

A Barn Door: Fractured Neck of Femur

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Citation

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Abstract

We present a case of a missed fractured neck of femur in a 59 year old lady, having been knocked over by a barn door. She presented initially to the Emergency Department fully weight-bearing complaining of hip pain. She returned five days later with deterioration of her symptoms and difficulty weight-bearing, despite continuing to work on her farm. X-rays revealed a Garden Type 3 subcapital fractured neck of femur. She subsequently underwent uneventful total hip arthroplasty. Delay in diagnosis occurs in up to 5% of hip fractures. The delay in diagnosis is discussed as are the guidelines for investigation for patients with hip fractures.

INTRODUCTION

Delay in diagnosis occurs in up to 5% of hip fractures (1, 2). The consequence of delay in diagnosis is not only continuing symptoms for the patient but also further displacement of the fracture and hence worsening prognosis (1, 2). The delay may occur from patients not presenting to the hospital immediately or misdiagnosis by the attending doctor. Our case highlights the fact that patients with an undisplaced fracture may continue to weight-bear and even perform fairly rigorous activities. Inevitably further displacement usually occurs with worsening of symptoms.

CASE REPORT

A 59 year-old female farmer was hit on the side by a barn door and landed on her right hip. She got up and attended the Emergency department complaining of hip pain and difficulty walking. Original examination revealed a large bruise over the right hip, but she was able to weight bear and was discharged without a radiograph. She returned to the farm where she continued to work until 5 days later when the pain became too unbearable. She contacted her local doctor who subsequently arranged a radiograph which showed a Garden type 3 subcapital fractured neck of femur (Figure 1, 2). She was admitted to hospital where we performed a Hybrid total hip replacement with an Exeter/Trident (Stryker/Howmedica Ltd. , Hambridge House, Newby, UK) prosthesis (Figure 3). Postoperatively she made a good recovery and returned to the farm fully active.

Figure 1

Figure 1: AP radiograph of pelvis



Figure 2

Figure 2: Lateral radiograph of Right hip



Figure 3

Figure 3: Postoperative radiograph of patient following total hip arthroplasty



DISCUSSION

Our case illustrates that a clinician requires a high index of suspicion when evaluating a patient with hip trauma. Diagnosis can sometimes be difficult just on clinical examination and radiographs alone and occasionally requires

further investigation in the form of oblique radiographs, Isotope Bone scan, computed tomography or Magnetic Resonance Imaging (3,4,5).

Parker found that 3 out of 10 missed fractures had failed to have an initial X-ray (2). Guidelines for investigation of hip fractures have been recommended by Whittaker et al (3). They described an algorithm for investigating subcapital fractures with normal radiographs. Those patients that have normal radiographs and are able to weight-bear can be followed up in clinic in one week with a further check radiograph. Patients unable to weight-bear should be admitted for further investigation.

Most missed fractures are Garden type I or II (6). Delay in diagnosis can be catastrophic resulting in further displacement and hence worsening of prognosis. The incidence of non-union and avascular necrosis is much higher in the displaced subcapital neck of femur (6, 7).

Undisplaced fractures can be treated with a much simpler operation with internal fixation thus reducing the morbidity associated with these fractures (8). Displaced fractures require more invasive surgery in the form of arthroplasty with higher morbidity.

CONCLUSION

A missed subcapital hip fracture may result in further displacement subsequently affecting outcome. A high index of suspicion is required in patients with only minor hip trauma who are continuing to weight bear. Further investigation in the form of radiographs and occasionally admission for further investigation may be necessary.

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