

RECURRENT TRAUMATIC POSTERIOR HIP DISLOCATION IN LABRAL AVULSION: CASE REPORT

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ABSTRACT

Recurrent traumatic hip dislocation in adults is very rare. It is often associated with fractures of the acetabulum wall and or column. There have been very few cases of recurrent traumatic hip dislocation secondary to avulsion of the acetabular labrum. We report a patient with traumatic recurrent posterior hip dislocation who had acetabular labrum avulsion, with torn short external rotators, who benefitted from surgical repair of the labrum, with plate augmentation. Clinicians should be wary of post traumatic labral tears as a rare cause of recurrent posterior hip dislocation in the absence of acetabular fractures. They are amenable to surgical repair.

Key words: Recurrent hip dislocation, Labrum avulsion

INTRODUCTION

Traumatic dislocation of the hip is an absolute orthopaedic emergency (1,2). It is often secondary to acetabular fracture, congenital dysplasia, sepsis, or paralysis (3). Studies have shown that recurrent traumatic posterior dislocation of the hip has been associated with fractures of a significant portion of the acetabulum wall and or column (4). The role of soft tissue injury in recurrent traumatic dislocation of the hip has not been emphasized. However, the role of the acetabulum labrum in stability has been described, with several cases reporting its tears in hip dislocation (5, 6).

The hip labrum is useful in maintaining hip stability (8), by increasing the femoral head coverage by 22%, performing the piston role. It also generates a vacuum effect to hold the head in the acetabulum. The other labral functions, including shock absorption, joint lubrication, pressure distribution. The aetiology of labral tears includes trauma, Femoro Acetabular Impingement (FAI), capsular laxity/hip hypermobility, dysplasia and degeneration (7). Isolated post traumatic acetabular labral avulsion without fractures are very rare (1).

Early recognition and prompt, stable reduction is the essence of successful management. We describe a unique case of an individual with traumatic posterior acetabulum labrum avulsion, with concomitant short

external rotator's tears, and recurrent hip dislocation, who benefitted from surgical repair. This case is unique because of the diagnostic challenge, and was managed uniquely.

CASE REPORT

A 63-year-old male suffered left hip posterior dislocation following a road traffic collision. He was driving a motor vehicle that was hit from behind by a truck, before veering off into a ditch. He hit his flexed knee onto the dashboard. He was unable to walk thereafter. Physical examination revealed a healthy 63-year-old male, about 70kg in weight. He had pain in the left groin, with left lower limb shortening in internal rotation. The pelvic X-ray showed posterior hip dislocation, without any acetabular or hip fractures (Figure 1). The femoral version was normal. The acetabular index was within normal range. The hip was reduced by a medical officer using the Bigelow Maneuver in the outpatient unit, under adequate procedural analgesia. It however dislocated the following day on an attempt to flex it, and yet again, it was reduced. When the hip dislocated the third time on minor flexion movements, a CT scan of the acetabulum was requested, without reduction. The CT image, with 3D reconstruction showed a posterior dislocated hip without any fractures of the femoral head or acetabulum (Figure 2).

Figure 1

The initial radiograph showing posterior hip dislocation



Figure 2

The CT scan image showing posterior hip dislocation without bony lesion

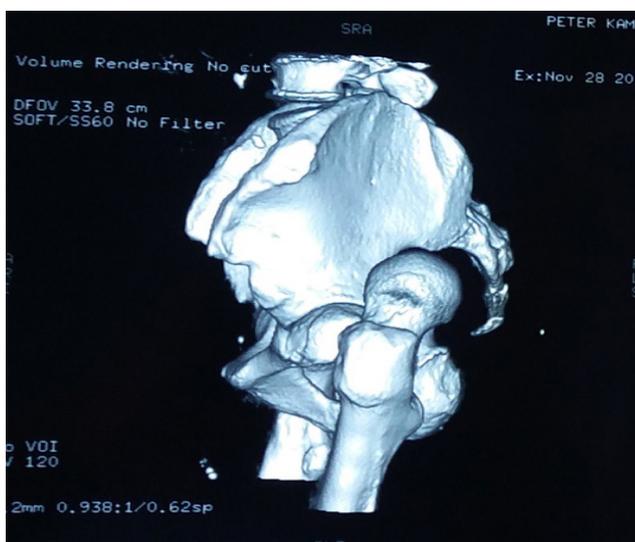


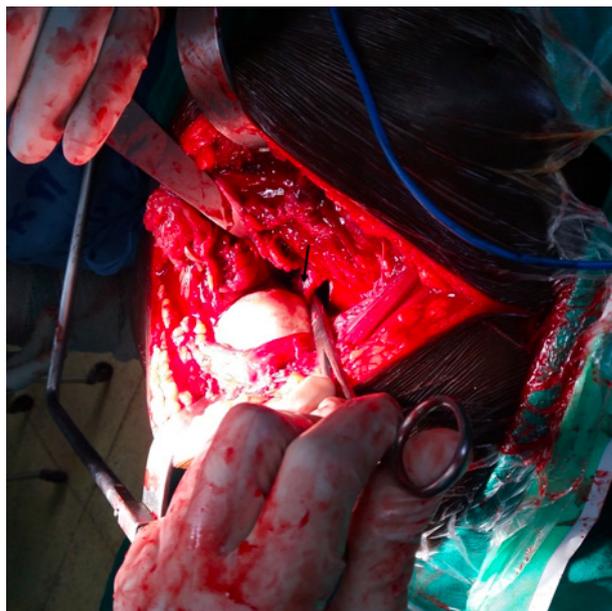
Figure 3

Arrow showing an avulsed piriformis origin



Figure 4

Arrow showing avulsed posterior labrum

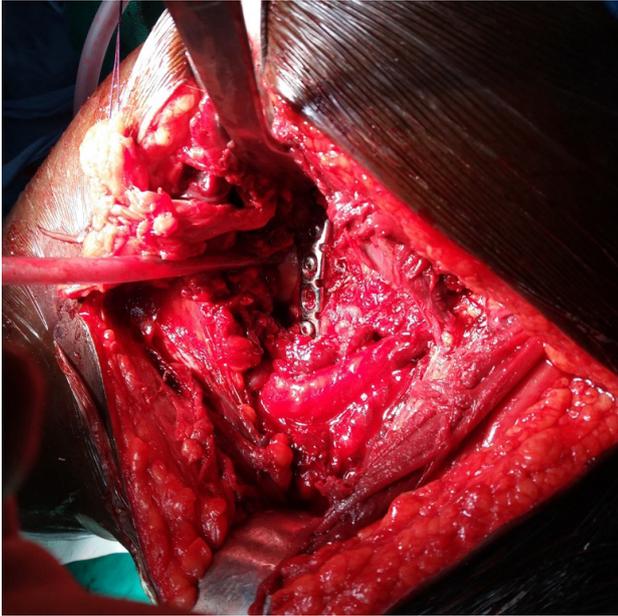


On examination under anaesthesia, the hip was reduced, however, it was unstable posteriorly in internal rotation. The hip was explored using the standard Southern Moore approach. A 300mls haematoma was drained. The piriformis was avulsed at the point of origin from the sacrum (Figure 3). The superior and inferior gemelli alongside the obturator internus were torn mid substance. The posterior joint capsule of the joint was torn. The acetabular labrum had a 15mm longitudinal posterosuperior avulsion. With it, was about 2mm marginal acetabular bony piece (Figure 4). The femoral head and acetabulum were both normal, the acetabular depth was about 30mm.

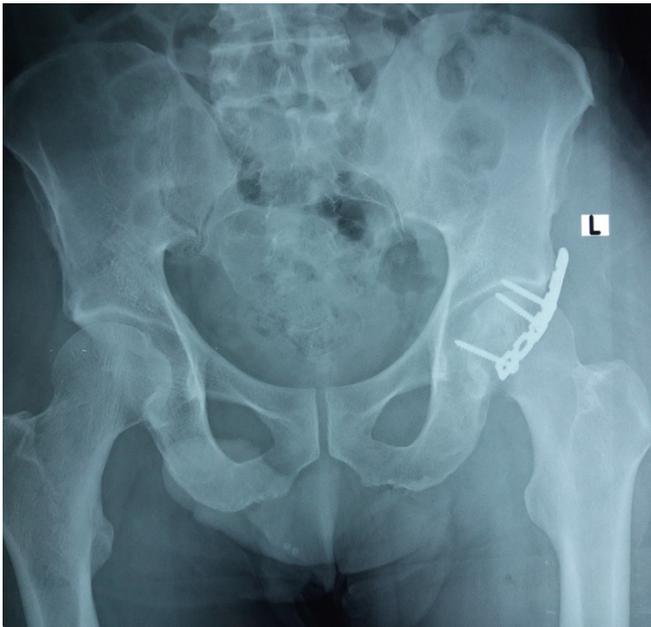
The posterior instability was confirmed by an easily dislocatable flexed hip with internal rotation. The acetabulum labrum was repaired using a single 5-0 bone anchor at 3 o'clock. On examination after the labral tear repair, the hip had some residual instability in internal rotation and flexion at 90°. A six-hole reconstruction plate was used to stabilize the posterior acetabular wall and labrum (Figures 5 and 6). On re-examination after plate stabilization, the hip did not dislocate up to 100° flexion with internal rotation. The short external rotators were repaired. The wound was closed in layers. On follow up, the patient was able to ambulate well, with normal range of motion, managed on analgesia in the first week. On the 3rd week post operatively, the hip joint was still stable, with an ambulant patient.

Figure 5

Reduced hip stabilized posteriorly with a reconstruction plate

**Figure 6**

Radiograph showing a reduced hip stabilized posteriorly with a reconstruction plate



DISCUSSION

Recurrent dislocation of the hip unassociated with acetabular fracture, congenital dysplasia, sepsis, or paralysis, and is very rare (3). In the current case, this condition was associated with posterior labral tear, and short external rotator rupture. Such cases have been reported in literature as extremely rare (6). The labral lesion was not picked on radiological tests. Magnetic resonance arthrography would have been useful in its diagnosis (7). Therefore, a high index of suspicion should be maintained in cases of recurrent hip dislocation after trauma.

Without evidence of fracture on fluoroscopy, hip dislocations can be closely reduced. In the current case, the hip was closely reduced three times, after all of which it re-dislocated, before a decision to examine and under anaesthesia and exploration was made. Residual instability after closed reduction in a patient without hip fractures may suggest significant ligamentous injury. Management of these injuries usually involve open reduction, with repair of the labrum (9). In our case, the 'bony Bankart lesion', with complete avulsion of the piriformis and other short external rotators needed additional plate stabilization. Some authors have described the use of bone blocks without labral repair (1) as a successful treatment option for these lesions.

In conclusion, clinicians should be wary of post traumatic labral tears which are a rare cause of recurrent posterior hip dislocation in absence of acetabular fractures. They are amenable to surgical repair of the labrum with plate support.

REFERENCES

1. Rashleigh-Belcher, H.J. and Cannon, S.R. Recurrent dislocation of the hip with a "Bankart-type" lesion. *J Bone Joint Surg Br.* 1986; **68**(3): 398-399.
2. Weber, M. and Reinhold, G. Recurrent traumatic dislocation of the hip: Report of a case and review of the literature. *J Orthop Trauma.* 1997; **11**: 382-385.
3. Sullivan, C.R., Bickel, W.H. and Lipscomb, P.R. Recurrent dislocation of the hip. *J Bone Joint Surg Am.* 1955; **37**:1266-1270.
4. Sahin, V., Karakas, E.S., Aksu, S., Atlihan, D., Turk, C.Y. and Halici, M. Traumatic dislocation and fracture-dislocation of the hip: a long-term follow-up study. *J Trauma.* 2003; **54**(3):520-529.
5. Dameron, T.B Jr. Bucket-handle tear of acetabular labrum accompanying posterior dislocation of the hip. *J Bone Joint Surg Am.* 1959; **41**(1): 131-134.
6. Lieberman, J.R., Altchek, D.W. and Salvati, E.A. Recurrent dislocation of a hip with a labral lesion: treatment with a modified Bankart-type repair. Case report. *J Bone Joint Surg Am.* 1993; **75**(10):1524-1527.
7. Groh, M.M. and Herrera, J. A comprehensive review of hip labral tears. *Curr Rev Musculoskelet Med.* 2009; **2**(2): 105-117.
8. Liebenberg, F. and Dommissie, G.F. Recurrent post-traumatic dislocation of the hip. *J Bone Joint Surg Br.* 1969; **51**(4):632-637.
9. Birmingham, P., Cluett, J, M.D. and Shaffer, B. Recurrent posterior dislocation of the hip with a Bankart-type lesion. *Amer J Sports Med.* 2009; **38**(2):1-4.