Reviewer’s report

Title: Using Hashimoto thyroiditis as gold standard to determine the upper limit value of thyroid stimulating hormone in a Chinese cohort

Version: 1 Date: 07 Jul 2016

Reviewer: Douglas Curren-Everett

Reviewer's report:

General Comments

This paper estimates the upper limit of normal TSH values using two different methods. In general I am satisfied with the statistical analyses, but I do have some comments.

Major Compulsory Revisions

1. Figure of joinpoint regression. I did not find a figure with this analysis. Given it is one of your methods of estimating a TSH cutoff, it is essential to include it. It appears to me that Figure 2 is simply deciles of TSH.

Minor Essential Revisions

1. Abstract, line 37 and throughout the paper, jointpoint regression. I believe the authors mean joinpoint regression. In the Methods, please cite a statistical reference along with the ljr package [ > citation ( 'ljr' ) ].

2. Results, lines 118 and 125 and throughout paper, percentages. Is 0.1% or 0.01% all that important? I believe all percentages, including area under the curve, can be rounded to the nearest integer.

3. Results, line 139. Please report the actual P value rather than just P > 0.05.

4. Results, lines 142-143. Axle should be axis.

5. Results, lines 152-158. The ROC curve depends on the cutoff used. Therefore, the sentence that mentions a cutoff of 2.6 should come before the sentence that describes the are under the ROC curve.
6. Discussion, lines 200-201. Does 4.6% overall [5% overall] refer to the entire distribution of TSH values (from minimum to maximum) or to the distribution of TSH values below the cutoff of 2.6?

7. Discussion, lines 228-229. Older should be older.

8. Table 1, reporting of SD. The +/- sign is not needed for SD. The preferred format to report SD is 35.9 (SD 9.15). P values cannot truly be 0. P < 0.001 is sufficient. Please round P values to 2 decimal places if greater than 0.01.

9. Figure 1. Please mention how the distributions of TSH were smoothed.

10. Figure 3. Please include the cutoff value of TSH in the figure legend.

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

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

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