Reviewer’s report

Title: The impact of thyroid-stimulating hormone levels in euthyroid women on intrauterine insemination outcome

Version: 1 Date: 18 Jan 2018

Reviewer: Juan Jesús Fernández Alba

Reviewer's report:

Dear authors.

The present work is interesting but to be published it must undergo a thorough revision process.

1. In the introduction, the justification for the study focuses on the impact that subclinical hypothyroidism has on perinatal outcomes. In addition, the authors report the lack of agreement on the TSH cut-off point to consider that there is a subclinical hypothyroidism. It is evident that the Guidelines of the American Thyroid Association for the Diagnosis and Management of Thyroid Disease During Pregnancy and the Postpartum published in 2017 have not been taken into account.

Currently, the cut-off point to consider that there is a subclinical hypothyroidism has gone from 2.5 to 4 mIU/ml.

It is necessary to rewrite the introduction including the current criteria of the ATA.

2. In the study period, the accepted cut-off point for subclinical hypothyroidism was 2.5 U/L. Therefore, we can understand that in the study group (TSH> = 2.5 U/L), if the woman became pregnant, she was diagnosed with subclinical hypothyroidism (We do not know the level of fT4 as it is exposed in the section of limitations of the study). The authors should clarify whether this group of pregnant women was treated with levothyroxine or not.

3.- I understand that TSH was determined before initiating ovarian stimulation. However, this point must be clearly expressed in the text.

4.- Authors should explain how they calculated the sample size. In the case that, as it seems, the authors included the sample universe, it is necessary to clarify the power of the study, specifically in the multivariate logistic regression analysis.  
5.- In the section of methods, the authors include BMI as an independent variable of multiple logistic regression. However, this variable is not included in the results section. It is necessary to clarify why this variable was eliminated or include its result.
6.- The authors state that 38 pregnancies were achieved. However, only the perinatal results of 27 are reflected. It is necessary to explain what happened in the 11 cases in which the gestational period was not completed. It is very important to clarify how many reproductive losses occurred in each group by specifying the number of miscarriages of the first trimester, late abortions and intrauterine fetal deaths were recorded.

7. In the discussion, the authors state that the American Thyroid Association believes that preconception point cut and the first trimester of pregnancy to diagnose and treat subclinical hypothyroidism is set to 2.5 IU / L. This statement is not updated according to the latest ATA guideline of 2017 that sets the cut-off point at 4 U / L. The authors must update this aspect.

8.- It would be interesting to include in the discussion a paragraph in which it is reflected that the results found by the authors are relevant since they endorse the recommendation of the 2017 ATA.

**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

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