Patient-Reported Outcomes Do Not Correlate With Young & Burgess Classification in Patients With Isolated Pelvic Ring Injuries

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Purpose: There is sparse understanding of patient-reported outcome (PRO) scores after isolated pelvic ring injuries. The Young & Burgess (Y&B) classification is a mechanistic system of classification, but is unclear if these injuries correspond to patient-perceived outcomes.

Methods: Patients with isolated pelvic ring injuries at 2 Level I trauma centers and at least 1 year of follow-up were identified. Patient-Reported Outcomes Measurement Information System (PROMIS)-29 and Majeed pelvic outcome scores were collected. PRO scores were compared to pelvic fracture classifications. Univariate analysis was performed to compare outcomes between patients with various pelvic ring injuries.

Results: Patients with vertical shear (VS) and lateral compression (LC) 3 fracture types had the worst outcomes in PROMIS and Majeed scores. We evaluated 144 total patients (21 anteroposterior compression [APC]1/2, 19 APC3, 83 LC2, 8 LC3, 11 sacral U, and 3 VS). The mean PROMIS function scores for each fracture type were: APC1/2 23.8 (standard deviation [SD] 11.5), APC3 25.8 (SD 13.8), LC1/2 23.3 (11.5), LC3 21.9 (7.1), sacral U 22.5 (SD 10.9), and VS 13.7 (SD 3.2). The mean Majeed scores were: APC1/2 89.3 (SD 12), APC3 90.0 (SD 13.8), LC1/2 78.4 (20.7), LC3 75.5 (18.2), sacral U 80.3 (SD 20.2), and VS 64.0 (9.5). Exploratory comparisons reveal subtle differences. APC1/2 vs APC3 shows that APC3 fractures approach greater PROMIS fatigue (15.5 vs 7.2, P = 0.07), and worse PROMIS social scores (20 vs 5.7, P<0.001). LC1/2 vs LC3 shows no difference in PROMIS domains or Majeed scores. Comparison of severe injuries (APC3 vs LC3) shows that LC3 fractures approach greater fatigue (7.2 vs 9.6, P = 0.2), worse social scores (20 vs 13.9, P = 0.089), and worse Majeed scores (90.1 vs 75.5, P = 0.11).

Conclusion: There is very little known about PROs for isolated pelvic ring injuries. This study shows that while small differences may be perceptible in small groups, the overlap of standard deviations make real significance unlikely. Further exploration is warranted.