

REVIEWER'S REPORT

Manuscript No.: IJAR-51575

Date: 15-05-2025

Title: UMBILICAL CORD COILING INDEX AS A MARKER OF MATERNAL AND PERINATAL OUTCOME: A RETROSPECTIVE STUDY

Recommendation:

Accept as it is.....YES.....

Accept after minor revision.....

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality		√		
Clarity			√	
Significance		√		

Reviewer's Name: Dr Aamina

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Abstract Evaluation:

The abstract presents a clear summary of the study, outlining the purpose, methodology, key findings, and conclusion in a structured format. It succinctly identifies the clinical relevance of the umbilical cord coiling index (UCI) as a determinant of maternal and perinatal outcomes. The objectives are precisely stated and aligned with the results. Statistical significance is appropriately noted, supporting the reliability of the conclusions. The use of key terms like fetal distress, meconium staining, Apgar score, and NICU admission provides clarity on the focus of the investigation.

Introduction Evaluation:

The introduction establishes the physiological importance of the umbilical cord and its role in fetal development. It provides a relevant background on the structural features and potential

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REVIEWER'S REPORT

complications arising from abnormal coiling. The review of literature is well-integrated, citing significant findings from previous studies that reinforce the relevance of UCI in perinatal outcomes. The statement of the aim is direct and well-articulated, offering a comprehensive view of the study's scope.

Scientific Relevance:

This study addresses a critical aspect of obstetric care by correlating an observable antenatal parameter (UCI) with intrapartum and neonatal outcomes. The investigation into both hypo- and hypercoiling adds depth to the analysis and broadens the clinical applicability of the findings. The work is relevant to obstetricians, neonatologists, and maternal health researchers, offering useful clinical insights.

Methodology Evaluation:

The research design is appropriately labeled as a prospective analytical study, and the sample size of 200 patients over a defined study period provides a reasonable basis for statistical analysis. The method for calculating UCI is referenced with standard literature (Degani et al.), ensuring methodological consistency. The use of Chi-square testing and SPSS software demonstrates a sound statistical approach to data analysis. Clear association of UCI with specified maternal and fetal outcomes reflects focused research objectives.

Results Evaluation:

The results are reported with clarity, showing statistically significant correlations between UCI categories and key perinatal indicators. The data supports the hypothesis that abnormal UCI—both hypo- and hypercoiling—has clinical implications. Notably, hypocoiling is associated with meconium-stained liquor and low Apgar scores, while hypercoiling correlates with intrauterine growth restriction (IUGR). P-values are clearly stated, enhancing the scientific reliability of the observations.

Conclusion Evaluation:

The conclusion summarizes the key findings effectively. It reinforces the potential of UCI as a non-invasive antenatal marker for anticipating adverse perinatal outcomes. The conclusion aligns with the data presented and underscores the clinical importance of routine UCI evaluation.

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Language and Style:

The manuscript is written in a clear and professional academic tone. The scientific terminology is appropriate, and the structure is logically organized. Citations are consistently formatted, and the narrative maintains clarity throughout.

Summary

This manuscript presents a well-conducted clinical study investigating the relationship between umbilical cord coiling index and perinatal outcomes. The findings provide valuable evidence for the association between abnormal coiling and adverse fetal indicators such as meconium staining, low Apgar scores, and IUGR. The study is well-articulated, statistically sound, and of significant relevance to maternal-fetal medicine. It contributes meaningfully to the growing body of knowledge on antenatal risk assessment and fetal monitoring.
