

Percutaneous screw fixation of Acetabulum: An Alternative Effective Treatment for Transverse Acetabular Fracture

¹Khaw YC; ¹Teh JX; ¹Rooban D; ¹Chang CW

¹Orthopaedic Department, Hospital Pulau Pinang, Jalan Residensi, 10990 George Town, Pulau Pinang

INTRODUCTION:

Acetabular fractures are uncommon fractures with an incidence of 3/100 000 per year¹. Percutaneous screw fixation of Acetabulum. With the advancement in the techniques of imaging and computer navigation, closed reduction with percutaneous fixation of non-displaced or slight displaced acetabulum fracture using CT or fluoroscopic guidance has attracted interest and gain popularity.

REPORT:

A 22-year-old male had a motor vehicle accident and sustain pain over left hip region. On examination, he was unable to move left hip due to pain and neurovascular was intact. X-ray and CT scan (Figure 1) showed the left closed transverse acetabular fracture. Percutaneous screw fix of left acetabulum was done through anterior column screw and posterior column screw insertion through cannulated screw size 7.3mm with washer under image intensified guidance. Postoperative, the pain was minimal, and he can perform partial weight bear left lower limb with crutches.

DISCUSSION:

Main aim of acetabular surgery is to have anatomical reduction by restoring joint congruency, to achieve stable fixation and early rehabilitation. Open reduction and internal fixation (ORIF) are the standard treatment for displaced acetabular fracture, but ORIF can increase morbidity, causing infection, blood loss, neurovascular injury, poor wound healing, and heterotopic ossification. Percutaneous screw fixation causes less complication if compare to ORIF, but percutaneous screw fixation is indicated mainly for non-displaced/ minimal displaced acetabular fracture, obese, or osteoporotic and elderly patient. Therefore, patient selection is very important.

Intramedullary cannulated screws are used in screw fixation because they resist the rotational, axial and compressive forces within the pelvic ring. ORIF should always be planned for as a valid option in case of failed closed reduction, insufficient stability and re-displacement intra-operatively.

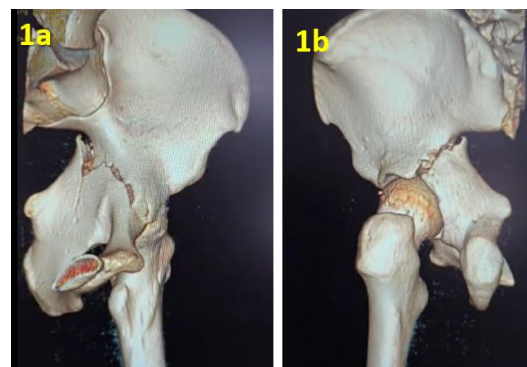


Figure 1: CT scan pelvis showed left transverse acetabular fracture.

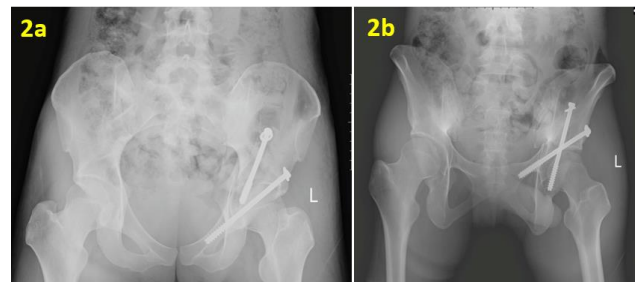


Figure 2: Postop x-ray pelvis

CONCLUSION:

Percutaneous screw fixation of acetabulum is an effective treatment for transverse acetabular fracture, but always need to prepare and standby intraoperatively for ORIF.

REFERENCES:

1. Caviglia H et al. Percutaneous fixation of acetabular fractures. EFORT Open Rev. 2018 May 21;3(5):326-334.