

Peer Review File

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Reviewer A

1. First, the title should be the agreement true and predicted lung function loss based on FEV1, FEV, and DLco. The current title is inaccurate.

Reply: Thank you we propose a new title “Agreement between observed and predicted postoperative FEV1, FVC and DLCO after anatomic lung resection” on Page 1.

2. Second, the abstract needs further revisions. The background needs to clarify the clinical question to be addressed in this study. The methods need to describe the inclusion of subjects, how the postoperative lung function loss was predicted by FEV1, FEV, and DLco, and how the true postoperative lung function loss was measured. In the results, please have a brief summary of the clinical characteristics of the study sample. The conclusion needs comments for the clinical implications of the findings, not to repeat the main findings again.

Reply: Thank you, we modified the abstract as requested on page 2, lines 5 to 30.

3. Third, in the introduction of the main text, please have a brief review on the potential reasons for the deviation of predicted lung function from the true lung functions, analyze what has been known on the size of the differences, and what the clinical question of this study is.

Reply: This suggestion has been incorporated on page 3, lines 13 to 26

4. Fourth, the methodology of the main text needs to be written with subtitles of participants, measures and procedures, and statistics. Details of methods for predicting and measuring the true lung function should be described. Please describe the P value for statistical significance.

Reply: In this study, we defined a deviation of more than 5% as a clinically minimally important difference as this corresponded to one anatomic segment. We used Bland and Altman plot with 95% confidence intervals rather than p-value (as there is no null hypothesis in this study). We modified the methodology section as per advise and included the requested subtitles. Refer to page 3 line 28 - 42 to page 4 line 12-22.

5. Finally, please consider to review and cite some related papers: 1. Hanaoka J, Shiratori T, Okamoto K, Kaku R, Kawaguchi Y, Ohshio Y, Sonoda A. Reliability of dynamic perfusion digital radiography as an alternative to pulmonary perfusion scintigraphy in predicting postoperative lung function and complications. J Thorac Dis

2022;14(9):3234-3244. doi: 10.21037/jtd-22-383. 2. Chen L, Gu Z, Lin B, Wang W, Xu N, Liu Y, Ji C, Fang W. Pulmonary function changes after thoracoscopic lobectomy versus intentional thoracoscopic segmentectomy for early-stage non-small cell lung cancer. *Transl Lung Cancer Res* 2021;10(11):4141-4151. doi: 10.21037/tlcr-21-661.

Reply: This has been added in page 5 line 1.

Reviewer B

The paper titled “Accuracy of segment counting to predict postoperative lung function” is interesting. Effort dependent parameters of lung function including FEV1 and FVC tends to overestimate the amount of lung function loss after anatomic lung resection, clinicians should be cautious in using these measures to determine suitability of surgery based on current established guidelines. However, there are several minor issues that if addressed would significantly improve the manuscript.

1. In the introduction of the manuscript, it is necessary to clearly indicate the knowledge gaps and limitations of prior study and the clinical significance of this study.

Reply: Thank you, we have adopted your suggestion on page 3 lines 1 to 26.

2. How can the segment counting be used to evaluate the difference between the predicted values of lung function and volume and the actual postoperative values? It is recommended to add relevant content.

Reply: Thank you, we now clarify that our study demonstrated that the utilization of segment counting with DLCO to predict postoperative lung function has good agreement with observed postoperative DLCO on page 5, lines 22-27.

3. The figures in this study are too scattered, and it is recommended to integrate them according to the magazine's requirements.

Reply: This has been modified on page 9 and 18

4. Please compare the accuracy of the functional lung volume measurement method and the segment counting in predicting postoperative lung function.

Reply: We were not able to perform functional lung volume (FLV) measurements in this study and accuracy comparison was not performed with segment counting method and now state this as a limitation on page 6, lines 16 to 18.

5. The manuscript lacks the Key Words section. Please add on.

Reply: Thank you, this has been added on in page 1.

6. Can the segment counting be used to predict lung function after stapler-based thoracoscopic segmentectomy? How is the effect?

Reply: Thank you, we did not distinguish between the access, as we assume the extent of resection is the same by VATS or open, and whether staples or blunt dissection of the intersegmental planes were performed. We now state this as a limitation on page 6 lines 18 to 20.

7. The introduction part of this paper is not comprehensive enough, and the similar papers have not been cited, such as “Pulmonary function changes after thoracoscopic lobectomy versus intentional thoracoscopic segmentectomy for early-stage non-small cell lung cancer, Transl Lung Cancer Res, PMID: 35004245”. It is recommended to quote the article.

Reply: Thank you, we have adopted the additional papers referenced on the introduction section (page 3, lines 18-20) and the above paper has been incorporated as a reference in this paper as well (page 5, line 1)

8. What other methods are more accurate than segment counting in predicting residual lung function? Suggest adding relevant comparisons in the discussion

Reply: This study focuses on validating the accuracy of segment counting. It is not within the scope of the study to seek potential alternatives to segment counting. We acknowledge the work of Hanaoka et al on dynamic perfusion digital radiography and Fan et al on functional lung volume measurement as possible alternatives to predicting lung function after lung cancer resection, as limitations to our work on page 6 line 16 to 22.