

Dear editor:

We would like to thank you and reviewer for helpful suggestions to improve our manuscript. Thus, we have added additional content to address the concerns raised by reviewers and revised the paper titled "Ultrasound blood flow characteristics changes in fetal umbilical artery thrombosis: a retrospective analysis", which needed revision. Below is a detailed description of the changes we have made in this revised version, along with our responses to each of the reviewer and editorial office's comments.

Once again, we appreciate your time and effort in reviewing our manuscript. I hope that this revised version is now suitable for publication.

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade A (Priority publishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: The study is a retrospective analysis of 19 patients with UAT, confirmed by histopathology, from a database of 51,969 patients who gave birth in Xiamen Women and Children's Hospital between October 2019 and March 2023. The authors used ultrasound indices of umbilical artery blood flow, such as systolic-diastolic duration ratio (S/D), resistance index (RI), pulsatility index (PI), and peak systolic velocity (PSV), for their analysis. The study design is appropriate for the research question. However, the sample size is relatively small, which may limit the generalizability of the findings. Additionally, the study could have benefited from a control group of patients without UAT for comparison. The results showed that the decrease in S/D, RI, and PI and increase of PSV during the disease process was greater than that of non-UAT. Most patients (16/18) showed umbilical cord abnormalities, with 15 umbilical cord torsion and 1

pseudoknot. Coagulation parameters were not significantly changed in UAT patients compared with normal pregnancy women. The results are clearly presented, and the statistical analysis seems appropriate. However, the authors could have provided more detailed information on the demographic characteristics of the patients and the specific values of the ultrasound indices. The authors concluded that significant changes in ultrasound indicators after UAT were demonstrated and that PSV can play important roles in the diagnosis of UAT. They also concluded that hypercoagulability alone is not sufficient for the occurrence of UAT. The discussion is comprehensive and provides a good interpretation of the results. However, the authors could have discussed the limitations of their study, such as the small sample size and the lack of a control group. They could also have provided more suggestions for future research. Overall, the manuscript is well-written and presents interesting findings. However, the authors should consider increasing the sample size and including a control group in future studies to enhance the validity of the results. They should also provide more detailed information on the demographic characteristics of the patients and the specific values of the ultrasound indices. In the discussion section, the authors should discuss the limitations of their study and provide more suggestions for future research.

Response:

Thank you for your constructive comments on our manuscript. We appreciate your thoughtful evaluation of our study. We have added the required results and modified some of the description text in this paper to address these issues (1) Detailed demographic characteristics of the patients in the supplementary table (Table S1) as well as specific values of ultrasound indices (Table S3) were included to provide readers with a clearer understanding of the baseline patient information and the changes in ultrasound data before and after UAT occurrence.

(2) We also have added maternal clinical data and neonatal outcomes of the non-UAT group (Table S2) and included normal umbilical artery pathology results as a control in the UAT patient pathology results (Figure 2), which ensures that our statistical results are all controlled, making the conclusions more reliable.

(3) In the discussion section, the limitations of this study was added, including (a) the small sample size due to the low incidence rate of UAT, and (b) the bias induced by retrospective analysis. We have also provided some suggestions for future study designs to address these limitations.

EDITORIAL OFFICE'S COMMENTS

(1) *Science editor:*

The manuscript has been peer-reviewed, and it is ready for the first decision.

Response:

Thank you for your help in processing the article.

(2) *Company editor-in-chief:*

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Clinical Cases, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that

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Response:

In response to each of the reviewer's comments, we have added the necessary data and expanded the discussion on the limitations of our study as suggested, believing that these modifications have addressed the concerns raised.

We have prepared the original figures in PowerPoint format and added copyright statements as requested. The tables have also been presented in the standard three-line format.

We appreciate the tools recommended, as they have greatly assisted us in citing the most relevant literature.

We appreciate your guidance in ensuring that our manuscript meets the required standards.

Thank you very much for your consideration and best wishes.

Sincerely,

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