

Peer Review File

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Reviewer A:

Thank you for sending your valuable research work. In my opinion, it contributes to choosing the best post-operative analgesia after RATS. However, I would like to receive explanation regarding selected matters.

Comment 1: How did you maximise objectivity of the study since the type of post-operative analgesia is clearly notable to researchers, dealing with the patients?

Reply 1: Thank you for evaluating our work as notable one. We maximized objectivity of study by collecting data of postoperative VRS score, which were evaluated by nurse in the ICU and wards. Those nurses never knew that NRS score would be used for such study.

Refer to the text: P8 L 23-24

Comment 2: Why did you add Droperidol only to selected patients?

Reply 2: Thank you for the valuable comment. Droperidol use, which is very common in our country and our institution, is decided by each anesthesiologist. Probably, whether it is used or not for patient is due to how much the anesthesiologist expected the efficiency of droperidol which reduces side effects of opioid, not due to patients' factor.

Refer in the text: The evidences are also shown (P7L9-12) "Droperidol (2.5-5 mg) was added or not added to the infusate at the discretion of anesthesiologists, although reportedly, its addition reduces postoperative nausea and vomiting, and supports the continuation of i.v. PCA with fentanyl (17)." And (P8L1-3) "Droperidol (2.5-5 mg) was added or not added to the infusate at the discretion of anesthesiologists, although reportedly, its addition inhibits pruritus, nausea, and vomiting during epidural morphine analgesia (18)." by citing two references

Comment 3: Why were there more than twice fewer patients with the EDA? Was there a bias as to which patient received which type of analgesia?

Reply 3: As you pointed, the number of the patients in TEA was less than in PCA. Because this study was retrospective study which conducted and defined by the period, not by the patient number enrolled this study.

the selection of analgesic methods was decided by the anesthesiologist preference of each case, who had never known about this study. There was no bias in selecting analgesic method.

The sufficiency of sample size was calculated and shown in P9 L17-20.

Furthermore, we will conduct prospective study about thoracic analgesic method in RATS, which enrolls the same number of patients in the both groups in the near future.

Refer to the text: P9 L17-20.

Comment 4: You mentioned that the PCA pumps were pre-set. If the patients could receive a higher dose of fentanyl, there would not be a need for rescue analgesics. What might needs to be emphasised is that in a way to determine the perfect method of post-operative analgesia, a double blind, randomised, prospective study should be conducted.

Reply 4: As you pointed out, the rescue analgesics would not be needed if the patients could receive higher dosage of fentanyl. And the randomized prospective study is needed. We mentioned it as the limitation of this study (P13L7-14).

Changes in the text: **Furthermore, we added following sentence” In the further study, PCA pump, which infusion rate is changeable, should be used, such it could provide sufficient fentanyl dosage as patients demand resulting in that rescue drug would not be necessary and the study design would be simplified.” (P13L14-17).**

Reviewer B:

Comment 1: nice job on a review of ICB plus PCA vs. PCEA. I like how the article discuss picking the right epidural solution to prevent post-op hypotension, which is always one of the argument against epidural in these patients. I would suggest incorporating this article in your reference, in addition to where you referenced 22,23. [https://www.jcvaonline.com/article/S1053-0770\(20\)30098-7/abstract](https://www.jcvaonline.com/article/S1053-0770(20)30098-7/abstract)

Reply 1: Thank you for evaluating our work and recommendation of the valuable article. As you suggested, we incorporated additionally the article No.24. With that addition, the citation numbers were changed after No.25-31.

Changes in the text: **24. Yeap YL, Wolfe JW, Backfish-White KM, et al. Randomized Prospective Study Evaluating Single-Injection Paravertebral Block, Paravertebral Catheter, and Thoracic Epidural Catheter for Postoperative Regional Analgesia After Video-Assisted Thoracoscopic Surgery. J Cardiothorac Vasc Anesth 2020; 34: 1870-76. (P16 12-15)**

Reviewer C:

the authors reported an interesting study about postoperative pain management after RATS comparing efficacies of postoperative pain control after RATS between intercostal nerve block combined with i.v. patient-controlled analgesia and thoracic epidural analgesia

Comments 1: abstract, results: nrs at 48 h $p=0.063$ is presented as significant, but is greater than 0.05. the authors should also underline the most significant results (lower opioid requests during surgery).

Reply 1: Thank you for valuable comments. We had recognized that NRS score at 48hr ($P=0.063$) is not significantly different. We expressed in abstract and result part by using “tend to be less”, as follows “the NRS pain scores at 6, 18, and 48 h were significantly less or tended to be less in Group TEA than in Group PCA .“

Refer to the text: P4L17, P10L10-11.

Comments 2: methods: "Occasionally, one or two additional VATS camera ports were used." the authors should report the number of ports used because they can affect postoperative pain. this is also important for the number of chest drainages.

Reply 2: Thank you for valuable comment. I agree with your opinion that the number of ports and chest drainage can affect postoperative pain. I asked the thoracic surgeon the surgical details again. In most cases, support port (VATS ports) is single port in the same inter costal space (mainly T7) to Robot arm. In a few cases, second support port is inserted from the two lower intercostal space (mainly T8 or T9). Whenever the second support port is used, intercostal nerve block was performed additionally in PCA group. Since TEA catheter was placed mid -thoracic intervertebral space (T6/7-T7/8), the effect of TEA is thought to be expanded covering the second port area. And so, in our study, the number of support ports (one or two) should less affect the postoperative pain evaluation.

Change in the text: **One or two additional VATS camera ports were inserted from almost the same intercostal places as the Robot arms.** (Method; surgical procedure **P8 L10-11**)