

A Comparison of Opioid Prescription in Operatively and Non-Operatively Treated Isolated LC1 Pelvis Fractures

Makoa Mau, BS; Tyler Thorne, MD; Lucas S. Marchand, MD; David L. Rothberg, MD; Thomas F. Higgins, MD; Justin Haller, MD

Purpose: Much controversy exists surrounding the operative indications of lateral compression type 1 (LC1) pelvic fractures. However, a presumed benefit of surgery is less early pain and improved function. The purpose of this study was to compare and predict the opioid consumption, clinical, and patient reported outcomes of operative (OP) and nonoperative (NOP) isolated LC1 pelvic fractures.

Methods: Skeletally mature patients with pelvic fracture at a single Level I trauma center between 2015 and 2023 were retrospectively reviewed. Patients with an isolated LC1 (OTA 61-B2.1) pelvic fracture with at least 6 weeks of follow up were included. Demographics, surgical outcomes, Patient-Reported Outcomes Measurement Information System (PROMIS) Physical Function (PF), Pain Interference (PI), Anxiety, and Depression were recorded. Narcotic prescriptions in morphine equivalents (ME) 3 months pre-fracture through 6 months post-fracture were obtained through the state prescription drug monitoring program (PDMP). Gamma log link general linear models controlling age and gender were used to estimate prescribed MEs at the initial post-injury visit, any subsequent refills, and over the total observation period.

Results: In total, 135 patients were included in the analysis: 81 NOP and 54 OP. OP patients were significantly younger (41.3 vs 54.7 years, $p < 0.001$) and more likely to be current tobacco users (24.0% vs 8.1%, $p = 0.033$). Although there were no differences in prescribed ME prior to injury, OP patients were prescribed significantly more total ME over the 9-month period of observation (4002 ME vs 1318 ME, $p = 0.009$). The linear model estimated OP patients were prescribed significantly more initial ME after fracture/surgery (480 ME vs 260 ME, $p = 0.002$). There were no differences in nonunion rates or PROMIS PF, PI, Anxiety, or Depression up to 6 months post-fracture.

Conclusion: Patients with operatively treated LC1 fractures are prescribed significantly more opiates than those treated nonoperatively, despite having similar PROMIS PI. Assuming comparable functional results, operative treatment of these injuries resulted in the use of significantly more opiate analgesics, which is very surprising because the stated benefit of the operation is improved pain control.