

Compare the Effects of Transversalis Fascia Plane Block versus Intravenous Lidocaine Infusion on the Quality of Early Postoperative Recovery in Patients Undergoing Gynecologic Laparoscopic Surgery [Letter]

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Dear editor

We read with great interest the recent editorial by Zhang et al titled Compare the Effects of Transversalis Fascia Plane Block versus Intravenous Lidocaine Infusion on the Quality of Early Postoperative Recovery in Patients Undergoing Gynecologic Laparoscopic Surgery published in your esteemed journal.¹ The authors elegantly examined compares the effects of transversalis fascia plane (TFP) block and intravenous lidocaine infusion on early postoperative recovery in gynecologic laparoscopic surgery, which equivalence of the two schemes in terms of postoperative recovery quality has been clarified, providing direct evidence support for the clinical decision-making of choosing between analgesia. However, several drug dosage units, outcome measure consistency, and mechanism analysis issues merit further discussion to enhance the reliability and clinical applicability of the study results.

First, an error in the dosage units of sufentanil and remifentanil was identified in the study. In the anesthesia management section, the induction dose of sufentanil is defined as 0.3 µg/kg, with an additional 10 µg is administered preoperatively; 100 µg of sufentanil is incorporated into the patient-controlled intravenous analgesia (PCIA) postoperatively. Anesthesia is maintained with a continuous infusion of remifentanil at 0.1–0.2 µg/kg/min. Based on the BMI and operative duration listed in Table 1, the total consumption of remifentanil and sufentanil should be expressed in µg (micrograms). This is consistent with the methodological practice by Zhong et al, who reported the consumption of these two analgesics in µg in analogous surgical studies.² However, a critical discrepancy exists in the original study: the unit assigned to the column “Sufentanil and remifentanil consumption” is incorrectly labeled as mg (milligrams) in Table 1. The correct unit should be µg. This unit error may mislead readers in the result, particularly clinical practitioners, regarding the actual medication dosages utilized in the study, and could potentially undermine the credibility of the intraoperative medication data presented.

Second, inconsistencies exist between the quality of recovery-15 (QoR-15) score interpretations and the data presented in Table 3. In the results section, the authors claim that postoperatively, the L group achieved significantly higher scores than the T group in both the physical comfort domain and the total QoR-15 scores ($P < 0.05$). (Table 3) However, the data in Table 3 contradicts this assertion: specifically, the P-values for the total QoR-15 scores between the two groups are greater than 0.05 for both preoperative Day 1 and postoperative Day 1. Notably, the discussion section further clarifies this discrepancy by stating that these comparisons yielded no statistically significant differences. This inconsistency directly undermines the validity of the study's primary conclusion.



Lastly, inconsistent research on the anti-inflammatory mechanism of lidocaine. Tang et al pointed out that intravenous lidocaine infusion can significantly reduce postoperative levels of interleukin-6 (IL-6) and tumor necrosis factor- α (TNF- α), with a positive correlation observed between its anti-inflammatory effects and analgesic efficacy.³ Similarly, Wu et al pointed out that postoperative IL-6 and TNF- α levels in the intravenous lidocaine infusion group were significantly lower than those in the control group without lidocaine administration, and this anti-inflammatory activity was closely associated with the recovery of patients' gastrointestinal function.⁴ However, the findings of the present study revealed no statistically significant differences in preoperative and postoperative IL-6 and TNF- α levels between the Group L and Group T ($P>0.05$). The authors attributed this result to the equivalent anti-inflammatory effects of the two interventions. Nevertheless, data indicated that the mean IL-6 levels in both groups increased remarkably postoperatively compared with preoperative values. Notably, this study failed to perform statistical analysis on these intragroup differences, thus failing to demonstrate the anti-inflammatory superiority of lidocaine, and anti-inflammatory activity was associated with the recovery of patients' gastrointestinal function. Furthermore, Li et al observed that postoperative IL-6 and TNF- α levels in the high-dose lidocaine group (maintained at 3 mg/kg/h) were significantly lower than those in the low-dose group (1 mg/kg/h), and this difference achieved the minimal clinically important difference (MID).⁵ In contrast, the maintenance dose of lidocaine in the present study was 1.5 mg/kg/h, and no significant reduction in IL-6 and TNF- α levels was detected. Based on the aforementioned research evidence, anti-inflammatory effects of lidocaine may be related to the administered dosage in this study. Therefore, it is recommended that future studies focus on dose optimization to determine the appropriate dosage of lidocaine required to exert effective anti-inflammatory effects in gynecological laparoscopic surgery.

In conclusion, the work by Zhang et al makes a meaningful contribution to the field of multimodal analgesia of undergoing gynecologic laparoscopic surgery. We appreciate the authors' efforts in multimodal analgesia. Addressing the above points in future studies would strengthen the evidence base for lidocaine and better inform clinical decision-making. We look forward to seeing further research that addresses these points.

Disclosure

The author declares no conflicts of interest in this communication.

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