Reviewer’s report

Title: A Cross-sectional Study of Alterations of Serum Factors Associated with Lung Ventilation Function Impairment in Coal Workers

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Reviewer: Ilker Ates

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This manuscript seeks to investigate the possible relationship between the changes of some serum factors and several pulmonary functions during the development of coal workers’ pneumoconiosis (CWP) in three different groups of subjects. The study is well-designed and data presented are adequate. But I expect the authors to reconsider and clarify the text by correcting the major and minor revisions and some questions which I obtained from the manuscript.

Major Compulsory Revisions

General:

1) In the manuscript, there are lots of grammatical mistakes and repeated sentences. The manuscript must be re-scrutinized and must be written in an easily-understanding and clear manner. The manuscript should be corrected by a native English speaker.

2) There are lots of abbreviations used in the text. They must be expanded-written where it is first mentioned. The authors did not obey to these. In the abbreviations section after the conclusions part, there are only a few of them was mentioned. I suggest the authors two alternatives. First is to put “abbreviations” section in “abstract” following “key words” and write all of the abbreviations of the terms. Second is to write the expansion of the abbreviation when it is first mentioned in the text for each term that is abbreviated. In my opinion, getting all of them together is easier for the readers to understand.

3) There must be a table involving detailed demographic data of the study group. The authors only gave the statistical data in the tables. No details are given about the arithmetical averages of the all parameters taken into account in the study.

Minor Essential Revisions

Abstract:

1) In results subsection, line 3, “deceased” must be changed to “decreased”.

2) In results subsection, line 5, “metasloproteinase-9” must be changed to “metalloproteinase-9”.

3) “conclusion” title must be started from the top of the following page.
Background:
1) The first paragraph is not justified.
2) Paragraph 4; line 2, “Mtrix” must be changed to “Matrix”.
3) Paragraph 4; line 3, “… (MMPs) initiators…” should be changed to “… (MMPs) which are initiators…” and “extra cellular” must be changed to “extracellular”.
4) Paragraph 5; line 1, “that” should be removed.
5) Paragraph 5; line 2, “suggests” should be changed to “suggesting”.
6) Paragraph 6; line 3, the lung function parameters are written as FEV1, FEF25 etc. but in “results” subsection of “abstract”, they are mentioned as FEV1, FEF25. The authors must standardize the correct form.
7) Paragraph 6; line 5, the abbreviations of some cytokines are written as “8, 9, 13 and 18”. They must be corrected as “IL-8, IL-9, IL-13 and IL-18”.
8) Paragraph 6; line 7, no need to capitalize “Asymptomatic”. and in lots of parts of the text, the authors capitalize the word. Please correct all.

Methods:
1) In subjects section; Paragraph 1; line 2, “And” should be removed.
2) In subjects section; Paragraph 2; line 2, the sentence should be corrected as “… circumstances, having normal liver and kidney …”
3) In subjects section; Paragraph 3; same sentences are repeated causing disturbance in the expression. Please re-consider the paragraph and re-design it with a clear, short and understanding expression.
4) In subjects section; Paragraph 3; in the last sentence, the part starting with “and there were…” should be in the results section. Don’t give a result in “Methods”.
5) In pulmonary ventilation function tests section; line 2, put full stop instead of comma at the end of the first sentence.
6) In pulmonary ventilation function tests section; line 5, put a blank between “second” and “(FEV1)”
7) In statistical analysis section; line 4, “Turkey-Kramer” must be corrected as “Tukey-Kramer”.
8) In statistical analysis section; in the last sentence, “…was considered statistically significant.” should be changed to “…was considered as statistically significant.”

Results:
Comparisons of lung ventilation function parameters among CWP and control groups
1) In line 2, the sentence should be changed to “… parameters were in a decreasing trend in patients…”
2) In line 3, put a full stop after “…CWP”. Put “values” after FEF25-75.
3) In line 5, “between these groups” should be removed. “in” should be changed to “of”.
4) In line 6 and 7, change the sentence to “… with asymptomatic miners, the values were in a decreasing trend but not significant (Fig 1).”
5) In line 7-10, change the sentence to “… and FEF25, FEV1/FVC, … and FEV1 parameters showed decreasing trends in patients with CWP when compared with Group 0+ but there were no significance (Fig 1).

QUESTION:
Are the decreases in FEF50, FEF75 and FEF25-75 parameters of patients with CWP compared to those of Group 0+ significant or not? It seems from Fig 1. that the values of the mentioned parameters are sharply decreased. Please scrutinize the statistical data.

Correlations of lung ventilation function parameters and levels of serum factors in asymptomatic miners
1) Paragraph 1; line 3, change the sentence to “…function parameters but on the other hand, levels of…”
2) Paragraph 1; line 5 and 6, change the sentence to “…parameters. Beside of these, levels of … did not show relationship with lung ventilation function parameters.”
3) Paragraph 2; line 1, change the sentence to “…group, decreases of FVC values were correlated with the increased…”
4) Paragraph 2; line 4 and 5, change the sentence to “…of FVC values was… in the asymptomatic miners.”

Correlations of lung ventilation function parameters and serum factor levels in the Group 0+ miners
1) Paragraph 1; line 2 and 3, change the sentence to “…increased serum TIMP-9 levels were significantly correlated with increased FEF25 values…”
2) Paragraph 1; line 4, “in the Group 0+ miners” should be removed.
3) Paragraph 1; line 5, “to” should be changed to “with” and “in Group 0+” should be changed to “values”.
4) Paragraph 1; line 6, “in Group 0+ ” should be removed.
5) Paragraph 1; line 7, “in these miners” should be changed to “values”
6) Paragraph 2; line 1 and 2, change the sentence to “…regression as shown in Table 2, indicate that the decreases of FVC values in same subjects were significantly… MMP-9 values.”
7) Paragraph 2; line 2, “(Table 2)” should be removed and p value must be added.
8) Paragraph 2; line 3, change “are” to “were”.
9) Paragraph 2; line 3 and 4, change the sentence to “… IL-13 values (add p
value); and decreases of FEF25 values were associated…"

10) Paragraph 2; line 5, remove “(Table 2)” and put p value.

11) Paragraph 2; line 7, remove “these”.

12) Paragraph 3; line 1, change the sentence to “In addition, in regards with the results… analysis, although serum …”

13) Paragraph 3; line 3, remove “in this group”.

14) Paragraph 2; line 4 and 5, change the sentence to “… not show any association.”

QUESTION:

After reading the second paragraph, I perceived that the authors gave the results of both multi variable regression and the multiple stepwise analysis in Table 2, but in the title of Table 2, only multiple stepwise analysis was mentioned. I concern whether there is a mistake or not. I suggest the authors to re-arranged the Table 2.

Correlations of lung ventilation function parameters and serum factor levels in the Group of patients with CWP

1) The title of this subsection should be as I wrote above instead of “Correlations of lung ventilation function parameters and serum factor levels in the CWP Group”

2) Paragraph 1; line 3 and 4, change the sentence to “…parameters and also enhancements in IL-18R levels in the subjects with CWP were correlated with increased …”

QUESTIONS:

1) Are the IL-18R and FEV1 levels increasing or decreasing? In the second paragraph of subsection mentioned above the text is not clear. There are no detailed demographic information so I cannot judge about the numeric details. The authors only gave the statistical data in the tables. No demographic details are given about the arithmetical averages of the all parameters taken into account in the study.

2) Why did the authors only give the correlations between the IL-18R levels and FEV1 values in a figure but not with other parameters (FEF50, FEF75, FEF25-75)? Values of these parameters also have significant relationship with IL-18R levels.

Discussion:

1) Paragraph 2; line 2, “Mamuya SH” should be changed to “Mamuya et. al.,”

2) Paragraph 2; line 7, sentence should be changed to “… associated with FVC values in asymptomatic…”

3) Paragraph 4; line 1, The sentence should be started as “ A previous study…”

4) Paragraph 4; line 3 and 4, The sentence should be changed to “ … dust exposure. Also the levels of serum MMP-9 in Group 0+ were elevated slightly when compared with the dust-exposed control…”
5) Paragraph 4; line 5 and 6, The sentence should be changed to “... study indicating the increases of serum MMP-9 were related with the...”

6) Paragraph 4; line 7, “are” should be changed to “were”.

7) Paragraph 4; line 9, The sentence should be changed to “... and may serve to ... most of asymptomatic ...”

8) Paragraph 5; line 1, “our present” should be changed to “this”. and “were” should be added after “... TIMP-9 levels”

9) Paragraph 5; line 3, the sentence should be changed to “... symptoms. Opposing to our previous study demonstrating ...”

10) Paragraph 5; line 6, the sentence should be changed to “... silence the MMP activity ...”

11) Paragraph 5; line 7, “contributing to” should be changed to “contribution of”.

12) Paragraph 5; line 9, “activity” should be changed to “activities”.

13) Paragraph 5; line 13, the sentence should be changed to “... may provide the importance of serum indicators ...”.

14) Paragraph 6; line 3, “generate” should be changed to “generating”.

15) Paragraph 6; line 6, “to” should be changed to “with” and “levels” should be added between “FEF25” and “in”.

16) Paragraph 6; line 7, “conformed” should be changed to “confirmed”.

17) Paragraph 6; line 8, “over expression” should be changed to “overexpression”.

18) Paragraph 6; line 13, the sentence should be changed to “... impairment supporting that IL-13 ...”.

19) Paragraph 6; line 14, the sentence should be changed to “... pneumoconiosis and providing evidence ...”.

20) Paragraph 7; line 1, “present” should be removed.

21) Paragraph 7; line 2 and 3, the sentence should be changed to “... in FEV1 levels in the patients with CWP suggesting the relation between levels of IL-18R levels and ventilation...”.

22) Paragraph 7; line 4, “up regulated” should be changed to “upregulated”.

23) Paragraph 7; line 5, “down regulated” should be changed to “downregulated”.

24) Paragraph 7; line 6, the sentence should be changed to “... We also found that IL-18R levels had a slight...”.

25) Paragraph 8; line 4 and 5, the sentence should be changed to “... parameters; except in asymptomatic miners. ...”.

26) Paragraph 8; line 7, “influences” should be changed to “influencing”.

27) Paragraph 9; line 1, “the present” should be changed to “this”.

28) Paragraph 9; line 3 and 4, the sentence should be changed to “... asymptomatic group and miners with CWP also there ...”.
29) Paragraph 9; line 8, “that facilitate” should be changed to “facilitating”.
30) Paragraph 10; line 1 and 2, “show trends towards inverse correlations” should be changed to “were inversely correlated”.
31) Paragraph 10; line 4, “that” should be removed.
32) Paragraph 10; line 5, “induces” should be changed to “inducing”.
33) Paragraph 11; line 2 and 3, “[8,9,46]” should be changed to “[8,9,46]”.
34) Paragraph 11; line 4, “While this” should be changed to “This”.
35) Paragraph 11; line 6, “further studies are warranted” should be removed.

Conclusion:
1) In line 3, the sentence should be changed to “... IL-18R levels. These circulations...”.
2) In line 5, “... miners. And...” should be changed to “miners, and ...”.

Acknowledgment:
1) In line 1 and 2, The first letters of the Institute name must be capitalized.

Figure legends:
It is not necessary to write so long legends giving info about the figures. The authors must re-arrange this.

Tables:
1) No need to write any abbreviation under the tables. Only significance will be enough.
2) The title of Table 2 should be changed to “Multiple stepwise analysis of dependent ... parameters and independent ...”.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interest