Reviewer's report

Title: Ethnic Differences in Ischemic Stroke Subtypes in Young-Onset Stroke: The Stroke Prevention in Young Adults Study

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Reviewer: Pratik Bhattacharya

Reviewer's report:

1. Ethnic differences in stroke subtype exist in the population as a whole; why chose a “young stroke” database to answer a question on ethnic differences? The young population has been included in the previous large epidemiological studies in this topic. In other words, the authors should outline a rationale to expect differences in the black and white disparity in younger compared to older patients, when building their case in the background section.

2. “clarify mechanisms of stroke in young adults” is mentioned in the conclusion of the abstract. That is not a fair statement if the authors really only analyzed the traditional stroke mechanisms that exist in the older population, and do not mention frequencies of other mechanisms more commonly seen in the young such as dissections, hypercoagulability, reversible cerebral vasoconstriction, moya moya disease et cetera. These should be mentioned.

3. Why was age of 40 chosen as cutoff for dichotomizing the age variable?

4. How did the authors address patients where workup revealed multiple mechanisms in the same patient?

5. Why were only four modifiable risk factors chosen? Why was dislipidemia, or drug abuse not chosen? Also the methods section should specify how each risk factor was defined for the purpose of uniform data collection.

6. Diabetes was present in 155 patients. I suspect that is a sufficient number to include in risk factor analysis. It would be important to include diabetes as a risk factor for both lacunar and atherosclerotic strokes.

7. Stroke is now the fifth (not fourth) leading cause of death.

8. The discussion section is long, and somewhat weak. It is wandering in its content. The authors should focus discussion and quote studies that primarily deal with the theme of the paper: differences in stroke subtypes.

All above changes are major compulsory

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests