Author’s response to reviews

Title: The protective effects of ginsenoside Rg1 against hypertension target-organ damage in spontaneously hypertensive rats

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Dear editor,

Thank you for the speedy review of our above-mentioned manuscript (1090611313576360). We appreciate the comments from the selected reviewers and respectfully re-submit a revised version of our manuscript, incorporating suggestions from the reviewers, for your consideration. Below, please find our responses to each of the reviewer comments and how the manuscript text was edited accordingly.

We look forward to your response. If any further clarifications or correspondence is needed, please feel free to email me, jiangbh@mail.shcnc.ac.cn.

Respectfully yours,

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Point to Point Responses

Reviewer 2

Comment: Tabel 1, the authors mentioned that they have tested the middle dose (10 mg/kg) but not included in the study as it was not different from the result at 20 mg/kg, where I feel, the data obtained at 10 mg/kg was more important than the data of 20 mg/kg if at all one dose has to be selected. I would suggest including the data obtained at all three doses.

Response: Thank you for your question. According the comment, we add the data of 10 mg/kg in the revised manuscript.

Comment: Statistics applied in Table is hard to understand. There are two comparison in this table. The data of SHR needs to be compared with that of WKY, where as the data of treated groups at all doses need to be compared with SHR control, which is not the case in this table. The information on the statistical test applied is missing in the foot note.

Response: Yes, there are two kind of comparison in this table. We compared the difference between WKY and SHR, and significant difference was found on SBP, DPB, MAP, LVSP, +dP/dt_{max}, -dP/dt_{min}, and HW/BW. While there is no significant deference between Rg1 treated group and SHR control group, excepting on HW/BW and heart rate. We add information on the statistical test in the foot note.

Comment: I did not ask to omit the data on HR but to discuss the results obtained. Question arises that with this data on HR (increase) and BP (not effect), how the observed protective effect on end organ damage be explained. I think this table is important, as the conclusion is based on the data presented and it is important to seek clarification before the decision is made.

Response: Thank you for your comment. We detected blood pressure on conscious SHR during the experiment using tail-cuff apparatus. And also we detected cardiac function on anesthetized rats during sampling using Millar catheter. Up-regulation of Rg1 on heart rate was found in conscious SHR, while no regulation of Rg1 on heart rate was detected on anesthetized SHR. The value of heart rate was 294.9 ± 20.3bmp (WKY), 341.3 ± 15.3bmp (SHR), 352.9 ± 18.6bmp (SHR-Rg1(5)), 344.1 ± 27.3bmp (SHR-Rg1(10)), 330.5 ± 9.2bmp (SHR-Rg1(20)) on anesthetized SHR,
respectively. In the manuscript, we only reported the heart rate detected on conscious rats. Shen et al have reported that RgI down-regulated heart rate in anesthetized mice treated by glutamate. The deference between our report and Shen et al maybe derive from the different species used, suggesting the increase of RgI in heart rate may not occur if using other model than SHR. Different biological response of extract from herbs between species was also reported. Increase of heart rate induced by RgI should be considered as a side effect in cardiovascular disease. Further study was necessary to clarify effects of RgI on heart rate on different species and the underlying mechanism.

We add above discussion on Page 15.