Reviewer’s report

Title: Effects of coal-fired PM2.5 on the expression levels of atherosclerosis-related proteins and the phosphorylation level of MAPK in ApoE/- mice

Version: 0 Date: 28 Feb 2020

Reviewer: Ashkan Zandi

Reviewer's report:

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Manuscript Title: Effects of coal-fired PM2.5 on the expression levels of atherosclerosis-related proteins and the phosphorylation level of MAPK in ApoE/- mice
Siqi Wang1,2, Feifei Wang3, Lixin Yang3, Qin Li3, Yao Huang1,2, Zhiyuan Cheng1,2, Hongqian Chu1,2, Yiming Song1,2, Lanqin Shang1,2, Weidong Hao1,2, Xuetao Wei1,2*

General Comments:

The manuscript entitled "Effects of coal-fired PM2.5 on the expression levels of atherosclerosis-related proteins and the phosphorylation level of MAPK in ApoE/- mice" is study effects of the coal-fired PM2.5 on atherosclerosis generally with related molecular mechanisms in mice. The subject is interesting and related to the cardiovascular research field. Title of the article is appropriate and cover the content clearly. Background is appropriate, evidence based with sufficient literature review. Methods are logical, appropriate and routine. Results show findings clearly. Discussion is good organized and describe the matter comparatively with appropriate literature review. Conclusion is acceptable. References are up-to-date and related to the matter. I think figures show findings clearly, are important and also help to better understanding of the subject although I have some corrections to improve the article value that I describe in "Minor & Major comments".

Minor Comments:

1- Please add brief description about the inter-relationship between Atherosclerosis and CVD at "background" section of abstract.

2- "This study detected changes in the expression of the proteins and the phosphorylation of components of MAPK signaling pathways as a function of coal-fired PM2.5 exposure in mice." is not appropriate for the "Methods" section of abstract. Please delete it.

3- "Methods" section of abstract did not cover procedures completely, please re-write it.
4- You did not allude to result of "von Willebrand factor (vWF) at "results" section of abstract, please correct it.

5- You did not allude to result of "von Willebrand factor (vWF) at "Conclusion" section, please correct it.

6- You did not allude to fix "Atherosclerosis-related proteins" in sections of "abstract", please correct.

7- What was your reference(s) about PM2.5 concentrations and time-course of treatment?

8- What was reference(s) of the "Histopathology" section?

9- What was reference(s) of the "Immunohistochemistry" section?

10- What was reference(s) of the "Western blotting" section?

Major Comments:

1- What was your statistical test(s) to evaluate "between two-groups"?

2- According to part B of the Fig 5., please explain probable reason(s) of the lesser ET-1 concentration of high-dose group than middle-dose group at "Discussion" section.

3- You did allude to "...which may account for the increased kidney weight in ApoE/-mice treated with PM2.5 in our present study (Figure 2)" at first paragraph of "discussion" but according to Fig 2., normal control group shows higher Kidney weight and coefficient than other groups and also you alluded to "...Only the normal control group had a higher kidney weight and organ coefficient compared those of the HFD control group (Figure 3) at end of the "3.1. Body weights and organ coefficients" section of "Results"!!!! please explain this main controversy.

4- Please explain probable reason(s) of the different your "vWF" result with some other previous similar investigations regarding the matter at "Discussion" section.

ding your comments to the authors.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

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