

## Minimally Invasive Plate Osteosynthesis On Anterior Pelvic Ring Injury And Anterior Column Acetabular Fractures

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### INTRODUCTION:

In performing surgery for fractures of the pelvis and acetabulum, various surgical approaches have been introduced, each with their own advantages and weaknesses. In this study, we developed a minimally invasive approach to minimize the risk of neurovascular injury, wound healing problems, blood loss and duration of surgery.

### METHODS:

This study involved 22 with anterior pelvic ring and/or anterior column acetabulum fracture who underwent ORIF plate and screw. The minimally invasive plate osteosynthesis (MIPO) group consisted of 15 patients while the other 7 patients belonged to the ilioinguinal group. The minimally invasive technique was performed by combining the first window of ilioinguinal approach with modified stoppa approach. After reduction is achieved, long curved reconstruction plate was inserted subperiosteally without identifying the neurovascular bundle.

Intraoperative parameters such as blood loss, duration of surgery, quality of reduction (Matta) and postoperative functional outcome (Majeed and Hannover score) at six months period were recorded and evaluated by a blinded reviewer.

### RESULTS:

There were no significant differences between the two groups in mean age, sex and fracture type. The mean blood loss in the MIPO group were  $325 \pm 225$  mL versus  $880 \pm 458.2$  mL in the control group ( $p=0.005$ ). Duration of surgery were averaged at  $149.33 \pm 91.92$  minutes in MIPO group versus  $235.71 \pm 65.79$  minutes ( $p=0.047$ ). There were no significant differences in the quality of reduction and postoperative functional outcome. No complications were found.

### DISCUSSIONS:

Compared to standard Ilioinguinal approach, the MIPO approach had a shorter duration of surgery and less blood loss without compromising the quality of reduction and functional outcome in patients. By preserving the second Ilioinguinal window, it is expected that minimal fibrosis would be found in this region if the patient intended to have his/her plate removed in the future.

### CONCLUSION:

Modified stoppa and lateral window technique can be used as a safe and effective alternative approach for anterior pelvic ring fracture and/or anterior column acetabulum fracture.

### REFERENCES:

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