Reviewer's report

Title: Relationship between Diabetes and grayscale fractal dimensions of retinal vasculature among Indian population

Version: 2 Date: 9 August 2014

Reviewer: Takashi Ueta

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Major Compulsory Revisions

1. Line 197–199: The authors consider only gender as one of many confounding factors. They did not consider other important confounders including age, hypertension, dyslipidemia, smoking status because they wanted to know that the technique could be suitable for machine-based analysis (Line 200). However, we don’t understand whether or not FD can be influenced by diabetes without retinopathy itself unless confounders are adjusted. As shown in Figure 5, at least age, BMI and blood pressure seem to affect FD. The authors need to analyze FD with multiple confounders using multiple regression analyses. In multiple regression analyses the authors may not be able to find a significant influence of diabetes on FD. This may be due to the small sample size and this is a limitation of this study. However, even negative data is important in this case for better understanding the data and also for future studies.

Please perform multiple regression analysis and comment on the results in the section of Results or Discussion.

2. Background section is redundant. Please make it half the length.

3. In the end of the Discussion section, limitation statement is needed. For example, about the size of the subjects and selection bias.

Minor Essential Revisions

Line 86: “a number of.”
Line 117: A space is needed before “However.”
Line 200: “machine-based analysis”

Please carefully check English.

Level of interest: An article whose findings are important to those with closely related research interests

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: I declare that I have no competing interests.