

Umbilical Cord Blood Bilirubin as a Predictor of Significant Hyperbilirubinemia Requiring Phototherapy among Full-term Healthy Neonates: A Prospective Study

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Dear Editor,

We read with great interest the article by Preeti B Patil et al.,¹ which explores the utility of umbilical cord blood bilirubin (CBB) as a predictor of significant hyperbilirubinemia in neonates. The study offers valuable insights into a method that is both economical and non-invasive, potentially serving as a useful tool in neonatal care.

However, we would like to draw attention to certain methodological aspects of the study that warrant further consideration. One area that could enhance the study's robustness is the consideration of rigorous case-control matching. Considering additional variables like gender, APGAR score, birth weight, and other baseline characteristics may enhance our understanding of risk factors.^{2,3} The stratified analysis could've been used to include variables like the APGAR score and gender. Providing detailed data on these parameters, along with the corresponding p-values, would have strengthened the study's validity.

Moreover, the etiologies of neonatal hyperbilirubinemia are multifactorial, including increased bilirubin production due to hemolytic anemia, polycythemia, and internal hemorrhages, among others. Additionally, factors such as genetic enzyme deficiencies, hypoxia, infections, and thyroid dysfunctions play a critical role. It is important to note that hyperbilirubinemia resulting from postnatal causes such as infections, drug-induced conditions, or physiological jaundice cannot be predicted by CBB levels. The study's generalized conclusions may overlook these distinctions.

Furthermore, variables such as gestational age, exclusive breastfeeding, maternal age, mode of delivery, and macrosomia are well-documented contributors to neonatal jaundice.³ The inclusion of these factors in the analysis could have provided a more comprehensive understanding of the predictive value of CBB.

Bhat J et al.⁴ assert that the development of neonatal hyperbilirubinemia is influenced by factors such as gender, mode of delivery, birth weight, and other baseline characteristics. However, a contrasting perspective is presented by Agrawal Y et al.,² which challenges these findings. This divergence underscores the necessity for further research. To resolve this

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inconsistency, future studies should employ larger sample sizes and more rigorous methodologies to clarify the relationship between these variables and neonatal hyperbilirubinemia development.

In conclusion, while the study by Preeti B Patil et al. provides valuable insights, addressing the aforementioned limitations would enhance its reproducibility and clinical relevance. We advocate for further research that incorporates these factors, as it could lead to more accurate diagnosis and better outcomes in the management of neonatal hyperbilirubinemia.

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