

## Case Report

# 4- MONTH OLD UNREDUCED ANTERO-INFERIOR OBTURATOR DISLOCATION OF HIP- A CASE REPORT

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## ABSTRACT

Traumatic antero inferior dislocations of hip a relatively rare injuries, diagnosed and managed in an acute setting. Usually this injury is managed acutely. Late presentation is rarely seen, but can be seen in multiple injured patients.

We report a case of 4 month old, traumatic, unreduced, anterior dislocation (obturator) of right hip in a 40 yr old male. After a failed closed reduction, concentric open reduction was achieved leaving the patient with a painless functional hip after 4 years without evidence of avascular necrosis of femoral head.

We conclude that although rare such injuries should be looked for in patients complaining of hip pain and even in case of late presentation good clinical outcome can be expected in patients without femoral head fractures.

**Keywords:** Antero Inferior Dislocation, Hip Joint, Open Reduction

## INTRODUCTION

Traumatic anterior dislocation of hip are relatively less reported injuries as compared to the posterior variety and most are managed in the emergency setting with closed reduction under anesthesia. As such literature describing management of chronic or neglected hip dislocations is limited. Thomas and Epstein (1951) reported 204 cases of hip dislocation of which only 18 were anterior. Brav (1962) reported 523 cases with 66 being anterior. Chronic or neglected anterior hip dislocations have been managed by open reduction and a trochanteric osteotomy or even arthroplasty (Epstein, 1973; Farag and Shohayeb, 2003). There is not much literature into the management of a 4 months old anterior dislocation of hip which has failed to reduce by closed maneuvers.

## CASES

40 yr old male patient was brought to our orthopedic out patient department history of all from height (around 15 feet) 4 months back. Following the injury he was unable to bear weight on right lower extremity and had a painful restriction of movements with deformity. He was initially treated by a quack. In a span of 2 months he was able to walk with a painful limp but deformity in extremity was persistent. At the time of presentation the attitude of lower extremity was slight flexion, abduction and external rotation. Any further movements were painful. There was an apparent lengthening of the affected extremity. He was unable to sit cross legged or squat (Figure 1)

On the basis of clinical examination a diagnosis of anterior hip dislocation was made which was confirmed radiologically. The radiographs showed an obturator type of anterior dislocation without any fracture of femoral head or neck (Figure 2).

In view of long duration of history we decided to directly go ahead with open reduction and relocation of femoral head. Pre-operatively the patient was counseled regarding the possible outcomes and difficulties.

Through Hardinge lateral approach the hip was exposed. The femoral head was resting in the obturator foramen through a buttonholed capsule the femoral head was resting in the obturator foramen through a buttonholed capsule (Figure 3). The acetabulum was found to be filled up with fibrous tissue completely occluding the cavity (Figure 4, 5). There were minimal changes in the cartilage of femoral head with

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significant depression or chondromalacia. Capsulotomy was done and head was relocated into the acetabulum. The reduction was concentric and stable.

The post operative period was uneventful. Passive range of movement was started on 4<sup>th</sup> post operative day. He was also put on continuous passive motion and was allowed to ambulate non weight bearing. Indomethacin was given as prophylaxis for heterotrophic ossification. For 4 weeks

At the end of 3 months of follow up he had a painless range of flexion (0-90degrees), abduction (0-30 degree). He was then allowed gradual partial to full weight bearing was started after confirming the sphericity of femoral head on radiograph.

At the end of 4 years of follow up, the patient had a painless range of motion. Flexion was 0-100 degree; abduction was 0-30 degree, internal rotation 0-15 degree and external rotation of 0-30 degree. There were no radiological features of avascular necrosis or heterotrophic ossification.

## DISCUSSION

Dislocation of hip is a result of high velocity injuries as seen in vehicular accidents or fall from height. Anterior dislocations are rare as compared to the more common posterior variety accounting for less than 5-10% cases. Mechanism of injury in case of anterior dislocation of hip includes axial forces on leg with limb in abduction and external rotation. Flexion at hip results in inferior or obturator type and extension results in pubic or superior type of hip dislocation. In anterior dislocation of hip, psoas acts as fulcrum and capsule is breached anteriorly and inferiorly. This is usually associated with impaction fracture of femoral head. In rare cases of obturator hip dislocation femoral head was seen lying inside pelvis with femoral fracture (Farag and Shohayeb, 2003). Impaction fracture of femoral head is commonest associated injury (DeLee *et al.*, 1980). Presence of femoral head impaction fracture predicts poor outcome. Excellent reports have been reported in patients without femoral head impaction fracture (DeLee *et al.*, 1980).

All hip dislocation should be reduced under emergency preferably within first 6 hours of injury to avoid avascular necrosis (Brav, 1962). Risk of AVN in hips reduced within first 6 hours according to various studies ranges between 1.7 to 10% (Brav, 1962; Epstein, 1973). Other complications include arthritis and sciatic palsy. Rarely, re-dislocation and myositis may be present (Brav, 1962). Post reduction immobilization has been recommended for various durations by different authors ranging from 3 to 12 weeks (Brav, 1962; Epstein, 1973). In case of anterior dislocation immobilization in traction with limb in adduction and internal rotation has been recommended (Brav, 1962). Hip motion was started on day 4 in this patient to prevent stiffness. Hamada has reported a case of bilateral anterior hip dislocation (Hamada, 1957). There are few cases of delayed open reduction of obturator type of hip dislocation (Argintar *et al.*, 2012; Aggarwal and Singh, 1967). Open reduction through anterior approach is done after two attempts of closed reduction (Brav, 1962). Various approaches have been described for open reduction of hip joint i.e. iliofemoral with release of rectus femoris attachment, smith Peterson Approach, trochanteric osteotomy (Argintar *et al.*, 2012; Toms *et al.*, 2001; Sarkar, 1984). We have done reduced the hip through Hardings approach. Some authors have described trachanteric osteotomy for reduction of joint.

Outcome after reduction depends upon the time of reduction associated femoral head impaction fracture and associated femoral neck fracture. Prognosis is good after early closed reduction and absence of femoral head impaction fracture (Brav, 1962; DeLee *et al.*, 1980). Late presentation of such injuries is often reported in this continent due lack of assess to medical care. In this particular case the patient had excellent hip function without any evidence of vascular necrosis of femoral head at 4 years. This is first case of its kind where open reduction was done at 4 months with good clinical outcome. Proper soft tissue handling, early mobilization are possible reasons for good clinical outcome this case.

We conclude that although rare such injuries should be looked for in patients complaining of hip pain and even in case of late presentation good clinical outcome can be expected in patients without femoral head fractures.

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**Figure 1: Clinical picture of patient**



**Figure 2: Pre operative X ray of hip dislocation**



**Figure 3: Femoral head extracted from obturator foramen**

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**Figure 4: Fibrous tissue being removed from acetabular cavity**



**Figure 5: Fibrous tissue removed from acetabular cavity**

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