

Case Report

Non Operative Treatment of Obturator Dislocation with Indentation Fracture of the Femoral Head: A Case Report

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ABSTRACT

Traumatic anterior hip dislocation is quite rare and accounts for 7% to 15% of all hip dislocations. Approximately 70% of anterior hip dislocations are the obturator type and represent less than 7% of all hip dislocations. Indentation fracture of the femoral head complicates 35–55% of obturator dislocations. Features of osteonecrosis of the femoral head and osteoarthritis of the hip joint may manifest within 2 years. Our index patient is a 19-year-old female who had conservative treatment for right obturator dislocation with indentation fracture of the femoral head. She recovered fully and had no features of osteonecrosis or secondary arthritis at 2 years postinjury. The aim of this report is to highlight the role of conservative treatment in the management of obturator dislocation with indentation fracture of femoral head.

KEYWORDS: *Indentation fracture of femoral head, obturator dislocation*

INTRODUCTION

Traumatic dislocation of the hip joint usually results from high energy trauma and are complex in about 12% of cases when they are associated with fracture of the femoral head, femoral neck or the pelvis.^[1,2] These complex dislocations may result in severe complications such as avascular necrosis of the head of femur, early onset osteoarthritis and neurovascular injuries.^[1,2] Traumatic anterior hip dislocation is quite rare and accounts for 7% to 15% of all hip dislocations.^[3-5] Approximately 70% of these injuries are the obturator type and represent less than 7% of all hip dislocations.^[6] About 35% to 55% of cases, of traumatic obturator dislocation is associated with indentation fracture of the femoral head.^[7] In about a third of cases, roentgenographic and clinical features of osteonecrosis and degenerative arthritis are usually present within two years after the injury.^[6] We report a case of traumatic anterior hip dislocation with indentation fracture of the femoral head in a 19 year old female following motor vehicular accident who was managed conservatively. We aim to highlight the challenges in the diagnosis of this injury and the role of conservative treatment in a resource-poor setting.

CASE REPORT


We report a case of a 19-year-old female with severe right hip pain and inability to bear weight on her right lower limb of 2 h following a road traffic accident. She was knocked down from the rear by a mini bus while walking on a side walk. She presented in severe painful distress with significant bruising over the posterolateral aspect of the right hip region. The right lower limb was held in an abnormal attitude characterized by abduction and flexion at the hip and flexion at the knee. There was marked tenderness on palpation of the right hip joint. Computed tomography scan was unavailable at presentation. Plain radiograph of the pelvis revealed an obturator dislocation of the right hip. Within 6 h of injury, closed reduction was done under regional anesthesia (sub arachnoid block) using the Allis maneuver. With an assistant stabilizing the pelvis and the hip slightly flexed, reduction was achieved with continuous traction along the axis of the thigh,

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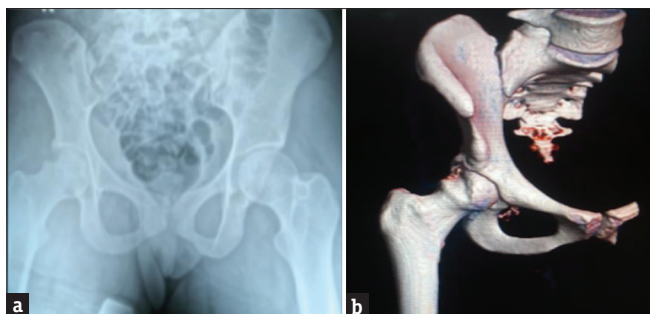


Figure 1: (a) Post reduction plain radiograph showing a deep defect outside the weight-bearing portion of the right femoral head. (b) Postreduction Computerized tomography scan showing an indentation fracture of the right femoral head sparing the weight-bearing portion

gentle adduction of the hip and lateral traction on the thigh. She was subsequently placed on skin traction. Postreduction pelvic radiograph revealed a defect on the right femoral head. Due to its unavailability in our facility, postreduction computed tomography was done 4 days postreduction and revealed an indentation fracture of the right femoral head cephalad to the fovea centralis and just outside the weight bearing portion [see Figure 1]. Patient was offered autologous cancellous bone grafting of the femoral head defect but declined surgery due to unavailability of funds. She was managed conservatively with skin traction. She commenced protected weight-bearing with bilateral axillary crutches after 6 weeks of traction, and full weight-bearing at 12 weeks postreduction. She returned to pre-injury level of physical activities at 6 months postinjury with a Harris hip score of 95. She remained pain free and had no roentgenographic or clinical features of osteonecrosis or osteoarthritis of the right hip at 2 years postinjury [see Figure 2].

DISCUSSION

Traumatic obturator dislocation of the hip joint is complicated by an indentation fracture of the femoral head in about 35% - 55% of cases.^[3-5] In about a third of cases, features of osteonecrosis and osteoarthritis of the affected hip may manifest within 2 years postinjury irrespective of the mode of treatment.^[6] In the index case, unavailability of computed tomography delayed the detection of the indentation fracture of the femoral head. Although majority of these injuries are treated conservatively, surgery is indicated in only 5–27% of cases with indentation of a large weight-bearing portion of the head of femur cephalad to the fovea.^[7-9] Surgery comprises mainly of autologous bone grafting of the femoral head defect and vulgarizing osteotomy of the proximal femur to realign the articular surface of the head of femur.^[8,9] In our index patient, the indentation fracture of the femoral



Figure 2: Plain radiograph of the pelvis and both hip joints at 24 months postinjury showing a shallow defect on the right femoral head

head was cephalad to the fovea but just outside its weight-bearing portion. Considering the fact that a portion of the affected part of the femoral head would become weight-bearing within the normal range of hip motion, she was offered autologous bone grafting of the femoral head defect. She, however, declined surgery on account of unavailability of funds and was managed nonoperatively by skin traction. She made steady progress with conservative treatment. She commenced protected weight-bearing at 6 weeks and returned to her pre-injury level of physical activities at 6 months with a Harris hip score of 95 and excellent hip function. She had no features of osteonecrosis and osteoarthritis of the right hip at 2 years postinjury.

CONCLUSION

Detection of indentation fracture of the femoral head in association with obturator dislocation may be delayed in the absence of computed tomography. Where the weight-bearing portion of the femoral head is spared, these injuries could be successfully treated conservatively.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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