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CASE REPORT

Intertrochanteric fracture below Birmingham Hip Resurfacing: Successful non-operative management in two cases

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Introduction

Hip resurfacing is being performed with increasing frequency for the treatment of arthritis particularly in the younger patient. One of the complications associated with resurfacing is subcapital femoral neck fracture.⁵ Subcapital fractures are usually treated with revision⁵ to a stemmed femoral component, although there have been some reports of successful non-operative management.^{2,3} There have been no previous reports of the management of intertrochanteric peri-prosthetic fractures following hip resurfacing.

We describe two patients who sustained intertrochanteric peri-prosthetic fractures below a previous Birmingham hip resurfacing carried out for osteoarthritis of the hip. Both fractures were minimally displaced. They were both treated non-operatively, both united and satisfactory clinical results were obtained.

Case report

Patient 1

A 78-year-old woman presented with a painful right hip following a fall onto her right side. She was unable to weight bear. She had undergone a right Birmingham hip resurfacing for osteoarthritis 11 years previously. At the time of the original surgery there were no complications. She had no significant co-morbidities. Prior to the fall the hip was asymptomatic and she was walking independently without pain.

Patient 2

A 69-year-old man sustained a fall on his right hip as a result of tripping on a paving stone. He had undergone a Birmingham hip resurfacing 2 years 5 months previously, again there had been no peri-operative complications, and he had also been asymptomatic since the procedure and had no significant co-morbidities.

Radiographs of both patients at presentation showed well-fixed Birmingham hip resurfacings with minimally displaced intertrochanteric fractures (Patient 1, [Figs. 1 and 2](#); Patient 2, [Figs. 3 and 4](#)).

In both cases it was decided (the treating surgeons had no knowledge of each others cases) to treat the fractures non-operatively. The patients were placed on skin traction for 6

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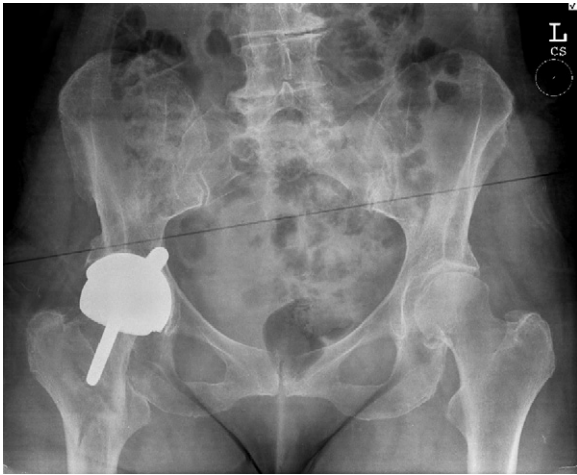


Figure 1 Patient 1 radiograph AP pelvis at presentation.

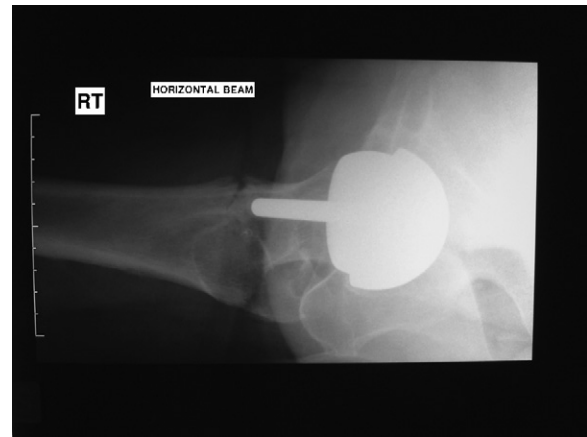


Figure 4 Patient 2 radiograph lateral right hip at presentation.



Figure 2 Patient 1 radiograph lateral right hip at presentation.

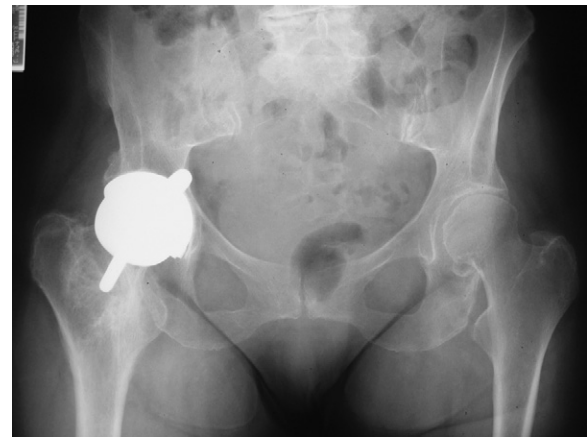


Figure 5 Patient 1 radiograph AP pelvis (United).

weeks. Weekly radiographs were taken to monitor for displacement and progress to union.

At 6 weeks the radiographs showed fracture healing with an acceptable position and both patients commenced touch weight bearing with a frame. At 4 months both patients were

fully weight bearing. At 6 months both patients were pain free and mobilising independently (Patient 1 requiring a single stick outdoors).

The only abnormality was a slight external rotation deformity of patient A's leg which did not result in a functional

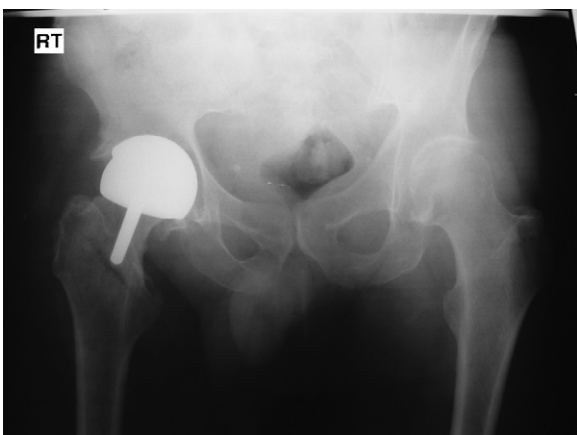


Figure 3 Patient 2 radiograph AP pelvis at presentation.

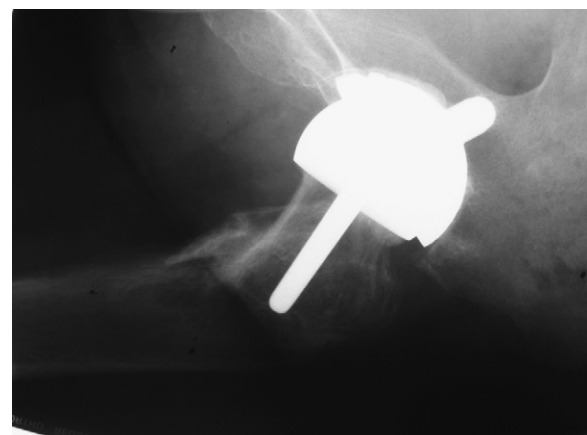


Figure 6 Patient 1 radiograph lateral right hip (United).

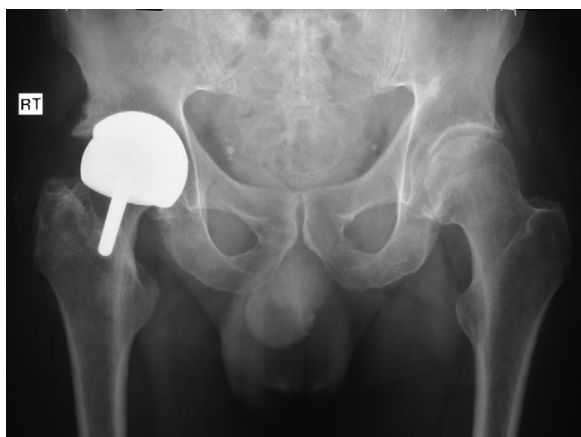


Figure 7 Patient 2 radiograph AP pelvis (United).

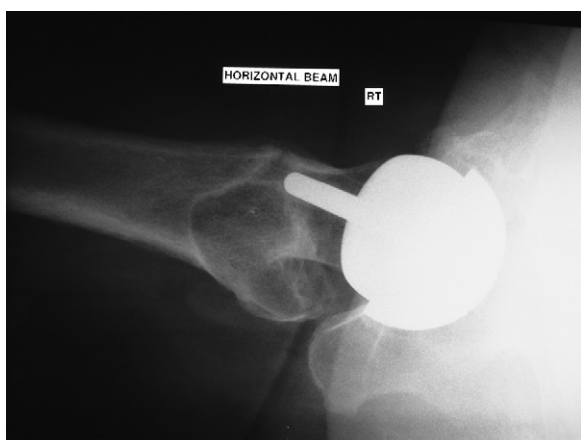


Figure 8 Patient 2 radiograph lateral right hip (United).

impairment. Patient 1 had an Oxford Hip Scores⁴ of 15 for the injured and 12 for the uninjured hip at 11 months post-fracture. Patient 2 had an Oxford Hip Scores of 14 for the injured and 12 for the uninjured hip at 18 months post fracture. Radiographs demonstrated union of the

fracture in both cases (Patient 1, Figs. 5 and 6; Patient 2, Figs. 7 and 8).

Discussion

Subcapital fracture following metal on metal hip resurfacing is an occasional complication which typically occurs in the first few weeks post surgery. The complication is normally managed by revision surgery using a stemmed femoral component although there have been reports of non-operative management.^{2,3,5}

As metal on metal hip resurfacing becomes more widely used this uncommon type of late undisplaced peritrochanteric fracture is likely to occur more frequently.

There has been one previous report of reconstruction nailing for a complex comminuted proximal femoral fracture in the presence of a Birmingham hip resurfacing.¹

There have been no previous published reports of non-operative treatment of intertrochanteric fracture. Our two cases illustrate that patients who sustain minimally displaced intertrochanteric peri-prosthetic fractures with a well-fixed Birmingham hip resurfacing may be successfully managed non-operatively.

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