Abstract and key words

Title: Transcutaneous bilirubin nomogram in late preterm for prediction of significant hyperbilirubinemia

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Aim: To construct a nomogram for Transcutaneous bilirubin (TcB) values in late preterm babies over the first 120 hours of life.

To correlate TcB values with serum bilirubin values.

Material and methods

Design: Prospective observational study.

Setting: Neonatal nurseries and postnatal wards of CMC Vellore.

Subjects: All late preterm babies delivered in Christian Medical College during the period (February 2014- January 2015) were included in the study.

All babies diagnosed to have haemolytic disease, major congenital anomalies, babies who were not started on enteral feeds by 48 hours were excluded. Transcutaneous bilirubin measurement was done at 6 hour intervals in the first 24 hours of life and then 12th hourly till 120 hours. Hour specific transcutaneous bilirubin nomogram was constructed in the 5th 10th 25th 50th 75th 90th and 95th percentiles. As part of secondary outcome, those babies whose serum bilirubin was estimated as part of unit
policy had a corresponding TcB estimated and the correlation between these values was estimated.

**Results:** A total of 270 babies were included in the study and a total of 2109 TcB values were estimated. The mean gestational age of the study population was 35.6 ± 0.819 weeks and mean weight was 2274 ± 411.9 g.

There was an almost equal sex distribution (boys 51% and girls 48%) and 57% of the babies were exclusive breast fed. With the study population, we constructed a nomogram till 120 hours of life. Rate of rise of bilirubin was noted to be maximum between 6 and 12 hours. Though the correlation between TcB values and serum bilirubin was good, the agreement was not very good.

**Conclusion:** We constructed an hour specific TcB nomogram for late preterm babies. Rate of rise of bilirubin was maximum during the first 12-24 hours of life after which there is a gradual decrease in rate of rise. There was good correlation between serum bilirubin and TcB values.

**Key words:** Hyperbilirubinemia; Late preterm; Transcutaneous bilirubin (TcB); Nomogram.