential cemented Thompson's hemiarthroplasty (Zimmer Biomet, Indiana, USA) under general anaesthetic on the day following his admission. The patient was given prophylactic Flucloxacillin and Gentamicin and 1g of Tranexamic acid at induction. Both Thompson's prostheses were the same 54mm head diameter. Total operative time was 2h and 24min and estimated blood loss was 260mls.

He was able to mobilise weight bearing as able post operatively under the supervision of a physiotherapist. Post-operative check X-Rays were satisfactory (Fig. 3). He was discharged on the seventh day after his operation to a local rehabilitation hospital. At that

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Fig. 1. Pre-operative AP pelvis radiograph.



Fig. 3. Post-operative AP pelvis radiograph.



Fig. 2. Pre-operative internal rotation radiograph right hip.

stage he was mobilising short distances with the aid of a walking frame.

3. Discussion

Bilateral hip fractures are very rare in comparison to unilateral hip fractures. A retrospective review of all fractured neck of femur patients presenting to a level 1 trauma centre over 10 years found that 0.3% of 2426 patients had bilateral fractures.² All of these patients, and the majority of cases of bilateral hip fractures in the literature,³ were caused by high energy trauma. There have also

been reports of bilateral fractured neck of femur due to seizures secondary to epilepsy, drugs or electrocution.⁴ In addition to these high energy cases, there are also a number of case reports describing bilateral fractured neck of femur in patients with primary or secondary metabolic bone disease including osteoporosis, oteomalacia, renal osteodystrophy and multiple myeloma.

There are very few reports in the literature describing bilateral neck of femur fractures following a low energy fall in patients without relevant comorbidity. Most recently, in 2016 van der Zeeuw⁵ described a 90 year old man without relevant comorbidity who sustained bilateral proximal femur fractures following a fall from his bed. In 2009 Sood⁶ described an 84 year old man without relevant comorbidity who sustained bilateral neck of femur fractures after falling down 3 steps.

In conclusion, bilateral neck of femur fractures following a simple mechanical fall is an unusual presentation, particularly in the absence of high energy trauma or metabolic bone disease. A missed contralateral fractured neck of femur may result in prolonged patient pain, delays in mobilisation and an unnecessary extra anaesthetic procedure. Therefore, despite the rarity of these injuries clinicians must be vigilant and obtain the correct radiographic imaging to ensure that bilateral neck of femur fractures are identified and treated appropriately and promptly. Patients presenting with bilateral neck of femur fractures following low energy trauma should be referred for a DEXA scan to rule out osteoporosis as a cause and to help to prevent future fragility fractures.

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Ethical adherence

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Conflicts of interest

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Appendix A. Supplementary data

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