

NICU Disease Process Map

D.O.B. 09/19/2025

APGAR at birth: 7 & 9 at 1 and 5 minutes

Gestational age: 41 weeks

Adjusted Gestational Age: 41 weeks, 4 days

Birthweight: 5lbs 15.2oz./ 2698 grams

Current weight: 6lbs 0.7oz./ 2880 grams

What is happening in the body?

This baby has hyperbilirubinemia as a result of an immature hepatic function. Normal RBCs die at the end of their life, are broken down by the body into bilirubin, liver then makes the bilirubin water soluble, and then excreted out of the body through fecal matter. Jaundice RBCs die in large amounts following birth, numerous amounts of bilirubin is produced, immature liver function slows the breakdown of bilirubin, and results in very little bilirubin is released in fecal matter.

Disease Name: Hyperbilirubinemia

What am I going to see during my assessment?

- Generalized yellowing of the skin, mainly around the eyes
- Hypoglycemia (r/t IDM, which increases the risk of both hyperbilirubinemia & low BSL)
- s/s of trauma from delivery (bleeding, bruising)
- severe lethargy/ sleepiness
- Difficulty feeding

What tests and labs will be ordered?

- Total bilirubin (blood sample)
- Transcutaneous bilirubinometer
- Physical examination of skin/ eyes
- Q6hr BSL

What trends and findings are expected?

- High total bilirubin levels over the next few days, then a decline in levels
- Yellowing skin, eyes, & mucous membranes
- Mustard yellow fecal matter
- Low PLT count (141): sign of hemolytic anemia caused by hyperbilirubinemia. The liver will begin to breakdown hemoglobin into bilirubin

What medications and nursing interventions/ treatment will you anticipate?

- Phototherapy: blue light that conjugates bilirubin to then be excreted from the body
- D10W: given IV at 7mL/hr to increase BSL; sugar water
- Increase stool amounts r/t excess bilirubin being removed from the body
- Q6hr BLS, hourly temps, Q3hr feedings
- Frequent monitoring for encephalopathy & other neurological issues

How will you know your patient is improving?

- Generalized yellowing & around the eyes will decrease
- Decreased fatigue while feeding, infant can feed for longer without falling asleep
- Increased Total Bilirubin levels
- Increased Transcutaneous Bilirubinometer levels
- Increased BSL (rate of D10W is based on BSL level)
- Stools will start to appear more green & less yellow

What are risk factors for the diagnosis?

Physiologic Jaundice:

- premature birth
- Significant bruising during delivery
- Significant bleeding by the mother during delivery
- Family, genetic history

What are the long-term complications?

- Encephalopathy: excessive bilirubin impacts the brain gradually. First it presents as sleepiness or decreased alertness, poor sucking and feeding, & hyperreflexia. Progression presents as stupor, irritability, hypertonia, & a high-pitched cry. Untreated hyperbilirubinemia long-term presents more seriously as coma, pronator spasm of upper extremities, inability to feed, & apnea
- Malnutrition/ Growth retardation: the liver is responsible for the metabolism of nutrients, any disturbances in the activity of the liver has the potential of malnutrition
- Kernicterus: life threatening condition that occurs when bilirubin levels are so high that they move from the blood & into brain tissues. This can lead to brain damage & permanent injury if not treated in a timely manner.

What patient teaching for management and/or prevention can the nurse do?

- Do not look at or be around phototherapy for a prolonged time period = causes horrible headache
- Frequent breastfeeding is encourage to transfer antibodies & nutrients, promote bonding, & maintain the infant's daily caloric intake.
- S/S of hyperbilirubinemia = call HCP is yellowing of skin, poor feeding, or sluggish posture occurs
- Turn off phototherapy when changing diapers = blue light makes urine look like blood
- Frequent stool are common & are a sign that the infant's body is getting rid of the extra bilirubin (adjusts as quality of skin