Reviewer’s report

Title: Factors associated with Developing a Fear of Falling in Subjects with Primary Open-angle Glaucoma

Version: 0 Date: 31 Jul 2017

Reviewer: Ivano Riva

Reviewer’s report:

This is an interesting study in which Authors evaluated, at baseline and during a three-year follow-up, the influence of clinical parameters on the fear of falling in patients affected by primary open angle glaucoma. Age, female gender, inferior visual field defects and number of previous falls were clinical parameters included in the best model predicting fear of falling at baseline. The same clinical parameters predicted the development of fear of falling during the follow-up. Some points need to be addressed before publication:

1. Avoid to insert complex math formulae into the abstract, especially if they include abbreviations not previously explained. Abstract should be an argumentative section, summarizing study results and stimulating reader’s interest on the topic.

2. Intraocular pressure was not a criteria for patient enrollment. Does this mean normal tension glaucoma patients were included as well? If this is the case, it should be specified.

3. Taking into account visual acuity and computed total visual field deviation, population of the study is prevalently constituted by early/mid glaucoma patients. It would be interesting to have visual field MD for both the right and the left eye in Table 1. How can this datum influence the results?

4. Groups should be better defined in the Methods section. While it is reasonable to think that the "future fear of falling (+)" group consisted only of patients who developed fear of falling during the follow-up (i.e. had no fear of falling at baseline), this should be specified.

5. Which is the meaning of "0.58xfemale" and "0.77xfemale" in the model equation? Did you numerically codify male and female gender? Please explain.

6. Statistics: In the methods section Authors stated a Wilcoxon test was used to compare numerical data between groups. Authors should better disclose the nature of the test they used. The Mann-Whitney test, also called Wilcoxon rank-sum test, is a non-parametric test used to compare two independent populations without normal distribution. The Wilcoxon signed-rank test is a non-parametric test used to evaluate the same hypothesis but with paired/matched samples (equivalent of paired t-test). Please specify.

7. Statistics: Authors used a multiple logistic regression model to elaborate the best equation predicting the dependent variable (i.e.: fear of falling). Model selection was performed by means
of the Corrected Akaike Information Criteria (AICc). AICc is a useful instrument to compare predictive models, however it doesn't give any information on the model itself (for example, on the goodness of the model). If the aim of the Authors was to find the best subset of predictors for "fear of falling", I'd suggest to look at methods for variable selection in multiple regression analyses. Besides this, it would be interesting to have more information about the final model, and to know the significance of the association between each predictor and the dependent variable. Logistic regression equation are not of immediate interpretation, and equation coefficients (which are in log-odds units) are generally converted in odds ratio.

8. Some minor notes:

- Page 8, line 123, "insignificant senile cataract": Did you mean "significant senile cataract"?

- Page 8, line 127 and followings: Reasons for patients exclusion should be in the Results section, and not in the Methods section.

- Page 16, line 253: Correct [OR equal to 2.95 with a 95% CI of 1.52 to 5.70…] with [OR=2.95 with a 95% CI of 1.52 to 5.70…]

- Page 16, line 256-258: Sentence is not clear. Please reformulate sentence.

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 recommend additional statistical review

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.

I declare that I have no competing interests

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