Reviewer’s report

Title: Association analysis of cigarette smoking history with onset of primary open-angle glaucoma and glaucoma-related biometric parameters

Version: 1 Date: 3 May 2012

Reviewer: Freedom Nkhululeko Gumedze

Reviewer’s report:

General comments: This is important paper on the association between cigarette smoking and disease presence. However, the paper needs to be revised before publication. See specific comments below.

- Major Compulsory Revisions

1. It is not clear from the Methods and Materials section what were the inclusion criteria for subjects in the study.

2. Were the study subjects recruited over time? In the Background section (last sentence) the authors refer to the study subjects as a 'Southern Chinese cohort'.

3. The authors examined the relationship between smoking history (Tables 3-5) using multiple linear regression. They refer to these regression models as the effects on smoking history, age and gender on the glaucoma-related biometric parameter. Could the authors explain why linear regression was used instead of logistic regression with smoking history status as the response variable.

4. The fitted regression models presented on Tables 3-5 model each subject group separately, this is not efficient, it would be useful to fit a single model that allows for comparisons of the groups, with say the controls as the baseline group.

5. The fitted regression models presented on Tables 3-4 include the CCT and or IOP whereas the model in Table 5 does not. Could the authors explain the inclusion these terms (CCT and IOP) in the models. Is this meaningful with respect to the study objectives?

- Minor Essential Revisions

1. Page 5: Statistical analysis: Delete 2nd sentence since p-values and odds ratios are implicit outputs of a logistic regression analysis.

2. Page 5: Statistical analysis: Delete 5th sentence since p-values and regression coefficients are implicit outputs of a linear regression analysis.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests.