Reviewer’s report

Title: The Interaction Effects between TLR4 and MMP9 Gene Polymorphisms Contribute to Aortic Aneurysm Risk in a Chinese Han Population

Version: 0 Date: 04 Sep 2018

Reviewer: Yanwen Qin

Reviewer’s report:

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1. How were the healthy controls recruited? Did they undergo a computed tomography angiography to rule out the disease of the aorta?

2. The origin of the patients and controls is unclear.Were these clinic outpatients, community individuals, normal volunteers? Were these patients with hypertensive or had any other disorder requiring access to hospital?

3. In Page No6, line number 21, - it is mentioned that "randomly selected samples had repeat genotypes carried out and the results were 100% consistent." How to randomly?

4. In Page No6, line number 41, - it is mentioned that " Associations were calculated by odds ratios (ORs) and 95% confidence intervals (95%CIs) with adjustments for age, gender, hypertension, diabetes and dyslipidemia." What is the diagnosis of hypertension, diabetes and dyslipidemia in this study? The number of hypertension, diabetes and dyslipidemia subjects according to the diagnosis should be provided and listed in Table 1 (with chi-square test used for comparative purposes)

5. What is the rational for including "diabetes and dyslipidemia" as conventional confounding factors in this study?

6. In Page No7, line number 3, - it is mentioned that " In our unpublished data, there were no significant associations of TLR4 rs11536889 and rs1927914 polymorphisms with the risk of AA and its subtypes (P > 0.05) in the general and subgroup analysis stratified by AA location and size. MMP9rs17576 AA genotype was related to a higher risk of overall AA (OR=1.897, P=0.015), AAA (OR=2.291, P=0.007) or small AA (OR=1.977, P=0.024) compared with GG genotype. However, no significant link between MMP9 rs17576 polymorphisms and the risk of TAA and large AA were observed (P > 0.05)." The data should be provided in the manuscript.
7. This study was performed among a preselected population. This might considerably bias the sensitivity and specificity of the test. Hence the issue of selection bias must be described in the discussion section.

8. Thoracic aortic aneurysm and abdominal aortic aneurysm are different diseases, which have different genetic background. It should be discussed in this manuscript.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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