Traumatic anterior dislocation of the hip

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DESCRIPTION

A 31-year-old male motorcyclist presented to the emergency department (ED) following a road traffic accident with significant right hip pain and inability to weight bear. On examination the patient had a shortened and externally rotated leg with absent peripheral pulses and cold peripheries concerning for vascular compromise. A plain radiograph demonstrated an anterior hip dislocation (AHD) with a greater trochanter (GT) fracture (figure 1). An urgent CT of the pelvis was performed to exclude the possibility of a femoral neck fracture (figure 2A, B). The hip was reduced under conscious sedation in the ED using the Allis method. The peripheral pulses returned. A further CT angiogram of the pelvis was performed which showed concentric reduction, an undisplaced GT fracture and a short segment dissection of the right external iliac artery which was managed conservatively as directed by the vascular team (figure 3A, B). The patient was mobilised full weight bearing as tolerated with physiotherapy. He has a stable and pain-free hip with a healing GT fracture at his 6-week follow-up (figure 4).

Hip dislocations are uncommon accounting for 5% of all dislocations with AHDs accounting for 15% of all hip dislocations.¹ AHDs are frequently associated with fractures of the acetabulum or

Figure 1 Plain radiograph anteroposterior; left hip. Anterior dislocation of the left hip with fracture of the greater trochanter.

proximal femur. They can be associated with vascular compromise either by injury to the vessels or by compression from the dislocated femoral head.² These need to be reduced as soon as possible ideally under a general anaesthetic in operation theatre but if delays are expected reduction should be attempted in the ED to minimise the risk of avascular necrosis.³

Figure 2 (A) CT coronal image of the pelvis with three-dimensional reconstruction. Anterior dislocation of the left femoral head from the acetabulum. Proximity and compression of the femoral vessels can be appreciated. (B) CT sagittal image of the pelvis with three-dimensional reconstruction. Anterior dislocation of the left femoral head from the acetabulum with compression of the right femoral vessels.

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Figure 3 (A) CT coronal image of the pelvis with three-dimensional reconstruction. Anatomical reduction of the left hip using Allis method. There is an undisplaced fracture of the greater trochanter with short segment dissection of the right external iliac artery. (B) CT sagittal image of the pelvis with three-dimensional reconstruction. Postanatomical reduction with dissection of the right external iliac artery.

Figure 4 Pelvic radiograph anteroposterior. Follow-up imaging at 6 weeks. Stable reduction of the left hip with undisplaced fracture of the greater trochanter.

Contributors AG and PE performed the literature review. AG and NMCA obtained and formatted the images. NH supervised the writing of the manuscript and treated the patient.

Learning points

- ▶ Hip dislocations are uncommon accounting for 5% of all dislocations with anterior hip dislocations accounting for 15% of all hip dislocations.
- ▶ They are frequently associated with fractures of the acetabulum or proximal femur and with vascular injury.
- ▶ They should be reduced as soon as possible under a general anaesthetic but if delays are expected reduction should be attempted in the emergency department to minimise the risk of avascular necrosis.

Competing interests None declared.

Patient consent Obtained.

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