

Introduction

The sacrum is a crucial component of the biomechanics and plays a protective role for the nervous system around the spinal column and pelvis however, its fractures have not received as much attention as other pelvic injuries, which has resulted in poor care and potential neurological damage. Sacral fractures are group of fractures occurring in young people following road accidents, falls from height or in old patients with osteoporosis after minor trauma. Management of sacral fractures may be conservative treatment or open reduction internal fixation. Fixation of these fractures can be done by percutaneous ilio-sacral screw, ilio-iliac fixation or internal fixation by plates and screws. There are many contraindications to open reduction internal fixation of sacral fractures such as in patients who are unstable and critically ill or have severe soft tissue injury as Morel-Lavalle lesion which represents a large area of hematoma and fat necrosis under degloved skin. This lesion may lead to wound infection and implant failure and must be treated before any operative intervention. Posterior ilioiliac fixation allows minimally invasive early definitive fixation of sacral fractures and posterior pelvic ring stabilization.

Aim of the work

The aim of this study was to evaluate both retrospectively and prospectively the early clinical and radiological results of sacral fractures fixation using posterior ilio-iliac fixation in at least 20 patients presented to Elhadra University Hospital.

Patients and Methods

- This study included 20 patients from the age of 16 to70 years old who were admitted to EL-Hadara University Hospital having traumatic sacral fractures.

- Patients with lumbopelvic dissociation, osteoporotic fractures and fractures more than 3 weeks are excluded from the study. Patients with complete sacral fractures and those having fracture not amenable to sacroiliac screw are included in the study.
- Assessment of the radiograph is obtained according to the Matta and Tornetta system which classify the posterior reduction according to vertical displacement. All patients were followed monthly till 6 months post-operative radiologically (p-xray pelvis antroposterior, inlet and outlet views) and clinically with Majeed Score.
- Immediate partial weight bearing is allowed to all patients who are generally well and have no associated fractures. Supine position is not allowed till full healing of the wounds.

Results

Table 1: Distribution of the studied cases according to majeed score (n = 20)

Majeed score	No.	%
Unsatisfactory	4	20.0
Poor	1	5.0
Fair	3	15.0
Satisfactory	16	80.0
Good	4	20.0
Excellent	12	60.0
Min. – Max. (%)	53.0 – 95.0	
Mean ± SD.	82.14 ± 13.74	
Median (IQR)	90.0 (69.27 – 93.5)	

IQR: Inter quartile range

SD: Standard deviation

Table 2: Distribution of the studied cases according to wound complications (n = 20)

Wound complications	No.	%
No	16	80.0
Yes	4	20.0
Wound dehiscence improved on daily dressing	2	10.0
Wound dehiscence needed debridment and IV antibiotics	2	10.0

Conclusion

Management of sacral fractures using posterior ilio-iliac fixation is a sufficient surgical technique with low rates of postoperative complications. This procedure is a good alternative to iliosacral screw fixation because it is quick, safe and associated with good functional outcome and can be a useful option in patients who are not amenable for iliosacral screw fixation. Fixation of the anterior pelvic injury, although did not affect the final clinical outcome, may add more stability to the posterior pelvic fixation in the treatment of completely unstable pelvic injuries.