

Traumatic Left Acetabular Protusio Complicated with Post-Traumatic Arthritis: A Case Report

Ihsanulhadi, NH; Abdullah, MA, Sa'aid, SH; Ab Rahman, M; Ishak, NL
Department of Orthopaedic, Hospital Sultanah Maliha, Langkawi, Malaysia.

INTRODUCTION:

Acetabular fracture is associated with significant high impact trauma. The treatments for acetabular fractures are complicated and challenging, it has been debated over the years.

REPORT:

This is a case of a 37-year-old gentleman who was allegedly involved in a motor vehicle accident in January 2023, sustained left acetabular comminuted fracture with acetabular protrusio. Open reduction and plating left acetabulum were done to restore the joint function and reduce risk for post-traumatic arthritis (**Figure1**).

Radiograph at two months post plating showed left hip joint subluxation with avascular necrosis head left femur. The decision for total hip replacement (THR) was made. It is challenging compared to primary arthritis as needs to consider fracture mal-union and non-union with bone defects, its fixation, muscle abnormality, heterotopic ossification and infection.

However, the arthroplasty was delayed as sinus developed over surgical scar left hip 5 months post trauma. Debridement revealed the sinus track was not breaching fascia.

Where there were no more signs of infection and inflammatory markers normalized, THR was proceeded. Autograft bone grafting done, secured with screws fixation to fill up acetabular bone defect (**Figure2**). Joint tissue sample yields Methicillin-resistant Staphylococcus aureus. He completed Vancomycin for 6 weeks overlap with another 6 weeks of Bactrim. Regular follow-up showed no signs of deep infection or implant loosening, inflammatory markers reducing in trend.

At 5 months post THR, he was already able to ambulate with full weight bearing and return to work.



Figure 1: Plain radiograph pelvis showing post open reduction and plating of the left acetabulum.

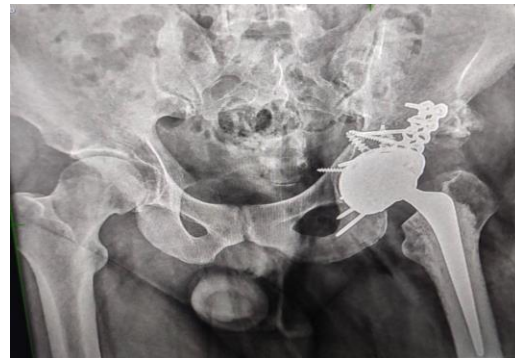


Figure 2: Plain radiograph showed post left THR with acetabular reconstruction

CONCLUSION:

The mainstay treatment for acetabular fracture is open reduction and internal fixation for joint function restoration. However, THR is required if complicated with posttraumatic arthritis.

REFERENCES:

1. Dawson, P. et. al (2019). Total hip arthroplasty for the treatment of osteoarthritis secondary to acetabular fractures treated by open reduction and internal fixation. *European Journal of Orthopaedic Surgery & Traumatology*, 29, 1049-1054.
2. Ranawat, A. et. al (2009). Total hip arthroplasty for posttraumatic arthritis after acetabular fracture. *The Journal of arthroplasty*, 24(5), 759-767.