IOTA Poster # IOTA 1

Minimally Invasive Osteosynthesis of Unstable Pelvic Fractures: Series of Cases and Literature Review

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Purpose: The treatment of unstable pelvic fractures is open reduction and internal fixation, which is associated with high rates of morbidity and mortality, complications, and residual disability. Closed and indirect reduction and osteosynthesis with minimally invasive technique offers clinical results comparable to open surgery in terms of consolidation, with the additional advantages of lower morbidity and postoperative complication rates, constituting an effective and less invasive alternative to open surgery. Our purpose is to describe the results of patients with unstable pelvic fractures treated with closed reduction and internal fixation with minimally invasive techniques at the Hospital Universitario San Rafael de Tunja, Boyacá, Colombia, a first-level trauma center during the period from January 2023 to June 2024.

Methods: This is a descriptive observational case series study of patients with unstable pelvic fractures operated with minimally invasive technique during the period from January 2023 to June 2024 at the Hospital Universitario San Rafael de Tunja, Boyacá, Colombia, a first-level trauma center, evaluating incidence and therapeutic outcome. The data were collected by the investigators of the SERVINTE SUITE system, in a database using the Excel program. The STATA 17.0 program was used for the analysis.

Results: 42 patients presenting with unstable pelvic fractures were included. Consolidation rates were over 92% with a low rate of complications with a proportion of infections and neuropraxia of 2%, while only 3% presented longitudinal discrepancy and migration of the fixation system requiring revision. The neuropraxia resolved spontaneously after 3 months. No deaths or long-term neurological or functional sequelae were recorded at outpatient follow-up.

Conclusion: Surgical management of pelvic fracture with mechanical instability by closed and indirect reduction and percutaneous fixation with minimally invasive technique offers the opportunity to minimize the risks and enhance the benefits in the stabilization of these fractures. In addition it is associated with low morbidity and mortality, early rehabilitation, and early return to pre-fracture activity.