Comparing Analgesic Effects of Different Local Blocks after Laparoscopic Cholecystectomy

TO THE EDITOR:

In a prospective, double-blind, single-center, randomized controlled clinical trial including 60 patients who underwent laparoscopic cholecystectomy, Hassanein et al (1) compared postoperative analgesic effects of ultrasound-guided quadratus lumborum block (QLB) and erector spinae block (ESPB) and showed that 2 blocks effectively improved postoperative pain control and reduced total fentanyl consumption in the first postoperative 24 hours. Furthermore, the ESPB provided a slightly longer duration of analgesia than the QLB. In addition to the limitations described by the authors in discussion, we had several questions about methods and results of this study and wished to obtain the authors’ responses.

First, the primary outcome of this study was the time to first analgesic requirement and sample size was calculated based on the results of their pilot study of 6 patients in each group. However, the authors did not provide the detailed results of their pilot study, such as mean and SD of the time to first analgesic requirement in each group. Especially, the authors did not specify what effect size was clinically significant. This may result in an unbecoming interpretation for their findings that is only based on statistically significant differences rather than clinically significant differences in pain outcomes (2). Thus, we argue that clarification of these issues would improve the transparency of this study design and the interpretation of the findings.

Second, regarding Figs. 3 and 4 of Hassanein et al’ article (1), they described that the Fig. 3 showed the Visual Analog Scale (VAS) pain scores during coughing and Fig. 4 demonstrated VAS pain scores at resting status. However, the figures are exactly same. Thus, it was unclear whether data of the Fig. 3 were pain scores during coughing or at resting status. The available literature recommends that the minimal clinically important difference of pain score in a randomized clinical trial assessing postoperative acute pain control is a 1.5 reduction on 0-10 point VAS (3). Because of the issues of their Figs. 3 and 4, we cannot determine whether statistically significant differences of VAS pain scores at resting and during coughing among 3 groups described in their results were clinically significant.

Third, the authors described that the duration of analgesia lasted 16 hours with the ESPB and 12 hours with the QLB, respectively. According to their Fig. 2, 2 techniques only provided the duration of analgesia lasting 10 hours or less. Most important, this study did not assess and compare the patient’s satisfaction with postoperative pain control. These issues would further make the interpretation of their findings difficult.

Finally, total fentanyl consumption in the first postoperative 24 hours was 98.9 ± 34.1, 79.5 ± 21.2 and 83.0 ± 19.6 μg/kg in patients receiving control intervention, ESPB and QLB, respectively, with significant between-group differences (P = 0.04). However, we noted that maximum and minimum net between-group differences of mean fentanyl consumptions were 19.4 and 3.5 μg/kg, respectively. In a clinical trial, it is commonly required that total opioid consumption for postoperative pain control should be converted into milligram morphine equivalent for statistical comparison and the recommended minimal clinically important difference of milligram morphine equivalent is an absolute reduction of 10 mg intravenous morphine in 24 hours (3). As 1 mg intravenous morphine is considered equivalent to intravenous fentanyl 10 μg (4), we would like to know whether all between-group differences of total fentanyl consumptions achieved the recommended minimal clinically important difference.

Finally, recovery score was a secondary outcome of this study and was comparable among 3 groups. However, this variable was not clearly defined in the method. The authors needed to clarify whether it was an anesthesia recovery score or a quality of recovery score.

Pei-Shan Chen, MD
Department of Anesthesiology, Beijing Friendship Hospital, Capital Medical University, Beijing, People’s Republic of China

Fu-Shan Xue, MD
Department of Anesthesiology, Beijing Friendship Hospital, Capital Medical University, Beijing, People’s Republic of China
E-mail: xuefushan@aliyun.com; fushanxue@outlook.com
Cheng-Wen Li, MD
Department of Anesthesiology, Beijing Friendship Hospital, Capital Medical University, Beijing, People's Republic of China

REFERENCES


