

Complex Fracture Patterns of the Anterior Pelvic Ring INFIX as a Viable Treatment Option: A Prospective Study

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Purpose: Our objective was to evaluate complications and functional outcome measures using both disease-specific scores and quality of life scores.

Methods: A total of 12 out of 112 pelvic fracture patients during 1-year study duration had complex fracture patterns of anterior pelvic ring and were decided for INFIX treatment by 2 pelvic surgeons. Reduction was evaluated radiologically using Matta's criteria, pelvic deformity index (PDI,) and pubic symphyseal opening. Immediate postoperative CT parameters were used to evaluate relation of crucial structures at risk to INFIX implant. Functional outcome scores included both disease-specific scores (Majeed Score, Iowa pelvic scores) and quality-of-life measures (Short Form-12 [SF-12] and Short Musculoskeletal Function Assessment [SMFA]).

Results: Fracture reduction was excellent in 10 cases (83.3%) and good in 2 (16.6%). Average PDI in postoperative period and post-implant removal was 0.0130 and 0.0170, signifying maintenance of reduction even after INFIX removal. Functional outcomes were excellent in 11 patients (91.6%) and good in 1 patient with mean Majeed score of 92.67 ± 5.8 . The average Iowa pelvic score at 6-month postoperative follow-up was 93.92 ± 6.201 . The average SMFA score at 6-month follow-up was 51 ± 4.39 (Function Index and Bother Index within normal population norms), suggestive of excellent outcome. On analyzing SF-12 scores, the average physical component summary score indicating physical well-being was 48.493 ± 6.74 (range 33.68-55.81), and average mental component summary score indicating mental well-being was 56.370 ± 4.04 (range, 48.633-63.790). Lateral femoral cutaneous nerve palsy was noted in 1 patient (1/24 nerves), 2 patients had infection, and 1 patient had sacral nonunion. Skin dehiscence was seen in underweight patients with lower body mass index (2 patients) and over those screws that had skin to screwhead distance <4 mm ($P = 0.01$).

Conclusion: INFIX is a safe, effective, and viable option for addressing complex pelvic fractures involving the anterior half of pelvic ring with excellent radiological and functional outcomes and predictable fracture healing.