OPEN PEER REVIEW REPORT 3

Name of journal: Neural Regeneration Research
Manuscript NO: NRR-D-19-00556
Title: Improved prognosis of subarachnoid hemorrhage by L-Cysteine depends on H2S-attenuated neuro-inflammation, complement deposition, oxidative stress and endoplasmic reticulum stress
Reviewer's Name: Susan Goulding
Reviewer's country: Ireland
Date sent for review: 2019-10-10

COMMENTS TO AUTHORS

This is a very interesting study investigating L-Cysteine as a potential therapy for SAH and its mechanism of action within the brain. However, I have some comments below that should be addressed before the manuscript is considered for publication.

1. Some phrases such as in the introduction "dooming patients to a gloomy rest of life" are not really appropriate for a paper nor is it very scientific.

2. In the materials and methods section, the following should be explained:
- How many rats were used per group?
- What are the catalog numbers for reagents bought from Sigma?
- What is DHE solution and how does it work?
- How many images were analysed? How many cells per image etc.
- How were the proteins extracted for western blot? What concentration of Ripa buffer for example was used or otherwise?
- Each behavioural test should be explained or the literature referenced.

3. Figure 1b; it would be more beneficial if the images were at a higher magnification to easily identify what the authors are trying to show.
All figures: Scale bars are needed and/or the actual scale should be mentioned in figure legends.

4. The long list of monoclonal antibodies in the manuscript has antibodies listed that were not used in the paper. The authors should revise this list accordingly.

5. As noted by the authors, the cell types responsive to L-Cysteine should be investigated where possible.

6. The experimental design shows that L-Cys treatment is given 30 mins after SAH induction. Why was this time point chosen? For future assessment it would be worth looking at later time points such as giving the L-Cys treatment 24h after SAH given the authors mention in the introduction the time window for treatment being 72h, it would be interesting to see if similar results were seen when treatment is given at later time points.