Peer Review Report

Review Report on Clinical study on the difference in intestinal microecology between patients with preeclampsia and pregnant women at different stages of pregnancy

Original Research, Acta Biochim. Pol.

Reviewer: Beata Hukowska-Szematowicz
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EVALUATION

Q 1 **Please summarize the main findings of the study.**

1. Significantly increased basic blood parameters in women with preeclampsia at various stages of pregnancy.
2. Pre-eclampsia pregnant women, the blood-lipid related indicators (TC, TG and LDL-C levels) were significantly increased, while the HDL-C level was significantly decreased.
3. The renal function-related indicators (Cr, BUN, UA and Pro levels) were significantly increased.
4. The alpha diversity was relatively high, and the flora was relatively rich, which was the largest difference from late pregnancy, Among them, Bacteroides and In review actinomycetes have great differences at the phylum level, Bacteroides and Bifidobacteria have great differences at the genus level, Bacteroides Uniforms and Ruminococcus Bromii have great differences at the species level, and the difference bacteria have correlation with the relevant indicators of pregnancy.

Q 2 **Please highlight the limitations and strengths.**

Limitations:
1. The group of examined patients is small and may influence the results of the study.
2. The central point of the manuscript should be the study of the microbiome of pregnant women at various stages of pregnancy, and not the basic hematological indicators, lipid profile, and kidney function indicators. Such information is a very valuable complement to the results obtained regarding the microbiome and this is a future approach
Strengths:
A very interesting topic. The obtained data should be expanded to include at least the same large study group and then sent for publication.
Another solution is to present the research as preliminary research: Clinical study on the difference of intestinal microecology between patients with preeclampsia and pregnant women at different stages of pregnancy-preliminary study.

Q 3 **Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.**

1. Not very representative study group (n=39), (n=5, 6, 13, 15).
2. poorly described statistical analysis. What software was used to analyze the data, how was the multivariate analysis of variation calculated (page 5).
3. The work was constructed in such a way that basic parameters such as blood parameters, lipid profile, renal function indicators were made the main thread of the work. In fact, the real value of the work is the analysis of intestinal flora in pregnant women. This needs to be reworded.
4. In the chapter "Collection of stool samples and detection of intestinal flora" (page 5), the procedure for collecting excrement and storage (whether it was fresh or frozen stool) is unclear. What method was used to isolate DNA/genetic material from feces (please provide details), the proposed description is insufficiently documented to enable replication studies.

5. Were their intestinal enteropytes taken into account when classifying patients for the study (at least based on a dietary interview), because if not, the results obtained are obvious (Bacterioides, Prevotella, Ruminococcus) and new when it comes to actinomycetes. In review actinomycetes have great differences at the phylum level.
6. It is not stated whether the research complies with ethical standards, including the procedure for approval by the ethics committee and obtaining consent? It was only stated that the patients' consent was obtained.

Check List

Q 4 **Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List)**

1. Not very representative study group (n=39), (n=5, 6, 13, 15).
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Q 5 **Is the English language of sufficient quality?**

Yes.

Q 6 **Is the quality of the figures and tables satisfactory?**

No.

Q 7 **Does the reference list cover the relevant literature adequately and in an unbiased manner?**

Yes.

Q 8 **Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)**

No.

Q 9 **Are the methods sufficiently documented to allow replication studies?**

No.

Q 10 Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

No.

Q 11 Does the study adhere to ethical standards including ethics committee approval and consent procedure?

No.

Q 12 Have standard biosecurity and institutional safety procedures been adhered to?

Yes.

QUALITY ASSESSMENT

Q 13 Originality

Q 14 Rigor

Q 15 Significance to the field

Q 16 Interest to general audience

Q 17 Quality of the writing

Q 18 Overall quality of the study