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International Congress on
SURGERY AND DEMENTIA
May 22-23, 2019 | Tokyo, Japan

Modified Internal fixator for anterior pelvic ring fractures versus conventional two-screw fixation

Shenglong Ding
Qingpu Branch of Zhongshan Hospital, China

Aim: The present study aims to evaluate the short-term clinical effects and complications of modified three-screw fixation and conventional two-screw fixation for treating anterior pelvic ring fractures.

Methods: A retrospective study of 51 patients with type B fractures was performed. 25 patients (modified group) were treated with modified three-screw fixation and the other 26 patients (conventional group) with conventional two-screw fixation. Outcome measures included operation time, intraoperative blood loss, hospital stays, postoperative complications and the Majeed score at postoperatively 2 months, 3 months, 1 year and the time of implant removal.

Results: The mean operative times and mean blood loss for modified three-screw fixation versus conventional two-screw fixation bilateral were 54.8±10.7 min versus 32.3±9.9 min, and 153.3 mL versus 550.0 mL($p<0.001$), respectively. However, the Majeed score was better in modified group at postoperatively 2 months (75.6±9.5 vs 69.7±8.3, P=0.008) and 3 months (80.3±10.7 vs. 75.1±11.9, P=0.014). No statistical difference between two groups at the time of implant removal (82.1±9.3 vs 80.9±8.8, P=0.272) and postoperatively 1 year (83.5±7.8 vs 82.6±8.2, P=0.723). No patients experienced surgical wound infection, deep vein thrombosis, delayed union or nonunion, implant loosening or rupture. 1 patient complained of tardive unilateral thigh pain at postoperatively 4 months in conventional group.

Conclusions: Both modified three-screw fixation and conventional two-screw fixation could ultimately afford satisfactory clinical and radiological outcomes with less complication for anterior pelvic ring fractures. The modified three-screw fixation might have better biomechanical strength and faster pelvic rehabilitation.

Biography

Shenglong Ding, a graduate student in orthopedics at Shanghai Medical College, Fudan University, has his expertise in Intervertebral disc degeneration and biomaterials field. He has published articles entitled Salt-assisted toughening of protein hydrogel with controlled degradation for bone regeneration and " Bombyx mori Silk Based Materials with Implication in Skin Repair: Sericin versus Regenerated Silk Fibroin in the field of materials.

17211350004@fudan.edu.cn

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