Reviewer’s report

Title: Neuroprotective effects of amiodarone in a mouse model of ischemic stroke

Version: 1 Date: 30 Oct 2017

Reviewer: W. Scott Jellish

Reviewer’s report:

This is the first revision of the manuscript entitled, "Neuroprotective effects of amiodarone in a mouse model of ischemic stroke". Briefly, this study assesses the effect of a dose of amiodarone 50 mg/kg on mice that were given a focal cerebral insult by occlusion of the left middle cerebral artery. Amiodarone was given either one hour prior to MCA occlusion or immediately after MCA occlusion in another group. Behavioral testing was assessed 48 hours after MCAO and compared between groups and control. Brains were harvested and infarct volume compared between groups. They found heart rates were lower in the animals that received amiodarone compared to control. Mice that received amiodarone one hour before MCAO had reduced infarct volume compared to saline control or post MCAO treatment. The pretreated rats also had better behavioral testing compared to post treatment or control. The authors conclude that amiodarone pretreatment attenuates ischemic brain injury and improves functional outcomes.

1. The authors have added information to better describe the functionality and what neurologic function the body asymmetry and swing rates assess.

2. They added another experimental group using veratrine, a Na+ channel opener which demonstrated that amiodarone's neuroprotective effect may be due to blockade of Na+ channels. The possible reason post MCAO treatment did not provide neuroprotection is that the amiodarone did not reach the ischemic site due to permanent occlusion of the MCA and no reperfusion was produced. They also addressed other minor critiques by the second reviewer.

3. There are two minor grammatical changes that need to be addressed. These are minor changes that can be addressed by the editor.

   a. Discussion, second page, line 10: place "the" before "pharmacological"

   b. Discussion, fourth page, line 35: place "a" before "neuroprotective"

The authors have done a good job at addressing the queries by the reviewers. The addition of the group with added veratrine and the other group with added isoproterenol demonstrates the mechanism of this neuroprotection and further strengthens the study.

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.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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