Reviewer's report

Title: Pingchuan Formula Improves Asthma via Restoration of the Th17/Treg Balance in a Mouse Model

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Reviewer: Yomna Mahmoud

Reviewer's report:

This manuscript reports on the effects of a traditional Chinese recipe (Pingchuan Formula, PCF) on pathological changes in the lungs of asthmatic mice. Results presented here demonstrate that asthmatic mice showed bronchial deformation, narrow in diameter, wall structure damage and a large number of inflammatory exudates. BALF inspection showed high levels of IL-6, IL-17, IL-23 and TGF-#, and eosinophils and neutrophils. The authors mentioned that treatment with PCF downregulates ROR#, elevates Foxp3 expression, reduces IL-6, IL-17, IL-23 and TGF-# in BALF, thus restoring Th17/Treg balance, improving airway inflammation and reducing asthma symptoms.

Overall, this manuscript is easy to read; however, the results and discussion are not well presented and some of the data are not convincing. The manuscript needs to define many questions, and needs major compulsory revisions.

Major comments are as below:

1. Introduction- It is well constructed; however, details about the tested formula should be mentioned. When was it introduced to market? What are the chemical constituents of this formula?

2. Materials and methods- What are the animal housing conditions. This should be described.

3. The authors claim that the animals were weighed daily! Why? Daily weights are not reported in the results. If examining the weight gain/loss, the initial and final weights or even weekly changes should be observed.

4. The authors should include a PCF control group in their study. What is the effect of this formula on normal lung?

5. Which lung was used for histology? How was it fixed?

6. Results- What are the clinical signs observed on asthmatic mice? At day 28 post OVA challenge, they should have breathing difficulties. This is not mentioned.

7. What does the data in Table 1 represent? The absolute or relative body weight loss? This needs clarification.

8. Line 202: What are "other symptoms"?

9. Quantification of the symptoms in different groups is suggested.
10. The authors did not mention the histological features of the specimens. Bronchial epithelium has very characteristic features that should be mentioned. In addition, the specific pathological changes associated with asthma are well known, and are obvious in the figures, but not presented by the authors.

11. Types of inflammatory cells at 7 and 28 d should be mentioned and linked to cell differentiated in BALF. What is the characteristic cell type seen at acute and chronic stages. This should be clearly referred to.

12. The abbreviations, number of specimens in each group and significance value should be provided at the footnotes of the tables.

13. Discussion- This is a general discussion with a few number of references. The results of the study were not compared to other work. It would have helped the authors if they reported the chemical constituents of the formula and discuss their effect on similar models.

14. Figures- Though the histological figures are very clear, they were not well described in the results nor discussed in the discussion.

15. Figure 3 Panel A- FOXp3 immunoreactivity for MDL group. The histology of this tissue appears normal!!! ..... Same figure Panel E- FOXp3 immunoreactivity for DEX and PCF groups. The histology of these tissues appears comparable to control asthmatic tissues (MDL group)!!! This is contradictory to what has been mentioned in the histology section.

16. There are other papers reporting the effect of the same formula in asthmatic mice. The authors did not mention many of them in the introduction or compare the data of those mentioned in the introduction with the current data in the discussion.

Minor:
1. Abstract- Too many abbreviations were used in the abstract.

2. Many typos. See the attached file.

Accordingly
1. Is the question posed by the authors well defined?
   Yes

2. Are the methods appropriate and well described?
   Appropriate but not well described

3. Are the data sound?
   yes

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
   Yes

5. Does the manuscript adhere to the relevant standards for reporting and data deposition?
No

6. Are the discussion and conclusions well balanced and adequately supported by the data?
No

7. Are limitations of the work clearly stated?
yes

8. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
No

9. Do the title and abstract accurately convey what has been found?
No

10. Is the writing acceptable?
yes

**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:** Yes, but I do not feel adequately qualified to assess the statistics.

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