

Combined Pelvic Ring and Acetabular Injuries: An Approach for Operative Fixation

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Purpose: The purposes of this paper were to (1) compare our combined pelvic ring and acetabular fracture patients' rate of mortality and ISS to those of patients with isolated injuries at our center and (2) describe our treatment, and report our patients' radiographic and functional outcomes.

Methods: This was a retrospective IRB-approved case series conducted at a Level-I trauma center in the US. 1697 patients with acetabular or pelvic ring injury, 174 patients with combination pelvic ring acetabular injuries, and 61 patients with 68 acetabular injuries were treated with open reduction and internal fixation of the pelvic ring and acetabular injury. The pelvic ring was reduced and stabilized first followed by acetabular reduction and fixation. In cases where the acetabular injury was a high fracture that also disrupted the pelvic ring, a back-to-front sequence of reduction and fixation was performed followed by acetabular repair. Primary outcomes were mortality, ISS, pelvic reduction by Keshishyan index, acetabular reduction by the Matta criteria, and functional outcome by the Majeed score.

Results: Mortality was 5.7%, ISS 12.5 for 174 combined injury patients. In the 61 patients/68 injuries, there was excellent pelvic reduction (57/61 [93%]); acetabular reduction was anatomic in 47 (69%), imperfect in 16 (24%), and poor in 5 (7%). Clinically, 76% (46) of the patients had good or excellent outcome and 24% (15) with a fair or poor outcome. Nonanatomic acetabular reduction, persistent sciatic nerve palsy, and heterotopic ossification were associated with poor clinical outcome.

Conclusion: Our treatment protocol resulted in excellent pelvic reduction, anatomic acetabular reduction in 69% of patients, and 76% good to excellent clinical outcome .