

Dear Editors and Reviewers:

Thank you very much for your decision letter and advice on our manuscript (Manuscript NO.: 64452) entitled “Quantification analysis of pleural line movement for the diagnosis of pneumothorax”. We also thank the reviewers for the constructive comments and suggestions. We have revised the manuscript accordingly with all amendments indicated by red font in the revised manuscript. In addition, our point-by-point responses to all comments are listed below this letter.

This revised manuscript has been edited and proofread by Medjaden Inc.

We hope that our revised manuscript is now acceptable for publication in your journal and look forward to hearing from you soon.

With best wishes,

Yours sincerely,

Kejian Qian

First, we would like to express our sincere gratitude to the reviewers for their constructive and positive comments.

## **Replies to Reviewer 1**

### **Specific Comments**

(1) Dear Authors, I read your discovery with great attention. As a lung ultrasound user I found it interesting. However, we need to start from the base: sliding, lung point, barcode, seashore. For a novice it is important to understand that the clinical context is important. Please take a moment to compare your new velocity measurement with traditional one in terms of sensitivity, specificity and PNV and NPV and accuracy. Technology is good but if gave us a better results. Indeed Im not have experience in PNX and TDI but in the meantime I will try if I have the opportunity.

Answer: Thanks for your suggestion. The current study was performed based on our previous experience. Thus, the velocity was our first choice measurement. Other signs, such as lung point and seashore, were not considered in this work. In addition, all cases were confirmed by CT imaging. Due to the limitation of the clinical study, the current information is insufficient to answer your question. However, your comment is very useful, and the findings observed in our study will be validated in the future at our center.

In addition, two physicians (a senior physician and a resident) who were blinded to the clinical diagnosis were recruited to evaluate the pneumothorax using the information collected in the study (regular B-Mode ultrasound, mainly using A-line, lung sliding, lung pulse). Eighty-five episodes were correctly diagnosed by the senior physician, with the sensitivity, specificity, PPV, NPV, and accuracy calculated as 93%, 96%, 95%, 93% and 94%, respectively. However, eighty-four episodes were correctly diagnosed by the resident, with the sensitivity, specificity, PPV, NPV and accuracy calculated as 91%, 96%, 95%, 91% and 93%, respectively. It appears that

the sensitivity and specificity of the TDI method are consistent with those of the senior physician and are better than those of the resident. (Page 11, line 6).

## **EDITORIAL OFFICE'S COMMENTS**

### ***Science editor***

(1) The “Author Contributions” section is missing. Please provide the author contributions;

Answer: Thank you. An author contributions section has been added on Page 1, line 14.

(2) The authors did not provide original pictures.

Answer: Thank you. Original pictures have been uploaded in the ‘64452-Figures.ppt’ file.

### ***Company editor-in-chief:***

Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, “Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...”.

Answer: Thank you. This issue has been corrected on Page 24, line 2 (Figure 4) and on Page 25, line 1 (Figure 5).