Reviewer's report

Title: Relationship between estimated glomerular filtration rate, albuminuria, and oxidant status in the Japanese population

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Reviewer: Matthew Abramowitz

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Ishizaka and colleagues have examined the association of oxidant stress with eGFR and albuminuria in a Japanese cohort. They found an association of albuminuria with higher oxidative stress, and less clear results for eGFR. I have several comments:

Major compulsory revisions:

1. More detail needs to be provided about what was actually measured to assess reactive oxygen metabolites and antioxidant potential so the reader can determine the validity of these measurements. Simply stating that there are automated methods is not sufficient, even with the provision of references. Is there data on the performance of these assays?

2. The calculation of BSA-corrected eGFR is incorrect. It should be eGFR x BSA/1.73.

3. Quartiles of UAER may not be the most informative way to categorize this variable (the same might be said for eGFR, but those quartiles are at least similar to the commonly used clinical cutpoints). The authors should perform an additional analysis using the definitions for micro- and macroalbuminuria.

4. P values for interaction by sex should be provided for the relevant analyses where the authors are postulating sex-related differences.

5. Smoking affects oxidant stress, and the percentage of never-smokers differs markedly by sex in this cohort. Did the authors examine whether smoking status might explain the sex differences they note?

6. Why is HOMA mentioned in the Methods? It is not presented in the Results, nor are insulin levels.

7. As the majority of the participants had eGFR>60, some readers may feel that the CKD-EPI equation would have been more appropriate than MDRD. The authors should explain that the Japanese MDRD was derived from a cohort in which a substantial proportion had GFR>60.

8. In the Results on page 8, the 95% CIs should be provided for the odds ratios of the association of CKD with highest ROM quartile and lowest BAP quartile.

9. In Figure 1B, BAP levels in Q2-Q4 appear very similar between men and women. Can the authors confirm that these significantly differ by sex?

10. Imprecision in the estimation of GFR should be mentioned as a limitation.
**Level of interest:** An article whose findings are important to those with closely related research interests

**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.