Preoperative Tramadol Use on Opioid Use after Primary Total Hip and Knee Arthroplasty: An Institutional Experience of 11,000 Patients


INTRODUCTION: Preoperative opioid use increases opioid consumption postoperatively. However, the effect of tramadol on postoperative opioid use is poorly understood. Furthermore, tramadol is recommended by AAOS for the treatment of arthritic pain. We therefore analyzed the effect of preoperative tramadol consumption on postoperative opioid use following arthroplasty.

METHODS: We retrospectively reviewed 11,667 patients undergoing primary unilateral total hip arthroplasty (THA) and total knee arthroplasty (TKA) at a single institution from 2019-2020. Patients that underwent a secondary procedure within 90 days were excluded. Preoperatively, there were 8,201 opioid-naïve patients (70.3%), 1,315 on Tramadol (11.3%), 1,408 on narcotics (12.1%), and 743 on narcotics and tramadol (6.3%). Postoperative pain management was standardized. We compared morphine milligram equivalents (MME) used during hospitalization, prescribed at discharge, and refilled during the first 90 days. We assessed whether preoperative tramadol use was associated with increased number of refills and total refilled MMEs in multivariate analysis.

RESULTS: Total in-hospital MMEs and daily MME use was lowest for the opioid naïve patients and significantly increased for the remaining three groups (total in-hospital use: 119, 152, 211, and 196 MMEs, respectively-p<0.001)(daily in-hospital use: 66, 74, 100, and 86 MMEs, respectively-p<0.001). However, opioid refill rate was significantly higher for all patients who were not opioid naïve (32%, 42%, 41%, and 52%, respectively-p<0.001). Total MMEs used after discharge was lowest for opioid naïve patients (477, 528, 590, and 658, respectively-p<0.001). Logistic regression controlling for age, sex, history of anxiety/depression revealed that THA patients taking tramadol preoperatively were 2.5 times more likely to require post-discharge refills and refilled 80 additional MMEs than opioid naïve patients (p<0.001).

DISCUSSION AND CONCLUSION: While tramadol has been recommended by AAOS for the treatment of preoperative pain, surgeons and patients should be aware that it is associated with a substantial increase in postoperative opioid use.