

NICU Disease Process Map

D.O.B. 11/02/2024

APGAR at birth: 8

Gestational Age 34wks 3days

Adjusted Gestational Age 3days

Birthweight 5_lbs. 2_oz./ 2268 grams

Current weight 5_lbs.3_oz./ 2353 grams

Disease Name: Hyperbilirubinemia

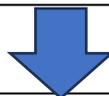
What is happening in the body? Hyper bilirubinemia is when Bilirubin, which is a yellow pigment, becomes apparent due to the breakdown of red blood cells. Typically, the liver processes bilirubin so it can be excreted through bile, however in premature babies especially those born around 34 weeks, the liver may not yet be fully efficient at breaking down bilirubin. When this occurs, bilirubin begins to build up in the blood, leading to jaundice, which is characterized by a yellowish appearance in the skin and eyes.



What am I going to see during my assessment? Typically, in an infant patient with hyperbilirubinemia, I would see jaundice, which appears in the baby's eye color and skin. I would also see the infant with low energy levels, and a poor muscle tone. The infant would also have an inadequate intake due to low energy levels. Because the infant was already on photo therapy, the day before, I was able to identify minimal yellow tint on the infants eyes and skin.



What tests and labs will be ordered? Serum bilirubin levels, direct and indirect bilirubin, blood type, and RH factor, complete blood count, liver function tests, & serum albumin.



What trends and findings are expected? These labs can determine the severity of hyperbilirubinemia, direct the appropriate treatments, and identify what exactly is causing this. For the total serum bilirubin, the trend would be elevated with a high indirect bilirubin level. It is important to have a RH factor to identify any incompatibility between the mother and the baby. A CBC trend could suggest anemia. Lastly, liver function tests are important as they could identify any liver diseases. Lastly, liver function tests are important as they could identify liver disease. This trend would usually be within normal limits. This trend would usually be within normal limits.



What medications and nursing interventions/treatments will you anticipate? In this case, the patient received photo therapy, which was the primary treatment that the infant used. This At this point in time, this was the only intervention that was used. This blue LED light helps convert the bilirubin in the skin into what's called Lumirubin that can be excreted, without needing to go through the liver. The nurse would frequently reposition the patient to expose as much skin as possible to light, while covering the patient's eyes to prevent any damage. At this point in time, this was the only intervention that was used.



How will you know your patient is improving? Without looking at the labs, the nurse could identify that the patient was improving in the matter of 24 hours by assessing the patient's skin tone as the jaundice effect was disappearing, and the infants skin color was becoming more pink. However, the labs could tell us a numeric value in viewing how the infant was improving.



What are risk factors for the diagnosis? Risk factors for hyper bilirubinemia include prematurity typically before 37 weeks, which this infant was born 34 weeks, blood incompatibility, traumatic birth, and possibly delayed feeding.



What are the long-term complications? Long-term complications could differentiate based on how soon the infant is diagnosed, and if treatments are improving the infant's health. However, long-term complications could occur such as developmental delays. This includes delays in speech, milestones, motor skills. Another major long-term complication could include hearing loss as Billirubin could reach toxic levels leading to permanent hearing loss.



What patient teaching for management and/or prevention can the nurse do? The nurse could teach the mom of the patient to encourage frequent small feedings. This could promote Bilirubin to be excreted through the stool. The nurse could also teach the parents to identify signs of jaundice in the patient as it begins in the whites of the sclerae of the eyes, to the color of their skin. There also behavioral signs including weak cries, low energy, and difficulty feeding.