Reviewer’s report

Title: Mean peak systolic velocity of superior thyroid artery for the differential diagnosis of thyrotoxicosis: a diagnostic meta-analysis

Version: 1 Date: 24 Apr 2019

Reviewer: Anu Sharma

Reviewer's report:

Peng et al performed a meta-analysis of studies utilizing superior thyroid artery peak systolic velocity to differentiate between Graves' disease and destructive thyroiditis. They show that this methodology has a pooled sensitivity of 0.86 and specificity of 0.93. Main limiting factor in this study's applicability clinically is the heterogeneity in the studies leading to no absolute cut off value for diagnosis.

1. Page 4 "Study selection and data extraction" - some grammatical errors are present. "after read the title" should read "after reading the title..." and "The following informations were extracted" should read "The following were extracted.."

2. Page 4 "Assessment of methodological quality" - multiple errors present. This paragraph should be re-written with a grammar check.

3. Page 5 line 36 - "Statistical heterogeneity between studies were examined using the I2 value" - please superscript the 2.

4. Page 6 line 1 - "11 studies in the 10 articles" - this is confusing. State wither 11 studies or 10 published articles.

5. Page 6 line 4 - Why was total T4 used and not free T4?

6. Page 7 - please spell out Table

7. Page 8 - please spell out Table

8. Consider adding to the discussion data on cost effectiveness of the varying methods to differentiate GD from DT.

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?
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:

Needs some language corrections before being published

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