Reviewer’s report

Title: What is the impact of metabolic syndrome and its components on reflux esophagitis? A cross-sectional study

Version: 0 Date: 01 Oct 2018

Reviewer: Eivind Ness-Jensen

Reviewer’s report:

This was a well written study on the association between the metabolic syndrom and its components and reflux esophagitis. I have the following comments:

- The methods of the abstract should include more details about the methods used. How was the variables assessed? Which statistical methods were used?

- In the introduction, excess gastric acid is included in the list of the multifactorial process of RE. However, this is rare and should probably not be listed here.

- HP-infections are usually reported as negatively associated with GERD/RE, not positively as stated in the introduction.

- In the introduction, the authors refer to a Chines retrospective case-control study claiming causality (ref 24). This should be corrected to "associations", as causation cannot be claimed in such a study.

- The methods section should include a description of how the included variables from the questionnaires were assessed. What was the questions and response alternatives?

- The discussion should include that the medical history was self-reported and thus could introduce misclassification.

- Excellent objective assessment of the antropometric factors.

- I disagree with the use of statistical inference using p-values comparing baseline variables as in Table 1.

- In the text of the results, the focus is on the univariate results, but should be on the adjusted multivariate results. The univariate results could be reduced and the multivariate increased.

- I do not understand why the multivariate results are separated in two tables. They should be presented in one table of the main multivariable results, including all the relevant variables.

- Why did the authors adjust for BMI only and not WC only, as WC is probably the stronger risk factor of the two?
- In the presentation of the results it is not possible to understand which variables are compared to each other. What is the reference value? This should be explained in the methods section, as commented above.

- The discussion is a very nice discussion of the different factors involved and the strengths and limitations of the study, except missing a discussion of the problem with self-reported medical history.

- In the discussion, calcium channel blockers are stated as important "causative factors". I believe this should be "associated factors".

- In tables 2-4 it is hard to understand what is the outcome and what is the comparison. This would have been easier to understand if the variables were better reported in the methods section. The tables should also state what the analyses are adjusted for? Adjusted for all the other variables?

- Figure 2 is very nice and illustrative

**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.

Yes

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

Yes

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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

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