Reviewing the Needs of Jaundice Management

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Introduction to Jaundice Supplement

Sometimes in nursing, we encounter a clinical problem so frequently that it becomes so routine, expected, and familiar that we are lulled into thinking it unimportant. This is often the case with neonatal jaundice. Two of 3 full-term newborns, and virtually all premature newborns will develop jaundice, so what is the big deal?

Nature has left us with a bit of a conundrum when it comes to neonatal jaundice. Bilirubin, the source of jaundice, is a well-known antioxidant,[1] with protective effects that rival those of vitamin E. The newborn's intestine secretes an enzyme that actually encourages the return of bilirubin to the circulation.[2,3] Breastfed babies have higher bilirubin levels than formula-fed babies.[4] Is Mother Nature trying to tell us something? Have we overlooked an evolutionary advantage—could bilirubin actually be good for babies?

An intriguing notion, but even if some bilirubin is good for babies, regrettably, the dividing line between "harmless" (or even beneficial) and "toxic" bilirubin levels is unknown. This fact compels us to treat practically any significant jaundice as potentially harmful. No matter how many jaundiced babies we see in a day, or a week, or a year, we must approach every single one as the baby who, if the bilirubin level is permitted to rise unchecked, could suffer permanent neurological damage.

I love the "stopped-up sink" analogy for viewing the problem of hyperbilirubinemia in the newborn.[5] A baby's bilirubin level stems from the balance between production and elimination of bilirubin in the body.[6] Bilirubin production is like water running from the faucet, and bilirubin elimination is the drain. If the water is running (bilirubin being produced) and the drain is open (bilirubin being eliminated), the sink does not fill up, and bilirubin does not accumulate in the body. However if the water is running too fast (overproduction) or the drain is clogged (underelimination), the bilirubin level climbs. Many factors can increase the bilirubin load (such as hemolysis or bruising), and others can impair its elimination (such as insufficient feeding intake, bowel obstruction, or immature liver conjugation), and all are additive. With so many variables in the mix, is it any wonder that jaundice is so common?

It is our responsibility as nurses to recognize these variables as risk factors for a rising serum bilirubin concentration after an infant is discharged from the nursery and is no longer under our watchful eyes. We must supplement our subjective assessment skills with objective technology and, combined with the latest and best evidence, identify newborns who require closer monitoring or treatment to eliminate the threat of bilirubin encephalopathy. We must use education to make parents our partners in protecting their infants from harm. When treatment is indicated, we must implement it efficiently, effectively, and safely. Above all, we must guard against the complacency that might lead us to ignore jaundice simply because it is so common.

In this special supplement of *Advances in Neonatal Care*, 3 articles are presented to assist us to achieve these goals. In "Managing jaundice in full-Term Infants," nurse practitioner Susan Simmons Holcomb summarizes the latest guidelines from the American Academy of Pediatrics for managing jaundice in newborn infants of 35 or more weeks' gestation. These guidelines focus on prevention and enumerate detailed strategies for hospitals to implement as they develop their standards of care for managing this common clinical condition.

The article "Fundamentals of Phototherapy for Neonatal Jaundice," originally written in 2006, has been updated for 2011 to reflect the state of the science

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in phototherapy for the treatment of neonatal hyperbilirubinemia. The effectiveness of phototherapy is greatly influenced by the skills, knowledge, and attention to detail on the part of the nurse who implements this treatment.

Finally, this compilation includes NANN's original position statement, "Prevention of Acute Bilirubin Encephalopathy and Kernicterus in Newborns," which reiterates the organization's support of recent national guidelines for the assessment and management of severe hyperbilirubinemia in newborn infants. This important document emphasizes the role of neonatal nurses and nursing leaders in developing and adhering to organizational policies consistent with these guidelines. We hope that you will find these articles interesting as well as instructive. This supplement has been generously supported by an educational grant from Draeger.

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