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Total Hip Replacement with an Acetabular Cage for Neglected Central Fracture Dislocation of Hip

Dr. Dinesh A[1], Dr. Sujai S[2], Dr. Abhishek Yadav[3]

Abstract: ***We report a case of 37 yrs male with neglected central fracture dislocation of hip following history of trauma which was managed with Total hip replacement with an acetabular cage.***

Keywords: Hip Replacement, Acetabular Cage, Fracture, Dislocation

1. Introduction

Traumatic hip dislocations are often caused by road traffic accidents (high - energy trauma) and are common in developing countries (1), However, these traumas often coexist with multiple injuries, which divert attention from the dislocation. Neglecting such injuries increases their difficulty in treatment and increases the risk of developing AVN. Closed reduction techniques become unfeasible as time passes, and if the wait exceeds 3 months, open reduction also ceases to be viable (1, 2)

Total Hip Arthroplasty (THA) is a well - accepted treatment for established hip arthritis following acetabular fractures. (3), Total hip replacement (THR) for osteoarthritis or inflammatory arthritis yields better outcomes than THR for patients with neglected acetabular fractures. (4)

Purpose Neglected acetabular fracture can be approached by different surgical methods, but the optimal treatment is represented by total hip replacement (THR), which theoretically should ensure a stable, painless hip, with almost - normal mobility and a hope of survival as long as possible. (5) Cages also known as reinforcement rings or cages are particularly helpful in revision THR or when dealing with complex primary THA after conditions like infections or trauma, the acetabular cage helps to support and stabilize the acetabular cup, especially in cases where there is insufficient bone stock (6). Here is the case report of neglected central fracture dislocation of hip operated with total hip replacement with acetabular cage

2. Case Report

Chief Complaints: 37 yrs old male patient had come to mvj mc rh orthopedics opd with chief complaints of pain and limp in the right hip since 3 months

HOPI: The patient came to opd with alleged history of Road traffic accident (RTA), 6 months back, where he was riding a 2 wheeler and had an accidental collision with 4 wheeler and sustained head injury (SDH & EDH), and was admitted elsewhere and the patient was intubated for about 10 days in view of his low GCS, and once the intubation was removed after 10 days as the general conditions of the patient was improving , the patient attenders took the patient to their home with discharge against medical advice with unnoticed fracture dislocation of hip.

Patient was managed at home, by caretakers, assisted nurse and local doctor near by , and the patient gradually recovered from altered state of conscious after 3 months, he noticed pain at the right side of hip once he started to mobilize, the pain was insidious in onset and progressive in nature, which gets aggravated on doing work and gets relieved after taking rest and medications.

At arrival patient was moderately built and poorly nourished and was conscious, oriented to time, place and person with no h/o comorbidities

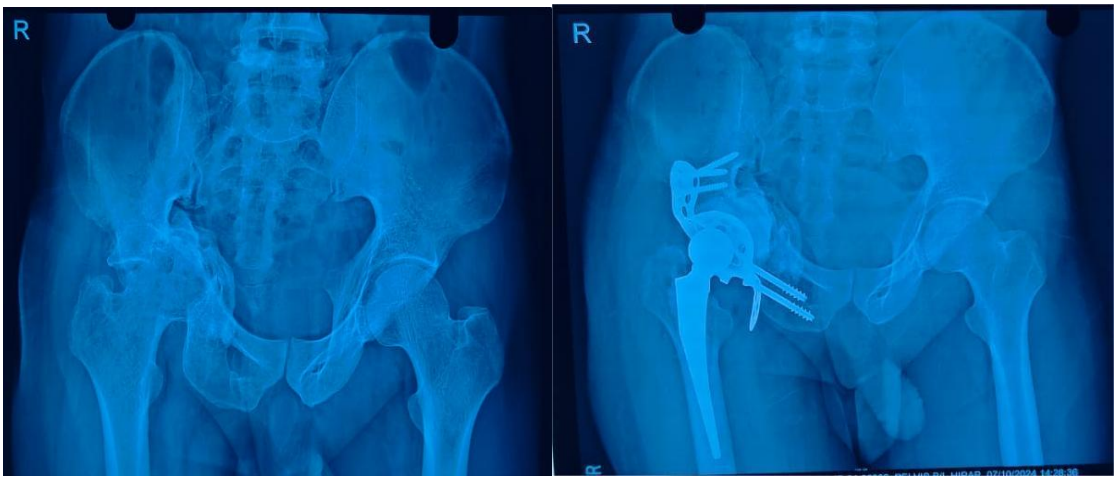

Figure 1: Preop x ray Fig 2 Post op x ray

X ray pelvis with bilateral hip AP view was done which showed negleted central fracture dislocation of right hip.

Ct scan of right hip was done to estimate the amount of bone loss and found huge acetabular wall defect with femur head extending into the pelvis and

MRI of right hip was done to know the viability of head of femur which showed avascular necrosis of right femur.

The patient had global restriction of right hip movements with muscle wasting on right lower limb with 2 cms shortening where ipsilateral knee, spine and ankle were normal and contralateral hip knee and ankle movements were normal.

With informed and written consent, proper preoperative evaluation. The patient posted for Total hip replacement with acetabular cage fixation under combined spinal epidural anesthesia. patient placed in lateral position. surgical part was scrubbed and drapped. Posterior approach to the hip was done was done

Skin incision was started posterior to the lateral side of the greater trochanter and was carried it distally about 5 cm along the femoral axis. and Proximally, the incision runs slightly curved towards the PSIS to a point approximately 5 cm proximal to the greater trochanter.

Superficial dissection and deep dissections were done and the tendinous insertions of the piriformis and obturator internus was identified and tag sutures were placed in the tendons

The short external rotators were divided as close to their insertion on the femur as possible. And the capsule was identified and an t shaped capsule incision was made exposing the hip joint, the femoral head was extracted using cork screw and the acetabular preparation was done and acetabulum defects was fixed using bone antibiotic cement and autograft from iliac bone from left side of the patient

Femoral reaming was done using femoral canal wall reamers and cemented femoral stem was placed in position using antibiotic cement, and the head was placed in position into the acetabulum cage. The capsule, muscles closed in layers, sterile dressing was done, and the patient was shifted to icu for observation for 24 hours and later shifted towards.

Post op period was uneventful and patient was managed with appropriate antibiotics, analgesics, multivitamins, antacids and regular dressing were done and the bedside physiotherapy was started on day 2 and the patient was mobilized after 2 weeks in view of general condition of the patient and partial weight bearing was started on right lower limb after 4 weeks and complete weight bearing after 6 weeks.

3. Discussion

Background: Neglected hip dislocation is an uncommon condition, especially in developed countries because dislocations are considered trauma emergencies and thus are treated early. (7) Because hip dislocations are considered trauma emergencies, they are usually treated with early reduction, improving the patient prognosis. Neglected dislocations are thus considered very rare conditions in developed countries with easily accessible healthcare (8). The hip joint is intrinsically stable because of its congruency and the soft tissues surrounding it. Therefore, hip dislocation is rare and usually associated with high - energy trauma.

Proper surgical planning including preoperatively imaging and patient specific consideration well as careful intraoperative techniques are required to minimize the complications.

Postoperative rehabitation and follow - up care are crucial in identifying and managing issues early to improve long outcome

4. Conclusion

This case reminds us about the importance of ATLS PROTOCOL during survey in hospital, Through detailed examination should have done once the patient was stabilized in this case.

Early diagnosis and treatment in this patient wound have been an better outcome than delayed presentation as such as in this case.

This patient developed good range of movements and painless hip following the operation and he could do his daily activities.

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