Reviewer’s report

Title: MAOA Promoter Methylation and Susceptibility to Carotid Atherosclerosis: Role of Familial Factors in a Monozygotic Twin Sample

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Reviewer: Hongyan Xu

Reviewer’s report:

The authors described study investigating the association between MAOA promoter methylation and carotid IMT in twins. It is an interesting study. I have several concerns.

Major concerns:

1. The study sample size seems to be limited. The results based on the limited sample size are not convincing because of limited power.
2. The major conclusion is that "the association between MAOA promoter methylation and carotid IMT is largely explained by familial factors shared by the twins." This is largely based on the results from the matched pair analyses in which the intrapair difference in IMT is regressed upon the difference in methylation level. This is not convincing. The significant results (if any) from this analysis seems only to imply that the difference in methylation is associated with the difference in carotid IMT, not the absolute level of carotid IMT as the authors suggested.

Minor concerns:

1. The methylation level is a percentage between 0 and 1. Its distribution before and after transformation should be displayed.
2. The model specification for the GEE analysis should be spelled out, including all the dependent and independent variables.
3. On page 9, ‘Sensitivity analyses’ section, the authors claimed to control the MAOA-uVNTR genotype. However, the corresponding results are not given in the 'results' section.

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.