CASE REPORT

Does fracture neck of femur need full-length radiograph of femur?

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Introduction

Fractured neck of femur is one of the commonest fractures sustained in the elderly population. An antero-posterior (AP) view of the pelvis and lateral view of the affected hip are routinely taken. We present an unusual case of an intra-operative complication while inserting an Austin Moore Hemiarthroplasty, due to inadequate radiographs of the femur.

Case report

A 94-year-old man from a residential home presented with a displaced intra-capsular fractured neck of his left femur following a fall. He was known to have Alzheimer’s disease and had difficulties with hearing and vision so the history was obtained from his daughter. His mental test score was two out of 10. She gave a history of arthrodesis of the ipsilateral knee joint when the patient was about 18–19 years old. She did not know the cause for the arthrodesis. There were no other medical problems. He was not on any medication. The patient had walked with one stick prior to this accident.

On physical examination, the left lower limb was shortened and externally rotated. He had normal neurology and pulses in his left leg.

AP radiographs of the pelvis and a lateral radiograph of the hip revealed a displaced intra-capsular fracture of the neck of the left femur (Fig. 1a and b). The patient was prepared for an Austin Moore Hemiarthroplasty, which was performed on the same day as an emergency.

Although some obstruction was encountered with the straight reamer, no undue difficulty was experienced. Post-operative recovery was uneventful. The post-operative radiographs showed lateral penetration of the femur by the tip of the prosthesis (Fig. 2). The check radiograph also showed a malunited fracture of the upper third of the femoral shaft. The femoral canal at this site was probably obstructed with callus, and the penetration of the femur was at the site of the deformity. As the prosthesis was judged to be stable no further surgical intervention was undertaken. The patient started walking with a Zimmer frame from the first post-operative day without any undue pain or difficulty. The wound healed satisfactorily. He was discharged home after 10 days.

Discussion

Displaced fractured neck of femur is treated with hemiarthroplasty in the elderly population. Intra-
operative periprosthetic femoral fractures are rare but present a challenge for the surgeon. The calcar may fracture during surgery, the stem may penetrate the femoral shaft, or distal femoral fracture can occur during manipulation and preparation of the femur. Proximal fractures are usually easily seen during surgery, but fractures at the tip of the stem that occur during surgery may be missed. These fractures may delay post-operative mobilisation and increase morbidity and mortality. They also increase the hospital stay and cost.

In our patient, it was difficult to obtain a proper medical history from the patient at the time of admission because of his Alzheimer’s dementia. Hence we missed the history of an old malunited fracture of the left proximal femur.

Where a proper history is not available, in a patient with a fractured neck of femur, we suggest that the radiograph should include at least the upper half of the femur in addition to the hip joint. Although it could be argued that intra-operative screening of the femur at the time when some difficulty is encountered could have avoided this complication, a proper pre-operative diagnosis would also have alerted the surgeon to the need for more care when performing the operation and more importantly would have identified the need for a more experienced surgeon.

References