Reviewer’s report

Title: Neuroprotective effects of hyperbaric oxygen (HBO) therapy on neuronal death induced by sciatic nerve transection in rat

Version: 2 Date: 28 Nov 2017

Reviewer: Jacques Abraini

Reviewer's report:

I still suggest the authors could rewrite the paragraph on S100B in the discussion section (Page 17, Line 14 to Page 18, Line 7) more clearly to help the non-specialist reader. This could be as follows or something similar:

Our immunohistochemical results showed that SNT increased the expression of S100B in the dorsal root ganglion. Paradoxically, we found that HBO applied before or after SNT further increased S100B expression significantly compared to SNT alone. Therefore, since it is well known that S100B acts as an inhibitor of apoptosis and a stimulator of cell proliferation in neurodegerative process [53], the increase in S100B induced by SNT alone could be viewed as a compensatory mechanism of the body to deal with apoptosis after SNT (the present study) and other neural injuries [54, 55].

In addition, there has been a misunderstanding as regards to the publication by Chazalviel and colleagues in Medical Gas Research (6: 169-173). This work should not be deleted and should be cited in the introduction section at the place it was before (Page 4, Line 36). In addition, another work by Chazalviel and colleagues in Medical Gas Research (6:64-69), which reports that HBO would favor neuroprotection vs brain ischemia by increasing tissue plasminogen activator-mediated fibrinolysis and thereby collateral blood supply to the ischemic areas, should be cited in the introduction section on Page 4, Lines 44-56 (which focus on the mechanisms by which HBO acts). If the authors prefer to cite only one article by Chazalviel and colleagues, this latter article in Medical Gas Research (6:64-69) could be cited on Page 4, Line 36 instead of that published in Medical Gas Research (6:169-173) and then again on Page 4, Lines 44-56.

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

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