

Innovative Fixation: Claw Plate for Posterior Wall Acetabular Fractures - A Case Report

¹Kumarendran K, ¹Mohd Syukranamri Ramli, ¹Ashraf Hakim Ab Halim

¹Orthopaedic Department, Hospital Sultan Abdul Aziz Shah, UPM, Serdang, Malaysia

¹Orthopaedic Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia

INTRODUCTION:

Acetabular fractures, often caused by high-energy trauma, are challenging due to their intra-articular nature and proximity to critical structures. Posterior wall fractures are common and require anatomical fixation to restore joint stability and prevent long-term issues. Fixation techniques can be challenging due to the risk of joint damage, leading to the use of posterior wall acetabular claw plates, which offer a solution for capturing comminuted fractures.

REPORT:

A 27-year-old man experienced a right posterior hip dislocation following a motorcycle-car accident. Emergency hip reduction was performed, but the hip remained unstable at certain rotations. Radiograph and CT scans revealed a comminuted fracture of the posterior wall of the right acetabulum (Figure 1). The patient underwent acetabular claw plate fixation of the fracture two weeks later without complications (Figure 3). The surgery involved a Modified Gibson's approach, temporary k-wire fixation, and placement of a pre-contoured non-locking acetabular claw plate with screws (Figure 4). Post-operative X-rays showed satisfactory results, and the patient was discharged and referred for rehabilitation without weight-bearing (Figure 2). The patient continues to receive follow-up care at the orthopedic outpatient clinic.



Figure 1



Figure 2



Figure 3



Figure 4

CONCLUSION:

In conclusion, the posterior wall acetabular claw plate is a suitable fixation method for comminuted posterior wall acetabular fractures that cannot be fixed with lag screws. It provides stable fixation for these fragments, allowing patients to mobilize without a high risk of implant failure or joint penetration. The plate's characteristics provide primary stability and fixation for these fractures, making it a promising option for future pelvic surgeries, especially for posterior wall acetabular fractures.

REFERENCES:

1. Pease F, Ward AJ, Stevenson AJ, et al. Posterior wall acetabular fracture fixation: A mechanical analysis of fixation methods. *J Orthop Surg (Hong Kong)*. 2019
2. Tadros AM, O'Brien P, Guy P. Fixation of marginal posterior acetabular wall fractures using locking reconstruction plates and monocortical screws. *J Trauma*. 2010