

## Peer Review File

**Article Information:** <https://dx.doi.org/10.21037/tcr-21-2635>

### Reviewer A

The paper is basically of high relevance, the method of a prospective randomised study is correctly chosen and correctly conducted, and the conclusions are conclusive. The limitations mentioned in the paper are relevant, but the paper offers sufficient contribution.

**Reply:** I appreciate that you evaluated our study. We would be happy if it could contribute the thoracic anesthesia field.

Minor revisions and questions concern the following points:

L132-34, 79-81 It is hypothesised that "desflurane drains more slowly because it is eliminated pulmonarily". The sources refer to work from 1992 and 1998. It would be important to substantiate this central hypothesis with more recent literature. Who says that in 2021?

**Reply:** it means that desflurane is eliminated mostly from expiration and hardly metabolized, it is described in medical insert with citation;(Sutton TS, Koblin DD, Gruenke LD, Weiskopf RB, Rampil IJ, Waskell L, Egar II EI. Fluoride metabolites after prolonged exposure of volunteers and patients to desflurane. Anesth Analg. 1991 ; 73 : 180-185.)

**Reply:** I changed the phrase at L79-81 "eliminated exclusively via the lung" to "primarily via the lungs," and changed the article cited as No.18 to the article you recommended.

L1 95,96: It would be even more interesting to read findings of high risk patients, which are common in lung cancer surgery. Could you comment on the exclusion criteria?

**Reply:** Thank you for valuable comments. We described the details of exclusion criteria in Method part, we set such exclusion criteria some reasons.

**These exclusion criteria were based on the following assumptions: severe cardiac dysfunction and severe pulmonary hypertension might affect propofol elimination through possible hepatic congestion, severe respiratory dysfunction might affect elimination of desflurane via the lungs, and uses of steroids and/or immunosuppressive agents might affect postoperative courses such as developments of postoperative nausea/vomiting (PONV) and postoperative infection.**

L141: "Remifentnil": typo

**Reply:** I correct it to "Remifentanil".

L1 144,155: "as required" what is meant by this? Reversal of muscle relaxation has a significant impact on respiratory competence postoperatively. A more detailed explanation is needed.

**Reply:** Thank you for valuable comment, about muscle relaxant administration, I corrected "whenever the first twitch or the first and second twitches in response to train-of-four (TOF) stimulation were detected until the beginning of chest closure."

About sugammadex, I inserted the phrase “as required depending on the response to TOF stimulation.”

### **Reviewer B**

The manuscript is well written, easy to read and understand, and well structured.

A significant comment is that the auteurs did not compare postoperative pain and the narcotics needed in the post-anesthesia care unit (PACU). Postoperative pain might be the source of rapid awakening, emergence agitation, and postoperative nausea and vomiting. The use of long-acting narcotics in the PACU can also lead to the same side effects. It is essential to make sure that the groups are comparable in this respect. Otherwise, if this measurement has not been performed, please cite this as a limitation of the study.

Reply: Thank you for valuable comments. We did not describe postoperative pain in PACU, because we used morphine in the epidural continuous infusion bottle, and no patient required additional analgesic drug was not used in the postoperative 24 hr.

We added “None of patients in Group D or Group P complained of pain or required rescue analgesics during the observation period.” in the result.

Was the epidural effectiveness assessed before the induction? Did the investigators use long-acting narcotics when discontinuing the remifentanyl?

Reply: We confirmed the effectiveness of epidural anesthesia with test dose of 2% lidocaine 2ml.

And we administered 1-2mg of morphine via the catheter immediately before surgery. When remifentanyl discontinuing, epidural morphine was acting on in all patient. However, we didn't use any systemic long-acting narcotics during surgery and when discontinuing the remifentanyl.

Line 149 "Rocuronium as required." Please specify. Did the investigators assess muscle relaxation?

Reply: Thank you for valuable comments. We answered

Line 206. I suggest removing (p> 0.05 for each)

Reply: Thank you, I delete” (p> 0.05 for each)”.

Line 208: Please add the actual value of the presented result and not just the P-value (p <0.001). I suggest the same correction for line 199 and throughout the manuscript (line 211, 217).

Reply: Thank you for valuable comment, I inserted actual numbers with p values in the result.

Line 184: Statistical Analysis: Did the investigators perform P-value correction for multiple secondary endpoints (such as a Bonferroni test) to control type I errors at 5%.

Reply: We explained about Bonferroni correction in the end of methods part. “the modified Aldrete score and its components between groups, which were measured three times in both groups, and for which p < 0.0083 was considered statistically significant based on the Bonferroni correction for six possible intra- as well as inter-group comparisons.”

It is not recommended to compare demographic parameters by statistical tests in a randomized study. Differences are detected based on the absolute standardized difference (ASD) calculation.

Reply: Exactly, some study shows demographic data as median (quartile) style, however, more demographic consecutive data were shown as mean  $\pm$  SD (range) in recent RCT in PubMed including APM, as follows, DOI:10.1080/00365521.2021.1983640, DOI: 10.1111/add.15677, DOI:10.1016/j.ctim.2021.102769, DOI: 10.1016/j.resplu.2021.100157, DOI: 10.1371/journal.pone.025744, Doi: 10.21037/apm-21-851, Doi: 10.21037/apm-21-1848, Doi: 10.21037/apm-21-1912.