Peer Review File

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Reviewer A

General comments

Forty-six patients submitted to elective robotic-assisted laparoscopic prostatectomy were studied to evaluate the titration of intraoperative PEEP by pulse oximetry. The patients were divided into two groups: group O used optimal PEEP, and group C used PEEP of 5 cmH20. The study found that optimal PEEP can be achieved using the proposed method. Patients in the optimal PEEP group had better intraoperative oxygenation and less incidence of postoperative hypoxemia.

I have only a few comments.
I want to congratulate the authors for their work.
Reply: We would like to express our sincere appreciations again for your positive comments on our manuscript.

Specific comments

#1 Discussion
Comment: Add to the discussion any comments on the time required to titrate PEEP by oxygenation. Would that duration be a disadvantage?
Reply: Thanks for the reviewer's comment. In our study, the duration of PEEP titration is about 20 to 30 minutes, since the surgical robot needed some time to prepare and connect robot arms, that the overlap time between the surgical maneuvers and the PEEP titration process was limited. And what's more, the titration of PEEP was started simultaneously as the surgery progressed and individualized optimal PEEP levels were able to obtain without interrupting or prolonging the surgery, so we think it was an important advantage but not a disadvantage of our approach. And we have added the time required to titrate PEEP in the revised manuscript as advised (see page 11, line 8-9).

#2 Figure 3, page 21
Comment: In figure 3, PaO2/FiO2 varies between 400 and 700, which are different from the values reported in the results section (mean values of 77.0±4.9 kPa vs. 60.6±5.9 kPa). What is the unit used for PaO2/FIO2 in the figure?
Reply: Thanks for the reviewer's comment and we felt very sorry for that we didn't unify the unit of the figure and manuscript. The unit used for PaO_2/FiO_2 in the figure was mmHg and was kPa in the results section. We have changed the unit in the Figure 3 and provided the modified figure in the revised version.

Reviewer B

The study this paper has been based was appropriately conducted, however I have two important comments:

1. Driving pressure (DP) should be measured in static conditions after performing inspiratory and expiratory pauses. This means that this point should be clarified. In particularly the method used to determine the DP.

   Reply: We feel great thanks for this professional comment. We fully agree with the Reviewer that DP should be measured in static conditions after performing inspiratory and expiratory pauses. In the present study, DP was defined as plateau pressure (P_{plat}) minus PEEP (*Williams EC, Motta-Ribeiro GC, Vidal MM. Driving Pressure and Transpulmonary Pressure: How Do We Guide Safe Mechanical Ventilation? ANESTHESIOLOGY. 2019 2019-07-01;131(1):155-63*). Plateau pressure is measured at the end of an inspiratory pause during volume-controlled constant flow ventilation and at the end of inspiration during pressure-controlled ventilation. Because mechanical ventilation was conducted with pressure-regulated volume-controlled ventilation (Flow-I, Maquet Inc., Heidelberg, Germany), the P_{plat} was determined as the pressure in the end of inspiration which was showed in the anesthesia machine (page 7, line 20-21).

2. In the same sense, dynamic compliance (Cdyn) is not an appropriate measure of the real static compliance. Cdyn can be influenced by the resistance. So, it is important to clarify this point.

   Reply: Thanks for the reviewer's comment and we quite agree with you. The measurement of static compliance (Cstat) would be better than of Cdyn for our study. Cdyn describes the compliance measured during breathing, which involves a combination of lung compliance and airway resistance. It is defined as the change in lung volume per unit change in pressure in the presence of flow. Cstat describes pulmonary compliance when there is no airflow, like an inspiratory pause. Cstat is determined at the end of exhalation in conditions of a complete absence of flow in the airways. The value of Cdyn depends on the resistance of the airways and, compared with Cstat, to a lesser extent reflects the extensibility of the lung tissue. We have added this point to our discussion (page 16, line 11-17).