

Dear Reviewer,

Thank you for your comments concerning our manuscript entitled "Effect of mild moxibustion on intestinal microbiota and NLRP6 inflammasome signaling in rats with post-inflammatory irritable bowel syndrome" (ID:48328). Those comments are valuable and helpful for revising and improving the manuscript. Based on these comments, we have carefully revised the manuscript and tried our best to address all critiques and concerns. The corrections in the paper were marked red and the responses to your comments are as following:

This MS describes the outcomes of moxibustion in a rodent model of gut inflammation.

#### SPECIFIC COMMENTS

1. The model described is a model of gut inflammation, and not a post-infectious model: consequently not representative of post-infectious IBS in humans

Reply: We performed this PI-IBS model according to Qin et al<sup>1</sup>. which is a post-inflammatory irritable bowel syndrome rat model. After 28 days of TNBS-administration, we found no significant difference in colonic damage score and colonic histopathological score between the normal group and the model group, although both of the two scores in the model group were a litter higher than the normal group. After moxibustion and sham moxibustion intervention, there was still no significant difference between these groups.

Moreover, there is increasing evidence that patients with PI-IBS have low-grade inflammation in intestinal mucosa compared with healthy people, and we also found after acute inflammatory infection, although the inflammation on the mucosal surface basically recovered, there was still low-grade inflammation in the mucosa and submucosa. And this manifestation is considered to be an important factor in the visceral hypersensitivity of PI-IBS. This is what we interested with, and we found the altered microbes and NLRP6 inflammasome may be involved in the process of intestinal low-grade inflammation and moxibustion treatment may relieve visceral hypersensitivity in PI-IBS through regulate relative abundance of gut microbiota and NLRP6 inflammasome signaling mediated intestinal low-grade inflammation.

1. Qin HY, Xiao HT, Wu JC, Berman BM, Sung JJ, Bian ZX. Key factors in developing the trinitrobenzene sulfonic acid-induced post-inflammatory irritable bowel syndrome model in rats. *World J Gastroenterol* 2012; 18(20): 2481-2492

2. The authors describe their previous work in a different animal model. This work confirms some of the earlier changes and outlines inflammatory and immune response changes. This work does not define the mechanisms of these events: it does however further describe the host and microbial events. the work should be presented in this fashion, not as a delineation of mechanisms

Reply: We agree with the comment, and we modified these descriptions according to your suggestions.

3. The INTRODUCTION is about twice as long as it should be

Reply: We have condensed the description of the introduction according to your suggestions (page 7-8).

4. The ABSTRACT and the METHODS includes the number of animals as methods: these should be

results. The model animals are presumably controls?

Reply: We adjusted the number of animals in the ABSTRACT and the METHODS to the results (page 16-17). The model rats are model control rats and we modified the description of "model group" and "normal group" to "model control group" and "normal control group".

5. The methods part of the ABSTRACT does not outline any further methods or description of events

Reply: We added more descriptions to the methods (page 4-5).

6. the authors imply that the three bacteria mentioned are all invasive

Reply: We modified this imprecise description (page 7).

7. A change were only 5% of the intestinal microbiota remains appears unusual and excessive

Reply: We modified this imprecise description (page 7).

8. Where authors name is given with et al, the reference number should follow immediately.

Reply: We modified this imprecise description (page 7).

9. Much of the text in the last part of the METHODS is unreferenced

Reply: We have added related references to that last part of the METHODS.

10. The DSS model is a model of inflammation (colitis) not of FGID

Reply: We deleted this imprecise description as it not so closely related to the topic (page 7).

11. AWR is mentioned on page 7, but not explained

Reply: We modified and added the explained of AWR on page 9-10.

12. The numbers of animals in each group is listed on page 8 (see above also). the control group is described as having 14 and 10

Reply: We modified the part of description to the result. The number of rats in the normal control group is 14. On the 7th, 14th, 21st and 28th day, one rat was randomly selected for model evaluation, and 10 rats remained. We finally included 10 rats in the statistical analysis and we re-edit this description in the results (page 9-10).

13. what is mean by fixation at the bottom of page 8?

Reply: We added the description on page 10.

14. No scoring system is provided on page 10 (histological inflammation)

Reply: We added the scoring system of colonic mucosa damage and histopathological findings on page 11-12.

15. What is meant by freezing and thawing faeces?

Reply: We modified the description to "thawing feces after freezing" on page 12.

16. There are a number of errors of English language usage or grammar that should be corrected.

Reply: We corrected several errors of description in the paper and have edited by *Medjaden* English editing service.