

Suzetrigine for Acute Pain Management Following Total Knee Arthroplasty

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Introduction: Postoperative opioid prescribing remains a significant contributor to the opioid epidemic. Total knee arthroplasty (TKA) is among the most common orthopedic procedures requiring postoperative analgesia, often involving substantial opioid utilization. Suzetrigine (JOURNAVX), a novel, FDA-approved non-opioid analgesic that selectively targets peripheral NaV1.8 sodium channels, offers a promising alternative for postoperative pain management without the addictive potential of opioids. This study evaluates opioid utilization and patient-reported outcomes following TKA in patients managed with a modern multimodal pain protocol with and without suzetrigine.

Methods: This retrospective cohort study compared patients undergoing TKA who received at least one prescription for Suzetrigine within 7 days postoperatively and reported taking the medication (SUZ, n=21) or did not receive Suzetrigine (No-SUZ, n=54). Patients with a prior contralateral TKA were excluded. As this study represents a novel clinical application, no formal power analysis was conducted. Demographics and clinical characteristics were collected at baseline. Medication prescription fills were assessed within 30 days and from 30 to 90 days postoperatively. The PDMP database was used to confirm opioid and other pain medications when available. Patient-reported outcomes were assessed using KOOS Symptoms and Pain scores preoperatively and at 90 days postoperatively. Patient-reported outcomes were evaluated using the Knee injury and Osteoarthritis Outcome Score (KOOS), with 14- and 90-day postoperative comparisons adjusted for baseline scores. Statistical significance was defined as $p < 0.05$.

Results: Baseline demographics and clinical characteristics were comparable between SUZ and No-SUZ cohorts, with no significant differences in age, BMI, deformity, race, insurance status, education, or KL grade ($p > 0.2$). A lower proportion of SUZ patients filled opioid prescriptions within 30 days after TKA (9.5% vs 42.6%; $p = 0.007$), while NSAID utilization was higher (100% vs 66.7%; $p = 0.002$). Prescription fills for opioids, NSAIDs, gabapentin, and muscle relaxants did not differ significantly between groups from 30 to 90 days postoperatively. Baseline KOOS scores were similar between cohorts, and baseline-adjusted KOOS symptoms, pain, activities of daily living, and quality-of-life scores did not significantly differ at 14 or 90 days post-TKA (all $p > 0.19$).

Conclusion: Suzetrigine serves as a viable, non-opioid analgesic for patients undergoing primary TKA. Suzetrigine use was associated with a lower proportion of patients filling opioid prescriptions within 30 days after primary TKA, with no significant differences in patient-

reported outcomes. These preliminary findings support further investigation of suzetrigine as an opioid-sparing option for postoperative pain management following primary TKA.