Reviewer's report

Title: Biochemical and histological alterations induced by the smoke of allethrin based mosquito coil on mice model

Version: 0 Date: 29 Nov 2016

Reviewer: Duangrudee Cherdwongcharoensuk

Reviewer's report:

General comments:

This manuscript describes the adverse health effects of allethrin from mosquito coil using mouse as an experimental animal. As previous study, it has been shown that allethrin may cause inflammation or injury of lung and liver as well as biochemical alterations from long term exposed to mosquito coil in human and rats. Anyhow, this study provides some new data such as poor cardiac condition and apoptosis of hepatocytes. Finally, there are some points that deserve to be changed in order to improve the quality of the paper.

Text

1. Abstract

Although not absolutely necessary, it would be nice to show new finding such as apoptotic mediated cell death of hepatocyte or lipid alteration after inhalation in the abstract.

2. Materials and Methods

a. Why did you choose to expose mice with smoke of mosquito coil ½, 1, 2 and 3 hours respectively for 120 days? Idowu and his coworkers (2013) exposed rats with the duration 16 weeks or 112 days. The duration and results of this study and Idowu and his coworkers (2013) quite the same.

b. Why did you use mice as an experimental animal? Ventilation rate of human is around 12-20 breaths per minute, rat is around 85 breaths per minute, and mouse is around 160 breaths per minute. It means that mice inspire toxic agent more often than human and rat. Effects of more frequent contact may show more severity in the result of mouse injury than human and rat.
3. Results/Discussion

   a. Fig 1 and 2 have to improve the contrast, brightness and add the magnification.

4. Typing error:

   Please correct "vain" to "vein" in page 6 line 9, page 10 line 5 and page 25 line 39.

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.

Not relevant to this manuscript

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:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal