OPEN PEER REVIEW REPORT 1

Name of journal: Neural Regeneration Research
Manuscript NO: NRR-D-18-00569
Title: Effects of neural adipose derived stem cells therapy in a rat model of cavernos nerves injury
Reviewer's Name: Wenjiao Tai
Reviewer's country: USA
Date sent for review: 2018-08-24
Date reviewed: 2018-08-31
Review time: 7 days

COMMENTS TO AUTHORS

In this manuscript, authors studied the effect of neural adipose derived stem cell therapy in a rat model of cavernos nerve injury. Authors found that isolated adipose stem cells had differentiation properties in vitro. Immediate intracavernous injection of neural adipose stem cells improved erectile function in a rat model of neurogenic impotence. The findings are interesting and suggested that it may be an effective measure to treat erectile dysfunction following radical prostatectomy. Nonetheless, the Results part is poor in presentation, there are several points that must be addressed in this manuscript. Therefore, I recommend that a major revision is warranted. I explain my concerns in more detail below.

Major Comments:

1.The Results part did not fully elaborate the findings, title and conclusions did not be given for each part of the results. It is better to state the aim/reasons of the experiments at the very beginning, sometimes it is necessary to present the aim of the study under the context of references, then show the experimental findings. A conclusion for each part of the results is necessary (what suggestions can be gotten from the findings). It did not show the specific location (A, B, C…) of the Figures or Table when presenting some data.

2.Any direct evidence showed that the adipose stem cells have successfully differentiated into neurons in vivo? If no evidences for that, it is hard to get conclusion that "improvements of neurological function after transplantation of ADSCs to rats with ICH might be owing to neuronal differentiation of implanted stem cells".

3.Discussion part: "The results suggest that improvements of neurological function after transplantation of ADSCs to rats with ICH might be owing to neuronal differentiation of implanted stem cells, which protect cells against ICH-induced apoptosis." But cannot find relative results in Results or Figures part to show that transplantation of ADSCs to rats with ICH could reduce ICH-induced apoptosis.

4.Discussion part: "Western blot also showed that the expression of nNOS proteins were decreased in the injured control group as compared with the sham-operated group, and levels increased in the NAS cells repaired group". But cannot find relative results in Results or Figures part. Please provide information for that.

Minor Comments:

1.Please give the full name when abbreviations appear for the first time in the manuscript, not only in the abstract. Such as: CN (cavernous nerves); BINC (bilateral nerve crushing with no further intervention); MPG; ED.

2.In the Materials and methods part, please provide dilution ratio for FITC-conjugated secondary antibody.

3.Please add scale bar for images of Figure 1 and 3, label the stained markers for Figures.

4.The quality of Figure 2 A-C is bad, please provide high resolution images.

5.Figure 2 D, it is better to replace the labeling "group A, B, C" with "Sham, BINC, BINC+NAS" for the column chart.

6.Please provide more details for Figure legends.

7.Discussion part: “This preservation of nerve morphology may contribute to the improved erectile function found in group B.” please provide specific information for what group B is.

8.Please check the references style: References 2-10, 16-23.