

# Impact of Opioid-Free Anesthesia on Postoperative Quality of Recovery in Patients After Laparoscopic Cholecystectomy: A Randomized Controlled Trial [Letter]

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## Dear editor

With a great interest I read the recent article by Hao et al,<sup>1</sup> which compared the effect of opioid-free anesthesia (OFA) and opioid-based anesthesia on the quality of postoperative recovery assessed by the Quality of Recovery-15 questionnaire (QoR-15) in patients who underwent laparoscopic cholecystectomy. They showed that the OFA significantly improved the quality of early postoperative recovery, with a reduced incidence of opioid-related symptoms. The authors should be congratulated for their work that attempted to explore the optimal anesthesia methods for enhancing recovery after laparoscopic surgery, but I have a few comments on their methodology and results.

First, in the statistical analysis, the authors described that an average difference of  $\geq 12$  in the global QoR-15 score was considered a clinically significant improvement according to a previous study of Myles et al in 2016.<sup>2</sup> Actually, this study of Myles demonstrates that a change of 8 points for global QoR-15 signifies a clinically important improvement or deterioration in the quality of recovery after surgery.<sup>2</sup> Furthermore, the minimal clinically important difference of QoR-15 score has been re-evaluated and updated to a difference of 6 points by Myles et al in 2021.<sup>3</sup> As Hao et al used an effect size of  $\geq 12$  for sample size calculation,<sup>1</sup> we argue that they might have underestimated the sample size of this study.

Second, for postoperative analgesia, intravenous parecoxib and acetaminophen were administered and local infiltration anesthesia was performed at the end of surgery. However, the readers were not provided the details of postoperative pain managements during the observed period of 48 hours. I noted that the pain item scores of QoR-15 in two groups were 12–15 and 12.5–20 at 24 and 48 hours postoperatively, respectively; indicating that a significant proportion of patients in the two groups experienced moderate-to-severe pain during the observed period, especially patients receiving opioid-based anesthesia. Because the pain item score of QoR-15 and postoperative pain intensity have been significantly correlated with the scoring of physical comfort, emotional state, and physical independence items of QoR-15,<sup>4</sup> I am concerned that no inclusion of consistent postoperative analgesia regimen and pain control target in this study would have biased the main finding.

Third, the incidence of opioid-related adverse symptoms within 24 hours postoperatively was very high in the two groups and was significantly increased in patients receiving opioid-based anesthesia. As the authors did not provide the intraoperative and postoperative opioid consumptions in the two groups, it was unclear whether the significant between-group differences in the incidences of various opioid-related adverse symptoms should only be attributable to no intraoperative use of opioid analgesics in patients receiving the OFA.

Finally, the positive results of this study that the OFA provided a better quality of early postoperative recovery is indeed supported for clinical use. However, I note that the duration of PACU stay and duration of extubation were not

significantly different between the groups. Furthermore, this study did not evaluate and compare other important outcomes of patient comfort deemed by the Standardized Endpoints in Perioperative Medicine initiative, that is, the time to first mobilization, the time to gastrointestinal recovery, and sleep quality.<sup>5</sup> In these cases, it is somewhat difficult for the readers to determine the actual extent to which the OFA improves the postoperative experience and outcomes of patients undergoing laparoscopic cholecystectomy.

## Disclosure

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