Reviewer’s report

Title: Development and Validation of a Simple-to-use Clinical Nomogram for Predicting Obstructive Sleep Apnea

Version: 0 Date: 02 Oct 2018

Reviewer: Thomas Penzel

Reviewer’s report:

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The study is well conducted and addresses the important problem of assessing the risk to suffer from sleep apnea. The introduction nicely shows the limitation of questionnaires and currently available scores.

A limitation of the new proposed method is, that biochemical markers are needed. The assessment of glucose, insulin, and apolipoprotein B raises concerns in terms of money, time, and effort. This needs to be specified with more detail and that this is needed, should be addressed in a limitation section of the paper.

Moreover, for the figure 2, the new nomogram, units of measures need to be added. If they are not added in the figure itself, then at least in the legend, the units should be added. This is also important for gender, where 1 and 0 are mentioned without saying which gender corresponds to which number.

It would be good to add an example drawing for a patient with severe sleep apnea, that new users understand how to proceed with the nomogram.

The application of the LASSO method appears sound, however more details to be included in an online addendum would help to make this more transparent.

The question to be addressed as well is: if this is not intended to replace PSG, this is good and obvious. However is it intended to replace HSAT / polygraphy with limited channels?

What is the intrascorer variability of your reference polysomnography scoring?

A major limitation is, that your analysis relies on automatic Alice PSG scoring with little manual editing. Results may be much worse when comparing against another polysomnography system. Would you agree? This needs to be mentioned in the limitations section at least.
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?
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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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