Dear Editor,

Thank you for comments regarding our manuscript. We appreciate the valuable feedback and have addressed the concerns raised by the reviewer. Their input has undoubtedly strengthened the quality and clarity of our work. We have carefully considered your comments and made the necessary revisions to address the concerns raised. We hope that these revisions address all the concerns raised and meet the standards of the journal. Please find our detailed responses and the revised manuscript attached.

Thank you for considering our responses and the revised manuscript. We look forward to your response.

Best regards,

Reviewer 1

Is there any case of miscarriage or complication in your series? Please check journal rules for the references. Thanks for the work.

Answer: There were no complications such as miscarriage, fetal loss, and preterm premature rupture of membranes during pregnancy follow-up of the participants included in the study.

We have reviewed all references and revised their formatting to ensure full compliance with the journal's guidelines. Thank you for your helpful comments.

Reviewer 2

Dear Editor, Thank you for the opportunity to review the manuscript titled “Prospective evaluation of fetal and placental hemodynamics and cardiac function after mid-trimester amniocentesis: A comprehensive Doppler study.” While the study aims to address a clinically relevant question—whether mid-trimester amniocentesis affects fetal and placental hemodynamics—it lacks a clearly articulated physiological rationale or scientific hypothesis. The manuscript does not explain why immediate post-procedure changes would be expected, nor does it explore the underlying mechanisms through which amniocentesis might influence Doppler parameters or cardiac function. Without this foundational reasoning, the study remains observational and descriptive, limiting its scientific contribution and publishability. Although the inclusion of LMPI is novel, its application is not contextualized with known physiology, and critical factors such as fetal heart rate and behavioral state are not addressed. Moreover, the timing of the post-procedure assessment (one hour) appears arbitrary and is not physiologically justified. These concerns, combined with the small sample size, lack of power analysis, and overinterpretation of non-significant results, significantly weaken the study’s impact. In its current form, I do not believe this manuscript meets the standards for publication. I choose to reject however, if you wish, a major revision would require the authors to first establish a plausible physiological hypothesis and align the methodology accordingly. Sincerely, Shifa Turan

Answer:

Dear Reviewer,

Thank you very much for your thoughtful and detailed review of the manuscript.

We agree that a clearer physiological rationale would strengthen the manuscript. In the revised version, we have now expanded the Introduction to better articulate the theoretical basis for expecting hemodynamic changes following amniocentesis.

In Introduction:

“Previous studies have examined the effects of amniocentesis on fetal heart rate (FHR) and indirectly on fetal well-being. The findings of these studies have shown that FHR decreases after amniocentesis both in the early (immediate measurement) and late (measurement after 60 minutes). It was also found that the decrease in FHR occurred significantly in both chromosomally abnormal and normal karyotype fetuses, and that the decrease was significantly higher in fetuses with karyotype abnormalities. It was concluded that the heart rate response to amniocentesis may be an indicator of fetal well-being and that the association with abnormal karyotype may be due to cardiac defects or developmental delay (10–14).

A limited number of studies have examined the effect of the amniocentesis procedure on fetal hemodynamics. The findings of these studies did not show any significant changes in fetal Doppler flow associated with the procedure. However, the Doppler examinations in these studies mostly included maternal and placental functions, and fetal Doppler examination was limited to UA and DV Doppler examinations (15–18). There is no study yet that has also examined the effect on fetal cardiac function. For this purpose, we aimed to evaluate the early placental and fetal effects of the amniocentesis procedure by including UtA, UA, MCA, DV, and left modified myocardial performance index (LMPI) Doppler parameters. Additionally, we sought to determine whether transplacental needle passage during amniocentesis influences these Doppler parameters.”