

## “External fixator-assisted all percutaneous screw fixation of the anterior column and transilio-transsacral in a case of lateral compression pelvic ring injury”

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### INTRODUCTION:

The pelvic ring fractures (PRF) and acetabular fractures (AF) are among the major orthopedic injuries associated with high rates of morbidity and mortality<sup>1</sup>. Open surgical stabilization is the standard treatment for the majority of these complications. Percutaneous minimally invasive surgical stabilization of the fractures has become an accepted treatment method for the past several years<sup>1</sup>. This case report presenting on percutaneous screw fixation of anterior column and transilio-transsacral of the pelvis done in Hospital Tuanku Ja'afar.

### REPORT:

24 year old gentleman who alleged MVA (motorbike vs bus) and sustained polytrauma (pelvic ring, intrabdominal, lungs and multiple long bones fracture) injuries. After a successful resuscitation patient underwent urgent surgery and damage control orthopaedic initiated for this patient. External fixator of pelvis and left humerus was applied with bilateral chest tubes and laparotomy was done. Second stage of surgery was scheduled after patient is optimized and stabilized. In this patient, we plan for transilio-transsacral and bilateral anterior column percutaneous screw fixation of the pelvis.

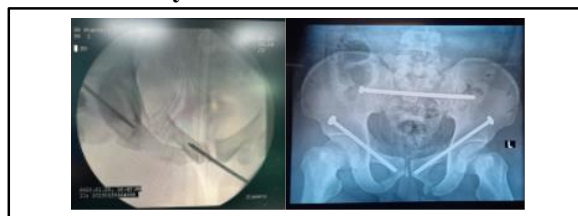
Patient were placed in supine position without traction with sand bag placed at sacral region. External fixator was disconnected to accommodate C-arm movement intraoperatively, but the pins and short rods were kept to assist in reduction of the anterior column by disengaging the impacted and overlapping fragments of anterior column. Antegrade and retrograde approach (from pubic tubercle) guide wire insertion was done for fracture reduction. Screws were inserted percutaneously and antegrade. During transiliaco-trans-sacral screw fixation, a safe trajectory for screw insertion need to be identified. In inlet view the spinal canal and S1 body are identified and sacral foramina is

identified in outlet view. Landmark for screw insertion is obtained from true lateral projection, the overlapping of S1 body and Iliac cortical densities (ICD). The entry point should be anterior in S1 and inferior to the ICD. The position and trajectory of guide wire and screw is checked in inlet and outlet view.

### Figure 1: Surgical landmark and insertion of guide wire



### Figure 2: image intensifier and post operative checked x-ray



### CONCLUSION:

Closed reduction and percutaneous minimally invasive screw fixation for a pelvic ring or acetabular fractures is a useful surgical treatment option with low complication rates<sup>1</sup>. The advantages for percutaneous screw fixation of pelvic and acetabular fractures in most published papers are less soft tissue injury, less blood loss, and a lower rate of infection.

### REFERENCES:

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