

**Abstracts (Oral Presentation)**

## **Does Nefopam Provide Analgesic Effect and Reduce Morphine Consumption After Primary Total Knee Arthroplasty? A Prospective, Double-Blind, Randomized Controlled Trial**

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### **Abstract**

**Introduction:** One of the most undesirable results after total knee arthroplasty (TKA) is severe immediate postoperative pain, resulting in patient dissatisfaction. We aimed to evaluate nefopam's analgesic efficacy after primary TKA along with related outcomes, including morphine consumption and adverse events.

**Methods:** We conducted a double-blind, randomized controlled trial of patients undergoing unilateral primary TKA, comparing 24 hours of 80 mg of continuous intravenous nefopam to placebo infusion. A 100-mm visual analog scale (VAS) for pain-at-rest and in-motion  $\leq 48$  hours was the primary outcome measure. Secondary outcomes were morphine and antiemetic consumption, adverse events, and functional outcomes: time-to-walk, timed up-and-go test, postoperative knee range of motion at 24 and 48 hours, time-to-discharge, and patient satisfaction scores.

**Results:** Patients in the nefopam group had significantly lower VAS at rest 6 hours postop ( $20.3 \pm 27.3$  vs.  $35 \pm 24.3$ ,  $P = .01$ ). Other timepoints and in-motion VAS scores did not significantly differ. Total morphine consumption (0 - 48 hours) was 37% less, significantly lower, in the nefopam group ( $5.3 \pm 4.5$  vs.  $8.4 \pm 7.5$  mg,  $P = .03$ ). Antiemetic consumption was also 61% lower in the nefopam group but not statistically significant ( $0.8 \pm 2.3$  vs.  $2.0 \pm 3.8$  mg,  $P = .08$ ). There were no variations in adverse events, functional outcomes, and satisfaction scores between groups.

**Conclusions:** Continuous nefopam administration as part of multimodal analgesia for 24 hours post-TKA produced a significant analgesic effect but only within the first 6 hours. However, there was a notable reduction in morphine use 48 hours postop. Nefopam is a useful agent for contemporary pain control after TKA.

**Keywords:** Nefopam, Total knee arthroplasty, Postoperative pain, Multimodal analgesia, Pain control

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