Reviewer’s report

Title: Evaluation of alterations in serum immunoglobulin concentrations in components of metabolic syndrome, obesity, diabetes, and dyslipidemia

Version: 2 Date: 19 Sep 2019

Reviewer: Reviewer 2

Reviewer's report:

"PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

No - there are major issues

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author’s interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?

Maybe - with major revisions
PEER REVIEWER COMMENTS:

GENERAL COMMENTS: This cross-sectional study analyzed the association between serum immunoglobulins (Igs) and cardiovascular risk factors such as obesity, diabetes, and dyslipidemia. The statistical analysis has been adequately performed, and the results are clearly presented. However, a major problem is that the method used for the measurement of Igs was not described in the manuscript while the data were collected from two hospitals.

REQUESTED REVISIONS:

The authors have basically responded to the questions of the reviewer. However, the change in the revised manuscript resulting from the response to question 1 is not sufficient for understanding how they controlled the covariates such as dyslipidemia, diabetes and, obesity. More detail for such analysis is needed.

The method of measuring serum immunoglobulins (Igs) was not described in the manuscript. Was the measurement of Igs done with the same method or with different methods? The presentation of values was not specified in the method section.

In statistical analysis, what is the reason to include a bivariate P-value less than 0.2 in the GLM for all demographic and clinical variables?

It remains unclear how you adjusted the measured Ig values for age, sex, race, and so on. This should be carefully described in the section of statistical analysis.

ADDITIONAL REQUESTS/SUGGESTIONS:
In the abstract, line 47, why are these words there? The term of GLM should be defined in the text where it appeared for the first time.

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

No

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

No

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:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organisation that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

This reviewer has been recruited by a partner organization, Research Square. Reviewers with declared or apparent competing interests are not utilized for these reviews. This reviewer has agreed to publication of their comments online under a Creative Commons Attribution License attributed to Research Square and was paid a small honorarium for completing the review within a specified timeframe. Honoraria for reviews such as this are paid regardless of the reviewer recommendation.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons
CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal