Reviewer's report

Title: Comparison of Localized Retinal Nerve Fiber Layer Defects in Highly Myopic, Myopic, and Non-myopic Patients with Normal Tension Glaucoma

Version: 2 Date: 7 March 2013

Reviewer: Jean-Claude Mwanza

Reviewer's report:

MAJOR COMPULSORY REVISIONS

1) 

2) The definition of "localized RNFL defects" is not clearly provided.

3) The authors stated that patients included in the study had no neuroradiological evidence of optic nerve damage. Clarification is needed. Does it mean that every patient underwent neuroradiological testing? What type of testing did the patients go through and what was the reason for ordering these tests?

4) The lower cutoff of emmetropia and miopia is -0.5 D. This should be corrected.

5) The comparison was made between 3 groups (emmetropic, low to moderate myopic, and high myopic individuals). For a proper comparison, low to moderate and high myopic subjects should have been matched for both age and visual field mean deviation. Also emmetropic and myopic subjects should have been matched for age. Not doing so constitutes a significant weakness of the study and the paper.

6) Some subjects had both superior and inferior RNFL defects. But it is unclear from the text what defect was entered in the analysis and how it was chosen.

7) Statistically, the study is also weakened by studying the correlation with only t-test and chi-square. The proper analysis is a multivariate regression adjusting for age, axial length, and IOP, refraction, looking for an association with degree of RNFL defects (as a multivariable regression) or more versus less damaged eye (as logistic regression).

8) Discussion page 12, 2nd paragraph. The sample size is too small to draw valid inferences about the proportion of male and female.

9) Discussion page 12, 2nd paragraph. Contrary to what the authors stated, it is likely that the magnification influenced the size of the retinal defect, and therefore of the angular measurement. Thus it is critical that authors provide a mathematical model of measurement before and after magnification correction to support their claim.

MINOR ESSENTIAL REVISIONS
1) Methods section, 2nd paragraph, line 4. Insert reference(s) after "described technique"

2) In the discussion, page 9, 2nd paragraph, the sentence "The MD values.....emmetropia groups." contradicts the results presented on page 7-8.

3) Discussion page 10. The 2nd paragraph is full of redundancies.

DISCRETIONARY REVISIONS

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

No conflict of interest to report