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Keywords: Femur; Fracture; Intra-capsular; Extra-capsular; radiologists, and were found to show "severe OA of the right hip, but no fracture". A Doppler ultrasound excluded a deep vein thrombosis.

Introduction

It is widely accepted that fractures of the femoral neck in patients with osteoarthritis (OA) of the hips are associated with an extra-capsular, inter-trochanteric type fracture pattern [1-3]. Intra-capsular fractures in these circumstances are unusual. This case report looks at a patient with septic arthritis of the hip presenting with an intra-capsular fracture of the femoral neck in an apparently osteoarthritic hip.

Case Report

An 88-year-old woman was admitted to hospital under the general physicians with a history of increasing confusion and decreased mobility. She was known to suffer with mild dementia and lived in a warden controlled flat. She was found at home by her daughter, unable to stand or walk and the patient denied having fallen. She was acutely confused and was initially seen by her general practitioner who diagnosed an urinary tract infection (UTI) and started Trimethoprim 200 mg twice daily (bd) and referred for admission to hospital.

On admission a history of recurrent UTIs, and atrial fibrillation was noted but no history of previous hip problems. She was on Digoxin and Aspirin. She was a non-smoker and non-drinker.

On examination, she was confused with a Glasgow coma scale score was 14/15. She had a temperature of 38° Celsius and she was mildly tachycardic. Her chest was clear and oxygen saturations were recorded as 98% on air. The Boehringer Mannheim (BM) test recorded a blood sugar of 7.3 mmol/L.

Abdominal examination revealed slight distension, it was soft to palpation and bowel sounds were documented as "normal". There was tenderness on palpation of the right groin, and with passive movements of the right hip. There was no shortening or external rotation of the right lower limb.

Full blood count (FBC) showed a white cell count (WCC) of $16.1 \times 10^9/L$ with a neutrophil count of $12.8 \times 10^9/L$. Urea and electrolytes were normal, and serum glucose was 9.7 mmol/L. Dipstick were positive for nitrites and increased white blood cells confirming the diagnosis of a UTI. A chest radiograph showed no abnormalities and the abdominal radiograph showed faecal loading. An antero-posterior radiographic view of the pelvis showed gross osteoarthritis of the right hip, but no fracture (Figure 1).

The patient was treated for a UTI and referred to the physiotherapists for mobilisation. Thirteen days following admission, the patient developed a lower upper respiratory tract infection (URTI) and melaena. The URTI was treated with a combination of Augmentin and Clarythromicin. An oesophagoscopy was booked to investigate the intestinal bleeding. Repeat FBC showed a haemoglobin count of $10.0 g/dL$, WCC $14.7 \times 10^9/L$ with a neutrophil count of $12.7 \times 10^9/L$. Two units of packed red blood cells were given.

Repeat radiographs of the right hip were taken (Figure 2).

These radiographs were reported by one of the hospital's consultants

At 22 days following admission, the physicians reported that her leg URTI was much improved.

The patient had a fall on the 28 day following admission. On examination the right leg was shortened and externally rotated. A third right hip radiograph showed a displaced fracture of the femoral neck (Garden type IV) (Figure 3).

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Received February 16, 2013; Published July 25, 2013

Citation: Animashawun A, Bhattee G, Katchburian MV (2013) Is a Sub-Capital Fracture in an Arthritic Hip Evidence of Underlying Infection? 2: 759 doi: 10.4172/1944-9017.1000759

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The presence of an intracapsular fracture in an osteoarthritic hip with a concomitant history of infection elsewhere, and raised inflammatory markers should have alerted us to the possibility of sepsis within the hip. Talbot et al. reported a pathological fracture of the hip following intracapsular spread of a psoas abscess [8]. Our case also involved a patient with radiographic osteoarthritis developing a subcapital fracture. It was felt that the OA might have offered reduced resistance