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Functional Outcomes after Lumbar Fusion in Opioid-Tolerant Patients

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Introduction:

Prolonged opioid use after lumbar fusion surgery is implicated with increased hospital readmissions, higher postoperative pain scores, and longer return to work time. There are several non-modifiable risk factors for postoperative opioid use including socioeconomic status and gender. The purpose of this study was to determine the effects of opioid-tolerance on PROMs and to determine risk factors for prolonged opioid use after lumbar spine surgery.

Method:

Using retrospective cohort analysis, patients who underwent lumbar spinal fusion at TJUH were identified and determined to be either opioid-naïve or opioid-tolerant using the Pennsylvania PDMP. Outcomes included number of opioid tablets consumed, duration of time using opioids, and patient-reported outcome measures (ODI, PCS-12, MCS-12, VAS Back, VAS Leg). Univariate and multivariate analysis were used to compare outcomes between the two groups. Logistic regression was used to determine independent predictors for prolonged opioid use which was defined as greater than one postoperative opioid prescription script filled.

Results:

A total of 260 patients were included in the final cohort, of which, 138 were opioid-tolerant and 122 were opioid naïve. Opioid-tolerant patients showed decreased improvement in PROMs compared to the opioid-naïve patients ($p=0.043$). The number of preoperative pills prescribed was a significant predictor for prolonged opioid use after lumbar fusion.

Conclusion:

The number of pills prescribed preoperatively was found to be a predictor for prolonged opioid use after lumbar fusion surgery. Overall, our results demonstrated that naïve patients have improved health-related quality of life outcome scores compared to opioid-tolerant patients after lumbar fusion.