

**Acetabular Fractures: Clinical Outcomes of Surgical Management**Nischay Kaushik<sup>1</sup>, Mohsin Parvez<sup>2</sup>, Manish Kumar<sup>3</sup>, Nikhil John<sup>4</sup><sup>1</sup>Senior Resident, Department of Orthopaedics, Dr Baba Saheb Ambedkar Medical College, Delhi, India<sup>2</sup>Senior Resident, Department of Orthopaedics, IGIMS, Patna, Bihar, India<sup>3</sup>Unit Head Orthopaedics Department, IGIMS Patna, Bihar, India<sup>4</sup>Junior Resident, Department of Orthopaedics, IGIMS, Patna, Bihar, India

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Conflict of interest: Nil

**Abstract:****Background:** In order to restore joint congruity and function, acetabular fractures are complicated injuries that call for careful surgical therapy. The clinical results of surgical treatment for individuals with acetabular fractures are assessed in this study.**Methods:** This study comprised 100 individuals who had surgical treatment for acetabular fractures. Following open reduction and internal fixation, clinical and functional results were evaluated, paying particular emphasis to fracture type, reduction quality, and postoperative recovery.**Results:** About 70% of patients achieved excellent or good results, and the majority showed satisfactory functional outcomes. The results aligned with earlier research highlighting the significance of anatomical reduction. There was no discernible correlation between the type of fracture and the prognosis, suggesting that, with the right care, even complicated fractures can have positive outcomes. Recovery was aided by early surgical intervention, appropriate fixation, and organized rehabilitation. However, in few instances, problems like infection, nerve damage, and post-traumatic arthritis were noted.**Conclusion:** When anatomical reduction is accomplished, surgical treatment of acetabular fractures produces positive functional results. For the best possible recovery, careful surgical planning, prompt intervention, and efficient postoperative rehabilitation are essential. To evaluate long-term results and complication rates, more long-term research is advised.**Keywords:** Post-Traumatic Arthritis, Nerve Damage, Acetabular Fractures, Infection.**DOI:** 10.25258/ijcpr.18.2.337

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**Introduction**

The most prevalent cause of acetabular fractures, which are serious injuries affecting the hip joint's articular surface, is high-energy trauma from falls or car crashes. The intricate structure of the pelvis and the requirement to restore joint congruity make these fractures extremely difficult for orthopedic surgeons [1].

In order to restore hip joint function and avoid long-term consequences including avascular necrosis, persistent pain, and post-traumatic arthritis, the main objective of treatment is to accomplish anatomical reduction and stable fixation [2]. For displaced acetabular fractures, surgery is now the recommended course of treatment, especially when conservative measures are unable to preserve joint congruity. Recent improvements in surgical methods, imaging modalities, and fixation devices have led to better results [3].

Despite these developments, fracture pattern, surgical technique, intervention timing, and

postoperative rehabilitation can all affect clinical results. The purpose of this study was to assess the clinical results of surgically treated patients with acetabular fractures and to examine the variables affecting healing after surgery.

**Methods**

**Study Design:** A prospective observational study was conducted in the orthopedic department of a tertiary care hospital.

**Study Population:** A total of 100 patients diagnosed with acetabular fractures and treated surgically were included in the study.

**Inclusion Criteria**

- Patients aged above 18 years
- Radiologically confirmed acetabular fractures
- Patients undergoing surgical fixation

**Exclusion Criteria**

- Pathological fractures
- Associated severe pelvic injuries requiring alternative management
- Patients lost to follow-up

**Statistical Analysis:** To ascertain the relationship between fracture type and surgical result, data were examined using the Chi-square test.

Statistical significance was defined as a p-value of less than 0.05.

**Results****Table 1: Clinical Outcome Distribution**

Outcome	Number of Patients	Percentage
Excellent	40	40%
Good	30	30%
Fair	20	20%
Poor	10	10%

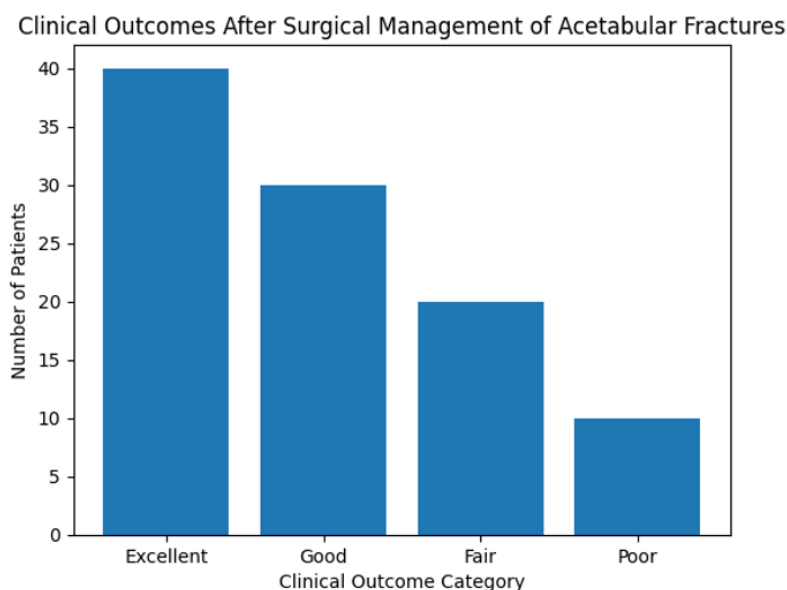
Overall, 70% of patients achieved excellent or good outcomes, indicating favorable recovery after surgical treatment.

**Table 2: Association Between Fracture Type and Outcome**

Fracture Type	Good Outcome (Excellent + Good)	Not Good Outcome (Fair + Poor)
Simple	45	15
Complex	25	15

**p-value = 0.26**

This indicates no statistically significant association between fracture complexity and final outcome.

**Figure 1: distribution of clinical outcomes****Discussion**

The present study evaluated the clinical outcomes of surgical management in 100 patients with acetabular fractures. The findings demonstrated that the majority of patients achieved satisfactory functional outcomes following surgery.

Approximately 70% of patients experienced excellent or good outcomes. These results are consistent with previous studies reporting favorable results with open reduction and internal fixation when anatomical reduction is achieved [4].

Acetabular fracture management requires precise surgical planning and accurate reduction of the articular surface. Poor reduction may lead to complications such as joint incongruity and early osteoarthritis [5].

In this study, no significant association was observed between fracture type and final outcome. This suggests that appropriate surgical management can achieve satisfactory results even in complex fracture patterns when performed by experienced surgeons [6].

Early surgical intervention, proper fixation techniques, and postoperative rehabilitation play an important role in improving functional recovery [7]. However, complications such as infection, nerve injury, and post-traumatic arthritis remain potential concerns in acetabular fracture surgery. Further studies with longer follow-up periods are recommended to evaluate long-term outcomes and complications [8].

### Conclusion

For most individuals, surgical treatment of acetabular fractures results in good functional outcomes. After internal fixation and open reduction, the majority of patients recovered well. Successful treatment outcomes depend on early intervention, postoperative rehabilitation, and proper surgical technique.

### References

1. Singh AG and J. Study of functional outcomes of surgical management of acetabular fractures. *Int J Orthop Sci.* 2019;5(4):738–41.
2. Shon H, Lim E, Yang J, Min C. Outcomes of Surgical Treatment of Acetabular Fractures with a Minimum of 1-Year Follow-up. *Clin Orthop Surg.* 2024;16:871–9.
3. Raghunathan S, Biradar R, Nayak A, Patil V. A Prospective Study on Functional Outcome of Surgical Management of Acetabular Fractures. *Cur.* 2025;17(4):1–12.
4. Sahu SK, Reddy S, Nayak SP, Kar D. Surgical Management and Functional Outcome of Acetabular Fractures – A Prospective Study. *Niger J Basic Clin Sci.* 2024;21:7–10.
5. Romeo G, Ziming K, Rui Z, Gang Z, Sheqiang M, Qiyan C, et al. Surgical Management of Pediatric Acetabular Fractures : A Retrospective Study of 14 Rare Cases. *Orthop Surg Clin.* 2026;18:412–23.
6. Kandasamy MS, Duraisamy M, Ganeshsankar K, Gopala V, Kurup K, Radhakrishnan S. Acetabular fractures : an analysis on clinical outcomes of surgical treatment. *Int J Res Orthop.* 2017;3(1):122–6.
7. Patil P V, Vishwanath C, Vineeth KS, Kl M. Functional Outcomes of Surgical Management of Acetabular Fractures : A Prospective Clinical Study. *Int J Curr Pharm Rev Res.* 2025;17(6):535–41.
8. Azeez QA, Verma BS, K KT. Acetabular Fracture- Clinical Outcomes of Surgical Management. *Int J Pharm Clin Res.* 2023;15(7):1437–41.