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Factors affecting readmission of healthy neonates with hyperbilirubinemia using predischARGE transcutaneous bilirubin screening: A retrospective study

Kathryn Cheshire P. Pangilinan, MD* and Nikki Cotoco-Chu, MD
St. Luke's Medical Center, Philippines

Neonatal hyperbilirubinemia is one of the most common causes of readmission during the first week of life. The identification of risk factors for hyperbilirubinemia is an important aspect for early identification and management of infants. This study aims to determine risk factors affecting readmission of healthy neonates with hyperbilirubinemia born at a tertiary hospital in Quezon City using predischARGE transcutaneous bilirubin screening. This is a retrospective observational study conducted using medical records of 326 healthy neonates born from November 2019 to June 2023, 60 cases were readmitted for hyperbilirubinemia. The transcutaneous bilirubin screening was routinely measured at 25 to 48 hours, 49 to 72 hours, > 72 hours after birth or before discharge, and all predischARGE and readmission clinical characteristics were collected. Multivariable logistic regression was used to find a clinical prediction model for the readmission of neonates with relevant predictor variables as well as values of transcutaneous bilirubin level given significant factors. Factors affecting readmission of healthy neonates with hyperbilirubinemia: neonates with ABO incompatibility, exclusively breastfed neonates, lower postnatal age, higher transcutaneous bilirubin level. For each 1 mg/dL increase in transcutaneous bilirubin level, the odds of readmission increase by approximately 41.8% (OR = 1.418, 95% CI: 1.143 to 1.759). This study was able to determine that with the use of predischARGE transcutaneous bilirubin, there was only a readmission of 1.62%. It was able to identify factors affecting readmission of healthy neonates with hyperbilirubinemia and was able to create a model using transcutaneous bilirubin levels according to postnatal age which may be useful to identify at risk. infants for subsequent hyperbilirubinemia and readmission, and therefore, may have early initiation of phototherapy. As such, it is recommended to do transcutaneous bilirubin screening in neonates prior to discharge.

Keywords: Transcutaneous bilirubin, predischARGE screening, neonatal hyperbilirubinemia, risk factors for hyperbilirubinemia

Biography

Kathryn Cheshire P. Pangilinan, MD, St. Luke's Medical Center, Philippines