

Case Report

Posterior dislocation hip with anterior column acetabular fracture: a very rare injury

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Received: 30 December 2017

Revised: 06 February 2018

Accepted: 08 February 2018

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ABSTRACT

Posterior dislocation is a common injury but its occurrence in association with anterior column fracture is very rare. We report a case of this rare injury pattern. The patient was treated with closed reduction of dislocation followed by open reduction internal fixation of anterior column.

Keywords: Hip dislocation, Fracture, Acetabulum

INTRODUCTION

Posterior dislocation of the hip joint is a common injury accounting for 90% of total hip dislocations.¹ Early recognition, prompt and stable reduction is the essence of successful management. A delay in diagnosis and reduction leads to preventable complications and morbidity. Final outcome depends upon type of fracture-dislocation, congruity and stability of the reduction, severity of the injury and the time elapsed from injury to treatment.^{2,3} The factors causing failed reduction of posterior dislocation include posterior wall fracture, posterior column fracture, femoral head fractures and pelvic fractures.

There are case reports documenting other type of fracture patterns.⁴⁻⁸ We report a case of anterior column fracture associated with posterior dislocation of the hip joint. No previous observer has mentioned this injury pattern.

CASE REPORT

An 18 years old female sustained an injury during road traffic accident. The patient was injured while sitting in a

three wheeler which toppled after it got hit by a car. She got injured and was brought to our hospital emergency room. She was fully conscious and was hemodynamically stable. She complained of severe pain in her right hip region. On examination her right lower limb was internally rotated, adducted and flexed at the hip joint. There was abnormal protuberance in the gluteal region. There was no other skeletal injury. There was no distal neurovascular deficit.

The radiographs showed posterior type of dislocation hip with break in the iliopectineal line (Figure 1). Immediate closed reduction was achieved under sedation in emergency operation room using Allis manoeuvre. The reduction was stable and was checked on the table under image intensifier and Bucks traction was given. CT scan of the hip joint obtained after reduction showed anterior column fracture at the lateral end of superior pubic ramus with no loose bony tissue within the joint (Figure II). Keeping in view the CT finding, open reduction and internal fixation of anterior column fracture was planned and done with 9 hole 3.5 mm reconstruction plate, using ilioinguinal approach. The postoperative radiograph

showed concentric reduction of the hip with accurate reduction of the fracture (Figure III).

The patient was followed for 6 months at monthly interval for 4 months and then at 6 month. The union was achieved in 2 months and patient was bearing weight fully on her affected limb after 3 months. At six month her Harris hip score of 95 and there was no radiological evidence of AVN.



Figure 1: Preoperative AP radiograph showing posterior dislocation of hip, disruption of the anterior column of acetabulum.



Figure 2 (a): Computerized tomography (reconstructed view) depicting the reduced position of the femoral head and anterior column fracture.

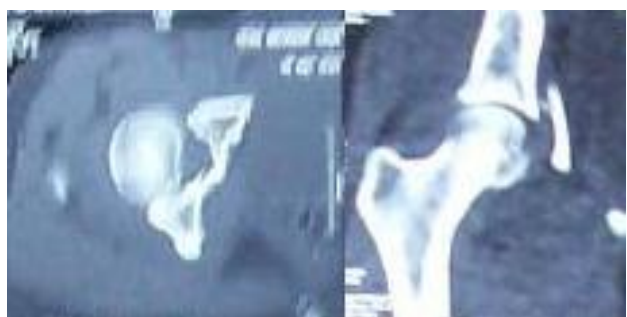


Figure 2 (b): Computerized tomography (transverse section and coronal section) image depicting the reduced position of the femoral head and no loose bony piece in the joint.



Figure 3: Postoperative anteroposterior radiograph showing concentric hip reduction and accurate reduction and fixation of the acetabular fracture with a 9 hole 3.5 mm reconstruction plate.



Figure 4: 2 months follow up postoperative radiograph showing signs of union.

DISCUSSION

Hip dislocation occurs due to high energy trauma. Its incidence has increased over years.⁹ Any hip dislocation, when associated with a fracture around the hip joint, is in itself a strong indicator of severe injury. During trauma, when the transmitted energy overpowers the internal forces of hip, it results in dislocation of the joint. Type of dislocation depends upon the inciting mechanism and position of the limb at the time of impact. Posterior dislocation is more common compared to other types of hip dislocation. It occurs when the limb is in internal rotation, adduction and flexion during impact. It may also be associated with fracture typically of posterior wall of acetabulum and/ or femur head fracture.^{10,11}

We describe a rare combination of posterior dislocation with fracture of the anterior column of acetabulum. There are sporadic reports of other rare combinations. Chen et al described anterior and posterior acetabular wall fracture in a case of posterior dislocations of hip.⁶ Jindal et al described superior dislocation of hip with anterior column acetabular fracture.⁷ Sinha et al reported a

combination of ipsilateral traumatic posterior hip dislocation, the posterior wall and transverse acetabular fracture with a trochanteric fracture.⁸ Chadha et al reported a combination of anterior dislocation of hip joint with posterior acetabular fracture.¹²

These above described combinations suggest that mechanism of injury cannot be generalized and possible mechanism of such injuries may be a combination of mechanisms and variable forces.

Dislocation of hip especially posterior poses great danger for vascularity of femoral head leading to avascular necrosis (AVN) particularly when the reduction is delayed.^{1,13} In our case the reduction was done within 2 hours after injury and the patient was followed for six months with no signs of AVN.

The aim of reporting the case is to alarm the treating surgeon about a combination which has not been previously reported in the literature. The CT scan done after reduction needs to be scrutinized properly to avoid missing rare injury patterns.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Singh A, Vohra R, Bansal S. Posterior dislocation hip with anterior column acetabular fracture: a very rare injury. Int J Res Orthop 2018;4:330-2.