Reviewer’s report

Title: Association between thyroid dysfunction and perinatal outcomes in women with gestational hypertension: a retrospective study

Version: 0 Date: 20 Apr 2019

Reviewer: Sima Nazarpour

Reviewer's report:

The study entitled "Association between thyroid dysfunction and perinatal outcomes in women with gestational hypertension: a retrospective study" aimed to investigate thyroid hormones in the third trimester of pregnancy in different classification of preeclampsia and correlate them with neonatal outcomes of pregnancy. This is an interesting subject. However, this study have some concerns which should be addressed before publication. The following are suggested to improve.

Abstract

* Please add the short background at the beginning of the abstract.
* Please present the OR and 95%CI in all association results.
* Please specify in the method part, the type of study.

Introduction

It is recommended to express the incidence of hypothyroidism during pregnancy.

Method

* How was the information collected? Were the hospital records used?
* The method section seems to be incomplete and there is no clear explanation for the method of data collection. It is also necessary to explain how to collect information about thyroid hormone tests. Do all of these tests were conducted in a laboratory? Please explain more about the method of collecting information.
* In Statistical analysis section, how we can confirm the sample size? Please give some information about it.
* It is necessary to define the terms of "hypothyroidism" based on TSH levels in this study.
* Perinatal outcomes must be defined and it should be determined which of the outcomes are being studied in this study.
* It is recommended to use a flowchart to illustrate the study groups.

**Results**

* In the last sentence of results section "FT3, rate of hypothyroidism and rate of low T3 and low T4 were associated with at least one adverse outcome (P<0.05)". This sentence does not look clear and needs to be edited. What is the relationship between FT3 and adverse outcome?
* Please use the full name of FT3 and FT4 and then abbreviation when it firstly appears in the text.
* What is the meaning of "FT3 and FT4 decreased" in this study? Has a certain amount of hormonal loss been considered?
* It is suggested to compare the outcomes of the groups in a separate table.
* In tables 1 and 2, please report all p-values.
* In the subtitles of tables 1 and 2, in order to clarify the results, it is suggested that Instead of sentence "a Significantly different with the pregnant induced hypertension_ b significantly different with the late onset preeclampsia", insert the following sentence: a Early onset preeclampsia vs the pregnant induced hypertension _ b Early onset preeclampsia vs late onset preeclampsia.
* In Tables 1 and 2, specify the values given for each of the variables are mean (SD) or n (%).
* Please mention the Reference Group in Table 3 for each Characteristics.

* It seems that univariate logistic regression was applied to estimate the association between preterm and low birth with characteristics factors and crude ORs were presented while these relationships could be confounded through variables such as maternal age and so on. I suggest author to run multiple logistic regression and estimate adjusted ORs via appropriate confounding variables as well.
Discussion

* The first paragraph of the discussion section is not clear and needs to be edited.

* Please present some underlying pathophysiology associated with findings.

* In the discussion, the relationship between the findings of the present study and the findings of other relevant research in the world (with references to sources) should be compared and logically analyzed. Were there any study about the effect of thyroid dysfunction on the perinatal outcomes in women with gestational hypertension?

* What are the strengths of the study?

* What further studies are recommended in this area?

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.

No

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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