

A case of 15 days old posterior wall of acetabulum fracture managed with plating: A case study¹Dr. Rajesh Ambulgekar, Dr Shankarrao Chavan Government Medical College, Nanded²Dr. Mohin Atram, Dr Shankarrao Chavan Government Medical College, Nanded**Corresponding Author:** Dr. Mohin Atram, Dr Shankarrao Chavan Government Medical College, Nanded**How to citation this article:** Dr. Rajesh Ambulgekar, Dr. Mohin Atram, “A case of 15 days old posterior wall of acetabulum fracture managed with plating: A case study”, IJMACR- February - 2023, Volume – 6, Issue - 1, P. No. 444 – 448.**Open Access Article:** © 2023, Dr. Mohin Atram, et al. This is an open access journal and article distributed under the terms of the creative commons attribution license (<http://creativecommons.org/licenses/by/4.0>). Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.**Type of Publication:** Case Report**Conflicts of Interest:** Nil**Abstract**

The most frequent type of acetabular fracture involves fractures of the posterior wall, which account for one-fourth to one-third of all acetabular fractures. [1]. It can be distinguished from other acetabular fracture types. These fractures only affect the posterior half of the column, and hip dislocation is frequently present. Judet et al. were the first to note that although conservative therapy may be suggested for the stable joint with a minor fragment, open reduction and internal fixation are typically required when an unstable hip or a significant portion of the posterior wall is involved. [2]. reduction and internal fixation of posterior-wall fractures, even when compared with other forms of acetabular fracture The incidence of post-traumatic arthritis has decreased as a result of this method, which has also improved the overall prognosis [3-5]. However, multiple investigations showed that the rate of complications after open was significantly higher [6–8]. The precise decrease and avoidance of increased contact pressure

due to steps and gaps are, in fact, the most important factors in determining clinical effectiveness [9,10]. It is challenging to maintain anatomical reduction of the fracture fragments until solid union occurs. Moreover, the posterior vascularity is compromised.-

Femoral head necrosis and resorption can result from wall fragments [11,12]. Therefore, we used internal fixation of the one plate with screw reconstruction plates to treat fractures of the posterior wall of the acetabulum and attempt to evaluate the efficacy of this method in this study. This was done in order to achieve solid and long-lasting anatomical reduction and ensure favourable blood supply of fracture fragments. In this work, we attempt to assess the effectiveness of this approach on the posterior wall of the acetabulum.

Keywords: Acetabular Fracture, Hip Joint, Post-Traumatic Arthritis, Surgical Fixation.**Introduction**

Displaced acetabular fractures are being treated differently. It has been established that these fractures

respond better to surgical therapy than to conservative care [10]. A commonly established course of therapy for displaced acetabular fractures, like with any intra-articular fracture, entails open reduction and internal fixation [9,10,11]. Surgery on the acetabulum is challenging because of its intricate operative anatomy. The final result, which may include degenerative alterations in the hip joint, is determined by factors including the original injury to the articular surface, residual intra-articular step, reduced vascularity to the femoral head, etc. [9,10]. In Third World nations, the incidence of complicated acetabular fractures has grown along with the overall rise in high-energy injuries. It is advised that trauma centres choose a team leader to ensure better outcomes.

Developing countries, the majority of such fractures are either facility at many centres, the surgeons rely upon plain radiography for working out the operative plan. The non-existence of an organised health insurance sector forces the surgeon to use low-cost locally produced instruments and implants. Patients hailing from peripheral areas present to the operative centres usually after significant delays. In recent years in India, the increased load of such fractures has coerced younger surgeons to take up such cases without any formal exposure to acetabular surgery, mainly relying on basic surgical techniques and the backing of the international literature. The older generation of surgeons generally believed in treating these fractures conservatively. Treated conservatively or operated on by general trauma surgeons. Due to the lack of computed tomography (CT) scanning.

Case Report

A 42 year old female had history of road traffic accident 15 days back thereafter patient went to private hospital where x-rays were done and primary treatment was given in form of skin traction the rafter he patient presented to tertiary center for further management with chief complaints of pain and swelling over right hip .inability to bear weight over right lower limb .

On examination patient was having restriction of movements over right hip swelling and deformity over right hip. After the trauma, the patient could not stand or walk without support. The primary clinical examination in the emergency department found a hemodynamically stable patient. with blunt trauma to the right hip and the underlying suspicion of a fracture of the hip or proximal femur due to the chief complaints of pain and an inability to bear weight, due to which to pelvic x-rays and computed tomography (CT) scans. Trauma series X-rays (pelvis with both hips and Judet views) intact. The patient had tenderness over the anterior groin region and restriction in hip movements (active movements were impossible due to acute pain at the time of admission, but the patient's hip movements remained restricted after adequate analgesia). The patient had bilateral bowing of the upper and lower limbs in the cortex and between the areas of sclerosis with coarsening of the trabeculae, kyphoscoliotic deformity at the spine, and bilateral protrusion of the acetabuli. Plain pelvic films with the pelvic brace removed, as well as Judet views, were taken. (Fig 1-6) and The CT scans show displaced right acetabulum fracture involving the roof, and posterior wall of the right acetabulum .giving Judet and Letournel classification of the associated fracture: Anterior column and posterior A thorough secondary examination revealed no further lesions, and both the motor and

sensory components of the sciatic nerve were both clinically

Results

- In our study it was found that for posterior wall of acetabulum fracture fixation with open reduction and internal fixation has good clinical and functional outcome.
- Anatomical reduction was correlated with good clinical outcome.
- Acetabular fracture surgical fixation has better outcome than conservative management.

Discussion

Acetabulum fracture are usually managed conservatively but it was observed that open reduction internal fixation has better outcome as compared to conservative.

Acetabulum fractures are pelvic fractures that involve the articular surface of the hip joint and may involve one or two columns, one or two walls, or the roof within the pelvis.

Diagnosis can be made radiographically with dedicated pelvis radiographs (including Judet views) but frequently require CT pelvis for surgical planning.

Treatment can be nonoperative for non-displaced fractures but displaced injuries require anatomic open reduction and internal fixation to minimize development of post-traumatic osteoarthritis.

In this patient plan of management was open reduction and internal fixation with plates and screw.

Immediately post operatively patient was monitored for complications like sciatic nerve injury, inability to dorsiflex foot on affected side.

Post operatively was advice non weight bearing for 12 weeks. Patient then progresses to full weight bearing for 12 weeks with full range of motion .

Neurovascular assessment was performed on regular basis because post operatively swelling or heamatoma formation can compress sciatic and femoral nerve causing neurological damage.

Conclusion

In our study it was found that open reduction internal fixation of posterior wall of acetabulum by plating has better outcome than conservative management.

References

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Legend Figures



Fig.1: Pre-operative AP X-ray



Fig. 2. Pre-Operative PBH X-ray



Fig.3: Pre-Operative x-ray



Fig. 4. Pre-operative Clinical photograph



Fig. 5: Pre-operative Clinical photograph



Fig. 6: Pre-operative clinical photograph



Fig. 7: Operative shoot



Fig. 8: immediate post operative radiograph

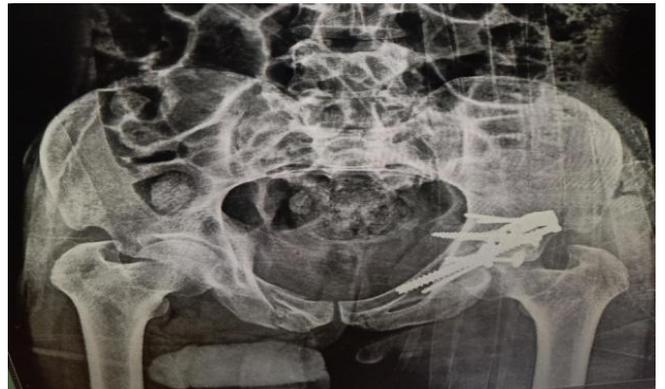


Fig. 9: Immediate post operative radiograph



Fig. 10: Post op x ray

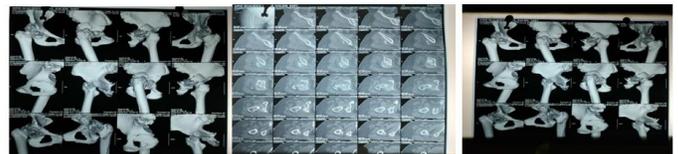


Fig. A

Fig. B

Fig. C

Fig. 11(A, B, C): CT Scan Image