Mini Review

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Hyperbilirubinemia

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Volume 5 Issue 3 - 2018

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Received: May 01, 2018 | **Published:** June 25, 2018

Breast feeding jaundice results from "iatrogenic causes such as maternal-newborn separation, delayed or scheduled feedings, pacifier use, labor medication resulting in sleepy babies, and unnecessary supplementation".[1] Neonatal jaundice affects up to 84% of term newborns, and is the most common cause for hospital readmissions in the neonatal period.[2] There are two types of neonatal jaundice physiological and pathological. Physiological jaundice becomes apparent in newborns between day third or fourth day of life and steadily drops down within the month to normal levels. There is a yellowing of skin, and sometimes conjunctiva of eyes become yellow. The skin becomes sun-tanned in appearance in light or olive complexions and somewhat darker with a yellow hue in dark skinned infants. This is most noticeable on the palms of hands and /or feet of darker pigmentations.

Pathological jaundice occurs sooner within the first 24 hours. This jaundice is considered benign but can rise to a hazardous levels and lead to hyperbilirubinemia. "Any jaundice that requires phototherapy is considered pathological".[3] The causes of hyperbilirubinemia include cephalhematoma, or significant bruising, early gestational age, delayed feedings, exclusive breast-feeding with weight loss greater than 8% of body weight.[2] Neonatal jaundice if left untreated can lead to kernicterus also known as chronic bilirubin encephalopathy, with permanent neurodevelopment delays.

Signs and symptoms are irreversible, hypotonia, irritable, delayed motor skills and hearing loss. Most infants presenting with bilirubin encephalopathy have full resolution of symptoms. Most of the jaundice seen in 35 week or greater gestational age neonates is physiological due to the increased turnover of erythrocytes. Guideline recommendations from several countries including United States of America, Canada, and United Kingdom have clarified the differences between hyperbilirubinemia risk factors and neurotoxicity risk factors. Firm recommendations are to test every newborn for total measurements of serum bilirubin prior to discharge and follow up within two days of hospital discharge to pediatrician. If an infant is discharge before 72 hours need follow-up assessment for jaundice within one to two days of life. Careful thorough assessments are crucial, as bilirubin builds up in the extremities and below the knees. When mothers have difficulty with breast-feeding due to latching on issues, not producing milk, this can put the infant with a greater chance for having dehydration, weight loss and increased bilirubin levels.

The key elements by America Academy of Pediatrician (AAP) stress the following guidelines[4]:

i. Promote and back effective breastfeeding.
ii. Institute nursery procedures for the diagnosis and assessment of hyperbilirubinemia.
iii. Measure the total serum bilirubin (TSB) or transcutaneous bilirubin (TcB) level on infants jaundiced in the first 24 hours.
iv. Recognize that visual estimation of the degree of jaundice can lead to errors, particularly in darkly pigmented infants.
v. Interpret all bilirubin levels according to the infant's age in hours.
vi. Recognize that infants at less than 38 weeks' gestation, particularly those who are breastfed, are at higher risk of developing hyperbilirubinemia and require closer surveillance and monitoring.
vii. Perform a systematic assessment on all infants before discharge for the risk of severe hyperbilirubinemia.
viii. Provide parents with written and verbal information about newborn jaundice.
ix. Provide appropriate follow-up based on the time of discharge and the risk assessment.
x. Treat newborns, when indicated, with phototherapy or exchange transfusion.

Understanding how bilirubin works in the system of newborns, and having the ability to explain to parents why it is important to monitor newborns for hyperbilirubinemia.

In an exploratory study done by Hannon et al.,[5] to explore the persistence of maternal concerns surrounding neonatal jaundice, it was discovered that mothers had serious concerns about the disease. They thought of it as a misconception and wished that health care practitioners could explain it further for them, as they suggested means of communication that they believed would be effective. Two sites were chosen for the study: a community hospital and an urban hospital of a breastfeeding initiation rate of 70% and 40% respectively. The study had breastfeeding mothers of Hispanic and English speaking origin and forty-seven of them were found to be eligible. The results revealed that mothers were guilty, as they believed that they had caused the disease. Most of them were not comfortable with the disease and its management and were worried about long and short-term effects of the disease. It was also discovered that several factors contributed to the perceptions that mothers had about the disease. The factors included language barriers, cultural differences, and the delicacy of the language used and the meaning of the words. They also had little or lack of knowledge about the disease.

Revelations from this study show that there is need for health care practitioners to address the misconceptions and concerns that surround the disease. Once they found out that their infants diagnosed with neonatal jaundice, mothers sought information from all over; their fellow mothers who had infants with similar cases and from

health care practitioners. Most of them lived with guilt believing that they had caused the disease. An aspect that is not true at all. More information about hyperbilirubinemia needs to be addressed, so that its management can be made expedient. Lastly, more research in exploring long and short-term effects on the neonate.

In conclusion, this study shows that mothers were mindful that breastfeeding their babies is best and they all gave it their all in an attempt to breastfeed their twins. However, they all face many obstacles in trying to breastfeed. Obstacles ranged from the latching process to lack of support in their daily lives including lack of education by healthcare professionals.[6] As studies have shown breast milk is the best way for newborns to receive all their nutrients and antibodies from their mothers. Women could benefit a lot from getting booklets or pamphlets giving them helpful advice on how to breastfeed their twins. They could also benefit greatly on advice on how to handle their daily lives, nutritious foods and self-care. Evidence based a practice show that is important for healthcare professionals to take in consideration the situations of these mothers and to offer them the best advice and support to encourage them on their breastfeeding journey.

Acknowledgments

None.

Conflict of interest

The author declares that there is no conflict of interest.

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