Author’s response to reviews

Title: Hemopexin alleviates cognitive dysfunction after focal cerebral ischemia-reperfusion injury in rats

Authors:

Beibei Dong (senyu1219@163.com)
Yongyan Yang (1434852712@qq.com)
Zhishen Zhang (ouyangzishi@126.com)
Keliang Xie (mzk2011@126.com)
Lin Su (sulin_sl@126.com)
Yonghao Yu (yuyonghao@126.com)

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Author’s response to reviews:

Dear Prof. Tu:

Thank you very much for giving us another chance to revise our manuscript entitled “Hemopexin alleviates cognitive dysfunction after focal cerebral ischemia-reperfusion injury in rats” (MS: BANE-D-18-00462). We also appreciate the reviewers’ helpful advices. We carefully revised the manuscript according to the reviewer’s recommendations. The following is our point-to-point responses.

Reviewer #1:

The new revision have addressed all my concerns.

Re: Thanks you very much for your friendly comment of our research.

Reviewer #2:

Point 1 I read this manuscript with much interest. The authors designed and demonstrated a clinical application of Hemopexin attenuated focal cerebral ischemia-reperfusion induced cognitive dysfunction impairment via up-regulated HO-1 protein expression. The authors provide effective regulate cognitive impairment and a potentially clinical applicable research trend to attenuate brain function impairment, this is an important research achievement for the
neuron impairment recovery. The manuscript is basically well written and organized, but I have several suggestions for the authors' reference to improve their paper.

First, the author should pay more attention to the narration of the paper, especially the conclusion of the paper. The conclusion is an important part of the summary for your paper's "Essence" highlight. The author need "dig" further of their experiments for make a stronger significance of your achievement.

Re: Thanks for your kind advice. Your comment to improve some description about our conclusion is helpful for understanding the study. Thus, we have re-examined the article and revised the conclusion in the revised version.

Point 2 Second, the author should pay more attention of their paper's narration. Especially the basic of the rule of English grammar, such as" circulating circulating endothelial progenitor cells (EPCs)". And in your Figure section, like Figure 4. (B), it is hard to convince people that there is significant difference between HPX group vs Sham Group. So, I suggest the author either provide the exact p value or use some other data chat to descript the difference, such as, try to use the Box & whiskers chat to do it.

Re: Thanks for mentioning the critical issue. We have revised the wrong narration in the last paragraph of background in the revised version. In the Figure section, we compared the the indices of different groups to explore the protective effect of HPX on cerebral ischemia injury. For example, in Figure 4. B, we compare the water content of the brain tissue of sham group vs. MCAO group to conform that MCAO destroyed the blood-brain barrier. At the same time, we compare the water content of the brain tissue of vehicle group vs. HPX group to conform that HPX could reduce brain edema and maintain the stability of the blood-brain barrier. The water content of the brain tissue of HPX group vs. HPX+ZnPPIX group was compared to conform that the HO-1 inhibitor could block the protective effect of HPX on the stability of the blood-brain barrier. We did not design to compare the sham group with HPX group. Thank you again for your suggestion.

We hope that the revised version of the manuscript could meet your requirement. We look forward to hearing from you soon.

With best wishes,

Sincerely,

Yonghao Yu, MD, PhD
Associate professor and chief, Department of Anesthesiology, Tianjin Medical University General Hospital
154th Anshan Rd,
Tianjin 300052, Tianjin
P.R. China
Phone: 86+2260361517
E-mail: yuyonghao@126.com