Single Question May Predict Functional Outcome In Orthopaedic Trauma Patients

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Purpose: A complex dynamic exists between patient expectation and clinical outcome. Studies in multiple areas have demonstrated a relationship between patients' anticipated recovery and their functional outcome, but this association has not been investigated in orthopaedic trauma patients. The goal of this study was to investigate the relationship between the patients' expectation of recovery following a surgically fixed fracture and the patient-reported outcome using a single-item question.

Methods: This prospective study was conducted over a 2-year period from 2018 to 2020 at an academic Level I trauma center. All skeletally mature patients with a surgically managed fracture and a complete data set were included. Demographic data and injury characteristics were collected. The PROMIS PF-CAT (Patient-Reported Outcomes Measurement Information System Physical Function computer-adaptive test) was used to assess patient-reported return of physical function. Patient expectations were collected by asking a single question ("SF-1"). The SF-1 asks, "On a scale of 0 to 100, how likely do you believe you are of returning to your previous level of function?" with 0 = no expectation and 100 = full expectation of return to previous level. Both the PF-CAT and SF-1 data were collected at the patients' first postoperative visit within 2 weeks of surgery and at a minimum final follow-up of 3 months. Standard statistical comparisons and regression analysis evaluated the relationship between the SF-1 and PF-CAT.

Results: In total, 410 patients were included in the study with an average age of 55 years (standard deviation [SD]: 17). There were 242 males (59%) and 168 females (41%) in the cohort. Median time of follow-up was 6 months (range, 3-27 months). The average SF-1 score immediately postoperative was 80 (SD: 26) and 82 (SD: 22) at final follow-up. The average PF-CAT immediately postoperative was 32 (SD: 8) and 44 (SD: 9) at final follow-up. There were 129 patients (31%) who reported an SF-1 of 100 at first visit. There was no difference in age, gender, follow-up time, and fracture locations when comparing the patients with an SF-1 score of 100 to all other patients with any response less than 100. However, despite having similar initial PF-CAT scores (32 vs 31, P = 0.27) at first visit, patients who expected full recovery had higher PF-CAT scores at final follow-up (49 vs 41, *P*<0.01) compared to all others. When considering all responses to the SF-1, no association was noted between the SF-1 score and PF-CAT using regression analysis (r2 = 0.08).

Conclusion: These data support the notion that patient expectation of recovery is predictive of functional outcome in orthopaedic trauma patients. While the current study demonstrates that patient expectation cannot directly predict patient-reported outcomes in all subjects, it does for the one-third of all patients who anticipate a full recovery (SF-1 = 100) at the onset of their injury. This study adds to the literature about the importance of optimism and self-efficacy, and may call into question the importance of the treatment/surgeon in the outcome if these are driven by intrinsic patient factors.

POSTER ABSTRACTS