OPEN PEER REVIEW

Open Peer Review (OPR)

As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Open Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

What is "Open Peer Review" process?

An "Open Peer Review" process is making the details of all review process (including reviewers, associate editors, and EICs comments) as "Public" as it is agreed by EIC, Authors, and reviewers.

Advantages of "Open Peer Review" process

- More transparency, constructiveness and tactful comments of the peer review process: leads to an increase in the quality of reviews
- More motivations for all involved roles in the review process
- Authors' satisfactions from the review process: Increases honesty between authors and reviewers
- Education of both authors and new students
- Prevents reviewers from following their individual agendas and leading to the detection of reviewers' conflicts of interests

You can find out more at:
https://sites.kowsarpub.com/kowsar/knowledgebase/category/tree.html#opr.html

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Peer Review Report for "Does Phenytoin Have Neuroprotective Role and Affect Biocompatibility of Decellularized Sciatic Nerve Scaffold?"

Author(s): Somayyeh Abbaszadeh, Asadollah Asadi, Saber Zahri, Arash Abdolmaleki, Fariba Mahmoudi

Review Timeline:

Submit Date:	31 Aug 2020
Revised Date:	5 Oct 2020
Accepted Date:	6 Oct 2020

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (0)

6 Sep 2020

Dear AE,
In the current study, the authors evaluated the neuroprotective effect of phenytoin on the biocompatibility of decellularized sciatic nerve scaffold. The results demonstrated that phenytoin has an effective role in the improvement of the cell viability and provided good condition for cell growth, survival, and also attachment to the scaffold. There are some concerns as fellow:

1. In the abstract, the objective is so general and not clear.
2. It is not clear why the authors choose phenytoin? What was the special characteristic of this drug?
3. The introduction has not the integrity, please rewrite it.
4. Why the authors selected 2-month age rats but not youngsters as sciatic nerve donors?
5. In methods, please define all study groups exactly.
6. Why the authors did not use the explant culture? in the referenced article, they used vessels, not whole tissue.
7. How many cells did the authors select to treat with phenytoin?
8. After 3 passage why the cell confluency is low? Are the authors conducted cell differentiation in this confluency?

9. Based on figure 1 the adipogenic differentiation of WJSC is low. Please explain it.
10. Please add the scale bar on figures.
11. There are some abbreviated words in the main text that should be defined on the first appearance.
12. There is Persian to English translation in some sentences, so, English editing is highly recommended.
Thanks.

REFEREE: Reviewer | **Revision** (0) 17 Sep 2020

Dear AE,
I have only a few concerns regarding the paper, please do check the grammatical mistakes, punctuation error and verb or, pronoun if they add incorrectly before the submission of the paper. Overall, the paper is well written and I recommend it for the publication after minor revision.
Thanks.

REFEREE: Reviewer | **Revision** (0) 21 Sep 2020

Dear AE,
Thanks to the authors for submitting their valuable work to the journal. They should consider the following comments to improve their work and meeting the standards for publication:
* Language: The manuscript requires several revisions for grammar, clarity, punctuation, and delivery.
1. Title: Should be in the form of a declarative statement or a research question. (The title is unclear if it declares neuroprotective effect or biocompatibility. Change it to a question form that may be more interesting for audiences, e.g., “Does phenytoin affects biocompatibility of decellularized sciatic nerve scaffold?” or the similar to this form.)
2. Abstract:
* The Abstract should have a “stand-alone” property. Any audience should understand the eligibility, process, and results of the manuscript by just reading it. Try to re-arrange the abstract.
a. Introduction:
* Start with a statement of relevance. (What is the main problem, considering cell culture issues, that your study aimed to solve?)
b. Methods:
* State the study design
* State the primary predictor variable
* State the primary outcome variable
* State the secondary outcome variables
* State the statistical methods, software, and P-value
c. Results:
* State the sample size and follow-up
* State the primary outcome
* State the secondary outcomes
* “…it has been shown that have phenytoin no toxicity to stem cells.” Is toxicity one of the variables?

d. Conclusion:
* State the study conclusion, not other studies result. (“According to studies…”)
* “…supportive properties of phenytoin resulted in to improve the viability of cell…” which of your results indicate this conclusion? Please state the relevant result in the results section of the abstract.
e. Keywords:
* Keyword has to match the MeSH relevant terms to increase the visibility of the work.
3. Introduction:
* Please organize the text into three or four paragraphs that address the issue, current answers to the study issue, rationale of the current study based on literature for addressing the research question.
* The fourth paragraph should state the research question and the specific aim(s) of this study
4. Methods:
* State the study design
* State the primary predictor variable
* State and clarify the primary outcome variable
* State the clarify the secondary outcome variables
* State the sample size and power calculation.
5. Results
* Start with the table.
* The text section should add to the tables as needed
6. Discussion
* First paragraph should restate the research question and the key study finding
* Second paragraph should state secondary study findings
* Third and fourth paragraph should provide a review of the literature in terms of explaining how and why the study findings agree or disagree with the current literature
* Fifth paragraph should describe study limitations
* Sixth paragraph should state the study conclusions
7. Tables
* See results section above
* State the statistical analysis results in the table. (P-value)
8. Figures
* Use scale bar in figure 1.
* Please state the numerical value of each bar in figure 4
9. References
* All references shall be updated to the past 5 or 10 years. Try to use updated textbooks instead of an article from more than recent 10 years if possible.
Recommendation: Using a graphical abstract may help the visibility and accessibility of your article.
Best regards

REFEREE: Associate Editor | **Revision** (0) 22 Sep 2020

Dear EIC,
The manuscript is studied, and there are some comments which should be addressed by

the author. According to the comments, the document needs major revision.
Kind regards,

Zahra Heidari: EIC | **Revision** (0) 22 Sep 2020

Dear Authors,
Based on the reviewers' and AE comments this manuscript needs major revisions and English language editing. Authors must revise it precisely and also reply to the comments point by point.
Thanks.

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reviewers' comments reply

Dear editor we do all comments and highlighted them in the manuscript

Reviewer 1

Thanks for your good comments

1- In the abstract we rewrite the objective and highlighted it in the text.

2- Phenytoin was selected because we want to evaluated the neuroprotective effects of it on maintains of cultured stem cells on prepared scaffolds because following the nerve trauma and after transplanting the nerve conduits for nerve regeneration because of the bad microenvironments a lot of cells will be died. One of the main events during this stage is an increase in intracellular sodium concentration that results in an excessive influx of calcium into axons. This ionic imbalance triggers the pathologic extracellular release of glutamate in the synaptic cleft and triggers an excitotoxic process. Therefore, any agents that limit the spread of ionic imbalance may enhance the nerve regeneration process. For this reasons we select the phenytoin drug.

3- We rewrite some part of introduction and highlighted it in the text.

4- We use 2 month rats because according to previous study animals with the weight 200-250 gr commonly used and after at least 2 month age animals received to this weight. I put some references

a- Hea Gu, Ja, et al. "Transplantation of adipose derived stem cells for peripheral nerve regeneration in sciatic nerve defects of the rat." Current stem cell research & therapy 7.5 (2012): 347-355.

5- In methods, we define all study groups exactly highlighted it in the text.

6- We did not use the explant culture because we want to prepare a suitable alternative for the autologous nerve autograft for reconstruction of the nerve damage that is considered as clinical gold standard.

7- We write the number of cells and highlighted it in the text.

8- After 3 passage the cell confluency is not low we take a picture from part of the flask which had a lower density for seeing the spindle shape of the cells.

9- About this comment adipogenic differentiation of WJSC may be due to the quality of the differentiation medium is low. But results show that we have differentiation of MSCs to the adipose cells that confirm the differentiation.

10- We add scale bar to the figures.

11- We defined abbreviated words on the first appearance in the main text.

12- We check the English of the manuscript.

Reviewer 2

Thanks for your good comments

1- I corrected the title as you want and highlighted it in the text.

2- We change the introduction in the abstract part and highlighted it in the text.

3- We write the result again as you wants.

4- We write the conclusion again as you wants.

5- We select the keywords according to MeSH.

6- In introduction part we organize the text into four paragraphs.

7- We add P value to table.

8- We write the discussion again as you wants.

Reviewer 3

Thanks for your good comments

1- We check the English of the manuscript exactly.

OPEN PEER REVIEW

Revision (1)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

Azam Asemi Rad: Reviewer | **Revision** (1) 3 Oct 2020

Dear AE,
The manuscript entitled" Does phenytoin have a neuroprotective role and affects biocompatibility of decellularized sciatic nerve scaffold " had a peer review and now the authors have addressed the major concerns of the reviewers. More specifically they have also included a point-by-point response to the reviewers in addition to making the changes described in the manuscript. Consequently, I do consider the manuscript is suitable for publication in its present form.
Sincerely,

REFEREE: Reviewer | **Revision** (1) 4 Oct 2020

Dear AE,
Although Some corrections and changes have been done! it can be improved by more attention in
English writing rules and instructions.
Thanks.

REFEREE: Reviewer | **Revision** (1) 4 Oct 2020

Dear AE,
Thanks for revising the manuscript. Please consider the native English review for the comprehensiveness and fluency of the manuscript (It is a suggestion). The manuscript is close to standards please kindly consider the following comments:
1. Title: add "?" at the end of the title.
2. Abstract methods: revise the last sentence to "data were analysed with "NAME THE STATISTICAL TEST" using SPSS software version "NAME THE VERSION" ".
3. Introduction is good.
4. In methods, since you used rats as animal models, there is a need to declare ethical considerations. Please add a sentence that the ethical code provided by the internal review board if available.
5. Your method is clear and precise.
6. Discussion is good.
7. Due to the fact that your study is full of details, it is suggested to use schematic pictures and graphical contents (e.g. graphical abstract) to increase visibility.

Best regards

Zahra Heidari: Associate Editor | **Revision (1)** 4 Oct 2020

Dear EIC,
As I read revisions were done well but based on the reviewers' comments minor revisions must be done prior it can be accepted for publication in GCT.
Thanks.

Zahra Heidari: EIC | **Revision (1)** 4 Oct 2020

Dear Authors,
As I read revisions were done well and after minor revisions it can be accepted for publication in GCT.
Thanks.

OPEN PEER REVIEW

Revision (2)

Reply to Reviewers

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You can read the authors' responses to the reviewers' comments in the next page.

Reviewers' comments reply

Dear editor we do all comments and highlighted them in the manuscript

Reviewer 3

Thanks for your good comments

1- We add "?" at the end of the title and highlighted it the text.

2- We add the graphical abstract.

3- We add a sentence with the ethical code and highlighted it the text.

4- In the abstract methods: we revise the last sentence to "data were analysed with "NAME THE STATISTICAL TEST" using SPSS software version "NAME THE VERSION" and highlighted it the text.

OPEN PEER REVIEW

Revision (2)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Associate Editor | **Revision** (2) 5 Oct 2020

Dear EIC,
The current manuscript was revised twice and corrections have been done according to the referees. It may publish in GCT now.
Yours

Zahra Heidari: EIC | **Revision** (2) 6 Oct 2020

Dear Author,
Revisions were done well. Thus it can be accepted for publication in GCT.
Thanks.