Reviewer's report

Title: Relationship between corneal biomechanical properties and structural biomarkers in patients with normal-tension glaucoma: a retrospective study

Version: 0 Date: 18 Jun 2017

Reviewer: Giovanni Montesano

Reviewer's report:

The authors present an analysis of the relationship between biomechanical corneal factors and optic nerve head parameters as measured by HRT in normal tension glaucoma. They found that the corneal hysteresis is the best predictor of optic nerve alterations in normal tension glaucoma. The study is well conducted and the aim is clear. The authors present a balanced discussion of their results.

Minor (essential) comments:

1) Page 5, lines 40 - 44: the authors present a series of criteria to define the diagnosis of optic nerve neuropathy. How many criteria were considered sufficient for the diagnosis? Please clarify

2) Page 6, lines 56 - 57: the Kolmogorov Smirnov test is usually not very potent in assessing normality, especially with small samples. The Shapiro wilk test might be more appropriate for small samples. However, I would suggest a more careful inspection of the residual plot of each regression (t-tests can be formulated as a two level anova, i.e. be analyzed in the general framework of linear models) rather than an analysis on the variable distribution itself

3) The selection procedure in the multivariate model would be better if based on a stepwise forward-backward elimination, maybe based on a overall goodness of fit index such as the AIC or BIC.

4) Would be interesting to analyze the correlation between biomechanical properties and visual field parameters, as independent variables in the multivariate analysis.
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

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