

## Original Research

### Assessment of treatment outcome of pelvis fracture

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#### ABSTRACT:

**Background:** Pelvic fractures commonly occur from high velocity injuries like motor vehicle accident, industrial injury, fall from height and are associated with significant morbidity. The present study was conducted to assess outcome of pelvis fracture managed with plate osteosynthesis. **Materials & Methods:** 68 cases of pelvis fracture of both genders were included and outcome of the treatment was determined. **Results:** Out of 68 patients, males were 48 and females were 20. Outcome was excellent in 40, good in 13, fair in 4 and poor in 1 case. The difference was significant ( $P < 0.05$ ). **Conclusion:** Symphyseal plating found to be effective with better treatment outcome.

**Key words:** Symphyseal plating, treatment, Pelvis

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#### INTRODUCTION

Pelvic fractures commonly occur from high velocity injuries like motor vehicle accident, industrial injury, fall from height and are associated with significant morbidity. Pubic diastasis accounts for 13%-16% of these injuries.<sup>1</sup> Young and Burgess have sub-classified them as APC (Anterior-Posterior Compression) injury wherein an external rotatory force splits wide open the hemipelvis- the so called "open book injury" often with tear in the posterior ligaments or fracture of the posterior ilium/sacrum. Unstable pelvis usually requires surgical treatment of the anterior ring and sometimes even the posterior ring if disrupted. Several modes of fixation have been described to stabilize these injuries.<sup>2</sup> Pelvic trauma (PT) is one of the most complex management in trauma care and occurs in 3% of skeletal injuries.<sup>3</sup> Patients with pelvic fractures are usually young and they have a high overall injury severity score. Mortality rates remain high, particularly in patients with hemodynamic instability, due to the

rapid exsanguination, the difficulty to achieve hemostasis and the associated injuries.<sup>4</sup> For these reasons, a multidisciplinary approach is crucial to manage the resuscitation, to control the bleeding and to manage bones injuries particularly in the first hours from trauma. PT patients should have an integrated management between trauma surgeons, orthopedic surgeons, interventional radiologists, anesthesiologists, ICU doctors and urologists 24/7.<sup>5</sup> The present study was conducted to assess outcome of pelvis fracture managed with plate osteosynthesis.

#### MATERIALS & METHODS

The present study was conducted among 68 cases of pelvis fracture of both genders. All were informed regarding the study and their written consent was obtained.

Demographic profile such as name, age, gender etc. was recorded. A thorough clinical examination was performed. After stabilization all patients had

undergone a standard antero-posterior roentogram and inlet and outlet view. Computerized tomogram (CT scan) was done for better delineation of sacroiliac injury whenever possible. Pubic diastases were graded

according to Young and Burgess. Results thus obtained were assessed statistically. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

<b>Total- 68</b>		
<b>Gender</b>	<b>Males</b>	<b>Females</b>
Number	48	20

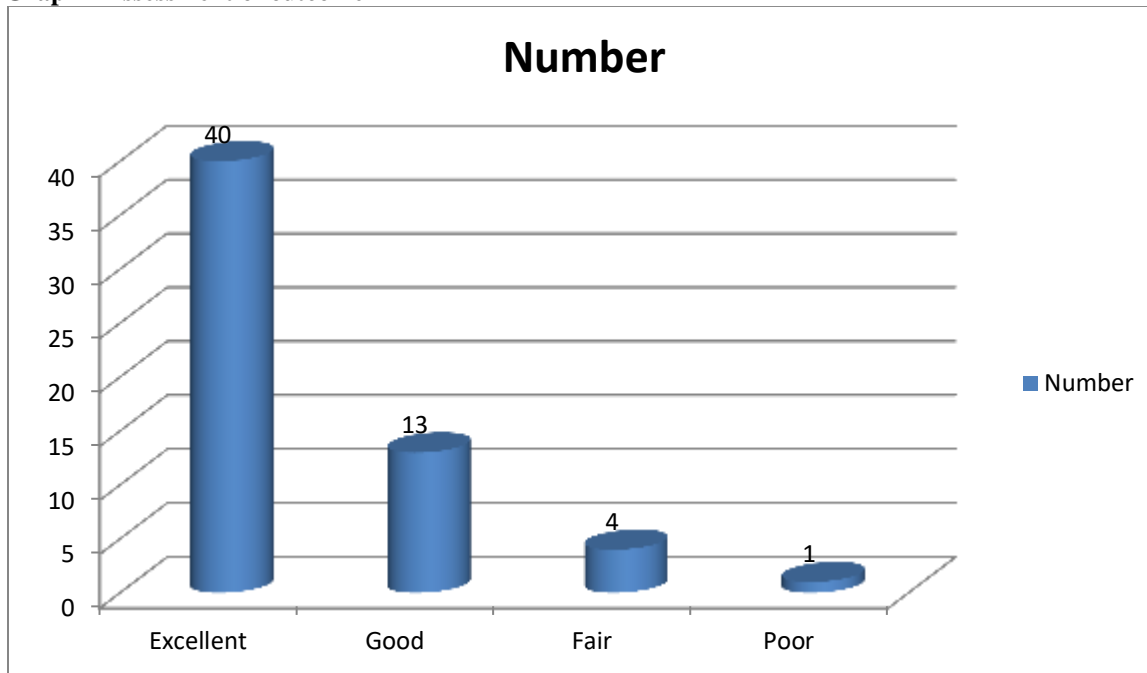
Table I shows that out of 68 patients, males were 48 and females were 20.

**Table II Assessment of outcome**

<b>Outcome</b>	<b>Number</b>	<b>P value</b>
Excellent	40	0.01
Good	13	
Fair	4	
Poor	1	

Table II, graph II shows that outcome was excellent in 40, good in 13, fair in 4 and poor in 1 case. The difference was significant (P< 0.05).

**Graph I Assessment of outcome**



**DISCUSSION**

Pelvic trauma (PT) is one of the most complex management. At present no comprehensive guidelines have been published about these issues. No correlation has been demonstrated to exist between type of pelvic ring anatomical lesions and patient physiologic status. Moreover the management of pelvic trauma has

markedly changed throughout the last decades with a significant improvement in outcomes, due to improvements in diagnostic and therapeutic tools.<sup>6</sup> In determining the optimal treatment strategy, the anatomical lesions classification should be supplemented by hemodynamic status and associated injuries. The anatomical description of pelvic ring lesions is fundamental in the management algorithm but

not definitive. In fact, in clinical practice the first decisions are based mainly on the clinical conditions and the associated injuries, and less on the pelvic ring lesions.<sup>7</sup> Ultimately, the management of trauma requires an assessment of the anatomical injury and its physiologic effect.<sup>8</sup> The present study was conducted to assess outcome of pelvis fracture managed with plate osteosynthesis.

In present study, out of 68 patients, males were 48 and females were 20. Pelvic injuries are high intensity injuries and many times present in combination of polytrauma. It is our dictum and institutional protocol that one has to rule out polytrauma in presentation of pelvis injury, hence we follow overall poly-trauma assessment of patient. Owing to significant blood loss, hemodynamic stability should be achieved at the earliest.<sup>9</sup> Diagnostic imaging is undertaken once patient is hemodynamically stable or wherein intervention like vascular embolism in undertaken. Plain radiography (AP, Inlet & Outlet) is suffice for pelvis fracture but additional judets view can be helpful to see acetabular profile. CT of pelvis has many-fold advantage like-maximum pictures in minimum time including a 3D volume rendered view for better assessment.<sup>10</sup>

We observed that outcome was excellent in 40, good in 13, fair in 4 and poor in 1 case. Jain et al<sup>11</sup> in their study a total of 15 patients were selected from 23 patients presenting in a year span for study fulfilling our inclusion exclusion criterion. We fixed all type II APC injury patient with single anterior plating and type III APC with anterior plating and posterior sacroiliac screws. Each patient was followed up for one year for functional and radiological outcome. Results: Among the 15 patients, there were 9 APC II & 6APC III injuries. M: F ratio was 11:4. Functional outcome was excellent in 7 (47%), good in 6 (40%) and fair in 1 (13%) patient. Radiological scores were excellent in 6 (40%), good in 5 (33%), fair in 2 (13%) and poor in 2 (13%) patient. No patients had implant failure.

APC injuries are sometimes associated with avulsion of the medial portion of the rectus abdominis, which could give rise to ventral hernias. Even direct inguinal hernias have been reported after disruption of the posterior wall of the inguinal canal. With ORIF of fracture and repair of the associated soft-tissue injuries these can be prevented.<sup>12</sup>

## CONCLUSION

Authors found that symphyseal plating found to be effective with better treatment outcome.

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