Author’s response to reviews

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

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Version: 2 Date: 09 May 2019

Author’s response to reviews:

Dear Editor:

We deeply appreciate your consideration of our manuscript, and thank you very much for your letter and the comments from the reviewers about our paper submitted to BEND-D-19-00049R1. We would like to resubmit the enclosed manuscript entitled “Mean peak systolic velocity of superior thyroid artery for the differential diagnosis of thyrotoxicosis: a diagnostic meta-analysis”. We have checked the manuscript and revised it according to the comments. We sincerely hope this manuscript will be finally acceptable to be published on “BMC Endocrine Disorders”. Thank you very much for all your help and if you have any queries, please don’t hesitate to contact me at the address below.

Thank you and best regards.

Yours sincerely,

Shaohui Tang

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Shaohui Tang, E-mail: tangshaohui206@163.com
Thanks for your comments on our paper. We have revised our paper according to your comments, please find the following Responses to the comments of reviewers:

Response to Reviewer 1:

Comment : Need to revise the statement in your conclusion. You stated that STA-PSA is a better diagnostic tool for distinguishing GD from DT. Better than what? I don't think we can draw this conclusion from the studies provided. I would suggest to use statement like "useful test" or "feasible" or other statement that suggest that is an alternative test, since the gold standard is still RAI uptake studies.

Answer: Thanks for the reviewer's kind advice. My conclusion has been changed: STA-PSV by ultrasonography is a useful diagnostic method in differentiating GD from DT. Page 2, line 14 and Page 12, line 6.

Response to Reviewer 2:

Comment 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."

Answer: Thanks for the reviewer's suggestion, and grammatical errors in the manuscript has been carefully revised correctly:

Page 4, line 36: After reading the title and abstract.

Page 4, line 43: The following were extracted from each selected study.

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

Answer: Thanks for the reviewer's kind advice. This paragraph has been carefully revised. Page 5, line 4 to line 31.

QUADAS-2 (Quality Assessment of Diagnostic Accuracy Studies-2) was used to assess the quality of the included studies. The QUADAS-2 form is consists of four domains: (1) patient selection, (2) index test, (3) reference standard, and (4) flow and timing. Each domain is assessed in terms of risk of bias, and the first 3 domains are also assessed in terms of concerns about applicability. Signaling questions are included to help judge risk of bias. Risk of bias is judged as “low”, “high” or “unclear”. If the answers to all signaling questions for a domain are “yes”, then
risk of bias can be judged low. If any signaling question is answered “no”, potential for bias exists. The “unclear” category should be used only when date are insufficiently reported to permit a judgment. Applicability sections are structured in a way similar to that of bias sections but do not include signaling questions. Concerns about applicability are rated as “high”, “low” or “unclear”. The results of quality assessment were used to provide an evaluation of the overall quality of included studies and to investigate potential sources of heterogeneity.

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

Answer: Thanks. The 2 has been superscripted: Statistical heterogeneity between studies was examined using the I2 value. Page 5, line 38.

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

Answer: Thanks for the reviewer's good suggestion, and “11 studies” has been deleted: 10 published articles were included. Page 6, line 7.

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

Answer: Thanks for the reviewer's good suggestion, and it was a clerical error, and I have revised correctly; and free T4 were performed. Page 6, line 14.

Comment 6. Page 7 - please spell out Table

Answer: Thanks for the reviewer's good suggestion, and the table have been spelled out: GD: Graves' disease; DT: destructive thyroiditis. Page 7

Comment 7. Page 8 - please spell out Table

Answer: Thanks for the reviewer's good suggestion, and the table have been spelled out: GD: Graves' disease; DT: destructive thyroiditis; STA-PSV: peak systolic velocity of superior thyroid artery; US equipment: ultrasonography equipment. Page 8
Comment 8. Consider adding to the discussion data on cost effectiveness of the varying methods to differentiate GD from DT.

Answer: Thanks for the reviewer's good suggestion. I have failed to find any data on cost effectiveness of the varying methods to differentiate GD from DT in the 10 included articles.

Thank you again for your good advice and hope to learn more from you.

Sincerely,

Shaohui Tang