

Study of cord blood bilirubin and albumin levels as predictors of subsequent significant hyperbilirubinemia in healthy newborn

Swapnil Thakkar

Fortis Escorts Hospital Limited, India

Abstract

To determine the correlation of level of cord blood bilirubin and albumin with development of significant neonatal hyperbilirubinemia in healthy newborns. This hospital based prospective cohort study was conducted between January to October 2019 with 200 cases. Inclusion Criteria were newborns delivered at ≥ 35 weeks of gestation, Mode of delivery being vaginal delivery/LSCS and Apgar score $\geq 7/10$ at one minute. A brief antenatal, perinatal, and natal history was obtained and recorded in a predesigned proforma. Immediate post-partum, newborn cord blood sampling was performed to evaluate serum bilirubin (mg/dl) and albumin (g/dl) levels along with routine investigations. Observation for development of jaundice was done till discharge and at time of follow ups; either by Transcutaneous Bilirubinometry (TcB) or serum sample (if necessary). Values of bilirubin acquired by either of these two methods were plotted on hour specific bilirubin nomogram. Cord serum bilirubin, cord serum albumin levels and TcB rising rates were compared with levels of bilirubinemia. All neonates assessed clinically, following birth, up to seventh postnatal day, for the development of jaundice. In term and near-term newborns, there was no significant difference in incidence of neonatal hyperbilirubinemia. Requirement of phototherapy was double in newborns of lesser gestational age, mainly because of the lower serum bilirubin cut off levels at which phototherapy is indicated, in that gestational age. Cord serum bilirubin level of ≥ 2.5 mg/dl was the strongest predictor of neonatal hyperbilirubinemia, with odds ratio of 167.706. Cord serum bilirubin level of ≥ 2 mg/dl had high specificity and negative predictive value for development of neonatal hyperbilirubinemia and subsequent requirement for phototherapy. Rising rate of TcB ≥ 0.25 mg/dl/hr (in first 24-48 hours of life) was the strongest predictor for requirement of phototherapy with odds ratio of 28.86. Rising rate of TcB ≥ 0.2 mg/dl/hr (in first 24-48 hours of life) had high sensitivity and negative predictive value for development of neonatal hyperbilirubinemia and subsequent requirement for phototherapy.

Biography

Swapnil Thakkar is from Fortis Escorts Hospital Limited, India



[International Conference on Pediatrics and Neonatal Care | July 14, 2020](#)

Citation: Swapnil Thakkar, *Study of cord blood bilirubin and albumin levels as predictors of subsequent significant hyperbilirubinemia in healthy newborn*, Neonatal care 2020, International Conference on Paediatrics and Neonatal Care, July 14, 2020, Page 07