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: 14 January 2012

Reviewer: Pinakin Gunvant

Reviewer's report:

This is a very interesting topic, the authors are correct that it is not clear and due to the common occurrence of cigarette smoking it is logical to expect if clinicians are to advocate against cigarette smoking especially in glaucoma patients.

Major compulsory revision

Manuscript seems to have lots of missing pieces of information, as to I am unclear how many were current smokers, past smokers. Also were the JOAG smokers? How many? They tend to be younger than AOAG. CCT declines with age, although only about 6-10 microns per decade it cannot be ignored so they will have to account for age.

Methods: Cross sectional design, I am unsure how the variables were controlled. I understand they did univariate regression analysis. However the correct statistic will be multiple regression analysis because these risk factors are not independent of each other and interactions will have to be checked.

The authors have not given physiological basis of the question and nor have they discussed why CCT will be lower in the group of smokers versus non smokers. This is far important and must be included.

Due to the fact that authors have performed more than 3 regression analysis they will have to account for inflation of alpha error by decreasing the p value. Bonferroni correction or a similar analysis will be acceptable.

They may find that the one variable that they found to be significant may not be significant after Bonferroni correction.

Due to the fact smoking is known to be a risk in numerous diseases, authors will have to also discuss how the pathogenesis of certain other diseases or processes may influence the prevalence and development of OAG.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
No competing interests