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LETTER TO THE EDITOR

Intraoperative lidocaine and duration of spinal anesthesia

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To the Editor:

By conducting a small-sample randomized-controlled trial in 28 patients who underwent the unilateral total knee replacement under spinal anesthesia, Kodkani et al. [1] demonstrated that intraoperative lidocaine prolonged duration of sensory and motor block with spinal anesthesia, and reduced postoperative pain level and analgesic requirements. Their findings are very interesting. Other than the limitations stated by Kodkani et al.[1], however, we have several questions in the design, methods, and results of this study and hope to gain the authors' comments before accepting their conclusions.

First, the unilateral total knee replacement was performed under spinal anesthesia using with 10 mg 0.5% hyperbaric bupivacaine and mean duration of surgery only was 117–119 min. We noted that the resting pain scores on PACU arrival in the two group were 2, though this period is the regression phase of spinal anesthesia. These results are significantly from the findings of previous works in patients undergoing total keen arthroplasty under spinal anesthesia, in which postoperative pain levels within 1–4 h postoperatively increased gradually from 0 point or a low pain score at the end of surgery with the regression of spinal anesthesia [2, 3]. Given that mean duration of motor block with spinal anesthesia in the two groups was 215–237 min, we believe that clarifying the reasons for the specific changes of resting pain levels in the early postoperative period is important for right interpretation of the findings about postoperative benefits of intraoperative intravenous lidocaine in this study.

Second, as a non-steroidal anti-inflammatory drug, diclofenac was given as needed for postoperative rescue analgesia in this study. This does not meet the basical requirements of the current enhanced recovery after surgery (ERAS) practices for total keen arthroplasty [4, 5]. To decrease the use of opioids perioperatively and thereby avoid their known adverse effects, the use of multimodal non-opioid analgesics actually is one of the cornerstones of exemplar ERAS practices for total keen arthroplasty. It is generally believed that both paracetamol and non-steroidal anti-inflammatory drugs are the central tenants of multimodal opioid-sparing analgesic regimen of current ERAS practices for total keen arthroplasty and should be regularly administered perioperatively for patients without contraindications [4]. Available evidence indicates that the multimodal analgesia including regular use of paracetamol and non-steroidal anti-inflammatory drugs can decrease opioid use and side effects by 30% [5]. Thus, we argue that the different results about the influences of intraoperative intravenous lidocaine on duration of spinal anesthesia and postoperative pain control would have been obtained, if the design of this study had included the regular use of paracetamol and diclofenac perioperatively, as recommended by the current ERAS practices for total keen arthroplasty [4].

Third, in the method section, Kodkani et al. [1] described that rescue analgesics were administered when postoperative pain score exceeded 3. However, median postoperative pain scores at 4 h, 8 h, and 12 h postoperatively in the control group were 4.5 or more, indicating that a significant number of control patients experienced moderate-to-severe pain in early postoperative period. It is unclear why the designed target of postoperative analgesia is not attained in the control group. We are concerned that such an inefficient

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control group in a small-sample randomized-controlled trial would have underestimated the performance of studied intervention.

Finally, regarding expression of data in Table 3 of Kodkani et al.' article, pain scores on PACU arrival, and at 4 h, 8 h, and 12 h postoperatively in the control group should be medians (interquartile ranges), rather than means (standard deviations). There are the same issues in expression of pain scores at 12 h and 24 h postoperatively in the lidocaine group.

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Data availability Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Declarations

Conflict of interest There are no potential conflicts of interest for this work.

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