Reviewer’s report

Title: Effects of concentration of amyloid β (Aβ) on viability of cultured retinal pigment epithelial cells

Version: 0 Date: 04 Oct 2018

Reviewer: Mohamed Al-Shabrawey

Reviewer’s report:

The manuscript needs minor revision

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:
Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

This manuscript demonstrates that the effect of Aβ on the viability of RPE is dose-dependent in which number of living ARPE-19 cells was increased by 5 μM but decreased by 25 μM of Aβ. The pro-apoptotic effect of Aβ on RPE is linked to its effect on PEDF and VEGF and that modulation of RAGE could be an important player in this process. The manuscript is well-written and sounds, however there are minor concerns:

- The study is solely based on in vitro approach in which RPE culture is the main target. Although RPE dysfunction is crucial in the pathogenesis of AMD, choroidal endothelial cells may also play an important role. It would be interesting to dissect the potential role of Ab in the cross talk between RPE and choroidal endothelial cells particularly with the increased VEGF expression by Ab.

- There was no real functional assessment of RPE, instead the study focused on molecular changes. It would be interesting of the investigators considered studying, RPE barrier or phagocytic function.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.