



Letter to the Editor

Re: Impact of Intrathecal Fentanyl on Hospital Outcomes for Patients Undergoing Primary Total Hip Arthroplasty With Neuraxial Anesthesia

I read with interest the retrospective review by Kelly et al. investigating the addition of intrathecal fentanyl to a hyperbaric bupivacaine spinal block and its effects on surgical outcomes in patients undergoing total hip arthroplasty [1]. They conclude that fentanyl should not be used routinely in spinal anesthesia despite a lack of significant adverse effects in their study from the drug.

The authors note that previous studies of intrathecal opioids have shown significantly reduced pain scores and opioid consumption postoperatively but fail to note that these studies have primarily studied intrathecal morphine which has a much longer duration of action [2–4]. It is unlikely that fentanyl would provide significant postoperative analgesia in arthroplasty patients unless given in large doses, as it typically provides analgesia on the order of several hours [5]. The average length of stay (LOS) of patients in the authors' study was 33 hours, suggesting most patients in the study stayed overnight in the hospital, so little benefit in LOS would be expected from a short-acting opioid such as fentanyl.

The intrathecal fentanyl doses used by anesthesiologists in this study ranged from 10 to 120 micrograms, a large variation that makes the results difficult to interpret. Fentanyl is commonly given in small doses intrathecally ranging from 10 to 25 micrograms. Small doses are most commonly associated with pruritus rather than urinary retention, nausea, and vomiting. The authors fail to address that adverse effects are more commonly seen with intrathecal morphine. Urinary retention in particular commonly occurs with general anesthesia and spinal anesthesia itself and has been found more commonly to be associated with intrathecal morphine rather than fentanyl [6,7]. It is therefore not surprising the authors did not find an increased incidence of urinary retention in patients receiving a single dose of intrathecal fentanyl.

Given intrathecal fentanyl's short duration of action and more favorable side effect profile than morphine, it can be helpful for intraoperative analgesia. The authors did not investigate this effect, as doses of intraoperative sedation administered other than intravenous opioids as well as rates of conversion to deep sedation or general anesthesia were not measured. The addition of intrathecal fentanyl can reduce the dose of intrathecal bupivacaine required for surgical anesthesia with a spinal block, which can reduce adverse effects such as hypotension during surgery and the need for vasopressors [8]. Moreover, decreased bupivacaine doses might facilitate more rapid recovery from sensory and motor block with spinal anesthesia. The authors might consider measuring time to first ambulation, time to PACU discharge, and time to regression of sensory block as outcomes more likely to be directly related to anesthetic management, rather than hospital LOS or readmission rates.

To claim that intrathecal fentanyl should not be routinely used in elective total hip arthroplasty patients for fear of adverse effects

seems to contradict the authors' own findings—a lack of measured adverse effects. I would caution the authors' extrapolation of data from intrathecal morphine, as intrathecal fentanyl has a more favorable side effect profile and a different pharmacokinetic profile.

Conflicts of interest

The authors declare there are no conflicts of interest.

For full disclosure statements refer to <https://doi.org/10.1016/j.artd.2023.101266>.

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