Author’s response to reviews

Title: Impaired lung function is associated with non-alcoholic fatty liver disease independently of metabolic syndrome features in middle-aged and elderly Chinese

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Author’s response to reviews:

Dear Editor:

Our manuscript has been extensively revised in accordance with the enclosed reviewers’ comments. All changes in manuscripts emphasized by red characters.
Reviewer #1: The Manuscript Number BEND-D-16-00183, titled "Impaired lung function is associated with non-alcoholic fatty liver disease independently of metabolic syndrome features in middle-aged and elderly Chinese " is a very interesting study that falls within the scope of Journal of BMC Endocrine Disorders. It is an important, well-designed and executed study dealing with a very interesting topic which may will have important clinical implications. It is able to be published in the journal.

It is able to be published in the journal but I have some minor comments:

In the Methods - Data collection, series13 on page 5 …. 2 h OGTT blood ….: it may be written … 2 hour OGTT (Oral Glucose Tolerance Test) 75 g glucose blood ...

In the Abbreviations, series 19 on page 9: it must be written … OGTT: Oral Glucose Tolerance Test, FPG: Fasting Plasma Glucose, 2 h PG: postprandial 2-hour Plasma Glucose

In the Table 1, page 3: it must be added ... FPG: Fasting Plasma Glucose

In the Table 2, page 6: it must be added ... FPG: Fasting Plasma Glucose

Answers:

We appreciate the constructive comments made by reviewer. According to reviewer’s instruction, we have revised it in the manuscript.

Reviewer #2: This is an interesting study by Li Qin et al, addressing the correlation of impaired lung function to the presence of NAFLD. The main strength of the study is the rather large number of participants and the community based design. However there are some issues to be addressed:

1. the background section needs extensive editing. It repeats the same notion of inflammation but does not really assess NAFLD complicated pathophysiology at all.

Answers:

We are sincerely appreciative of reviewer’s insightful and thought-provoking comments. According to reviewer’s instruction, we have re-organized background section description, furthermore, we have added related NAFLD complicated pathophysiology in the introduction part.
2. The same stands for the discussion section. The pathophysiology of NAFLD is described superficially, and a possible causality just remains within the field of chronic inflammation. Could genetic causes be involved? Could the two parameters (NAFLD and impaired lung function) just coincide within a population rather than present with an actual association? They are anyway both quite common. Is the population sample large enough and powered enough to clarify the latter?

Answers:

We appreciate the constructive comments made by reviewer. As reviewer’s description, the genetic cause may be involved in the development of NAFLD. Moreover, the two parameters (NAFLD and impaired lung function) may be just coincide within a population rather than present with an actual association, however, further power calculation was performed, the sample size is enough to clarify the association of NAFLD and impaired lung function.

3. do the authors have any data on the presence of high eosinophils or IgE concentration?

Answers:

We are sincerely appreciative of reviewer’s insightful comment. As we best known, allergic airway inflammation may affect the lung function, the presence of high eosinophils or IgE concentration may the reflection of the change of lung function. However, due to study design defect, we have not collected the data of eosinophils count or IgE concentration.

4. line 5-10, page 8: something is missing from the sentence

Answers:

We thanks for reviewer’s reminder, according to reviewer’s suggestion, we have revised the sentence in the manuscript. The right expression as“In our study, we observed that the positive association of FVC (% pred) in particular and FEV1 (% pred) with metabolic abnormalities and components of the insulin resistance syndrome, which is consistent with several previous studies that have reported associations between restrictive lung patterns with glucose metabolism and metabolic syndrome [6-23].”
5. line 48, page 6 : do the authors mean "lower" than "higher"? It doesn't make sense

Answers:

We thanks for reviewer’s reminder, according to reviewer’s suggestion, we have revised it in the manuscript. The right expression as “When analyzed by quartiles of FVC (% pred) or FEV1 (% pred) levels, as summarized in Tables 1 and 2, the subjects with lower FVC (% pred) or FEV1 (% pred) were more likely to be more metabolic syndrome (p<0.001), more smoker (p<0.001), more drinker (p<0.001), more aged (p<0.001). With respect to metabolic parameters, the subjects in the higher FVC (% pred) or FEV1 (% pred) quartiles exhibited lower levels of LDL cholesterol (p<0.001).”

6. page 3, line 8-11. Something is missing from the sentence

Answers

We thanks for reviewer’s reminder, according to reviewer’s suggestion, we have revised it in the manuscript. The right expression as “In our study, we observed that the positive association of FVC (% pred) in particular and FEV1 (% pred) with metabolic abnormalities and components of the insulin resistance syndrome.”