

Medications

Simethicone/Gas-X

Class: Antiflatulents/Polydimethylsiloxanes

Use: Instructor provided med to use.

Provides relief from gas and bloating

Nursing Assessment: The nurse should use the dropper provided with the medication. Although not common, monitor for hypersensitivity, constipation, pruritis, or edema (*Simethicone uses, 2022*).

Demographic Data

Patient Initials: AD

Admitting diagnosis: Neonatal Hyperbilirubinemia

Psychosocial Developmental Stage: Trust vs Mistrust.

In this stage he is learning delayed gratification, having his needs met, bonding with caregivers. Mistrust will ensue if his needs are not adequately met (Holman et al., 2019).

Age of client: 4 days

Sex: M

Weight in kgs: 2.28kg

Cognitive Development Stage: Sensorimotor. In this stage he will start to imitate faces and sounds and as he gets older, within this stage he will learn that someone or something still exists even when he cannot see it (Holman et al., 2019).

Allergies: None

Admission History

This newborn was born on 6/18/22 at 36w 5d to a 19-year-old mother. His bilirubin level was 6.3 mg/dL on 6/19/22, which is higher than the normal range of 1.0-1.2 mg/dL. His mom reported that she had been feeding him between 30-40mL of formula each feeding, and sometimes he took 40mL, and other times he was sleepier and took less. On 6/20, his bilirubin level was up to 12.1 mg/dL. The baby had his well-baby checkup on 6/21, and the doctor suggested his mom take him to the emergency room. His admission to pediatrics was on 6/21 at 1800. The baby showed physical signs of hyperbilirubinemia, with jaundice of the sclera and skin blanching (Ricci et al., 2021).

Pathophysiology

Disease process: The immature liver cannot metabolize bilirubin fast enough, which causes excess bilirubin in the body (Ricci et al., 2021). Hyperbilirubinemia is a hemoglobin breakdown that occurs from an overproduction of bilirubin (Ricci et al., 2021). With physiologic jaundice, bilirubin levels rise within the first 3-5 days of life, and jaundice results from bilirubin elimination and production variance (Ricci et al., 2021). The red blood cells in newborns have an increased mass and do not live as long as adult red blood cells (Ricci et al., 2021). Physiologic jaundice is seen in about 80% of premature babies and can occur when meconium is held too long and not passed (Ricci et al., 2021). If left untreated, severe brain injury can result in encephalopathy or kernicterus (Ricci et al., 2021).

S/S of disease: Signs and symptoms of hyperbilirubinemia usually present with a change in skin color; it will become yellow and blanch starting at the head and face, followed by the trunk and extremities (Ricci et al., 2021). Yellowing of the eyes, mucous membranes, and tears can also be present (Ricci et al., 2021). The baby can also become sleepier and more sluggish when the bilirubin level is increased (Ricci et al., 2021).

Method of Diagnosis: Depending on the bilirubin test results, several lab tests will be collected and evaluated (Ricci et al., 2021). If the bilirubin level increases quickly, there will be an order for additional tests such as alkaline phosphate, ALT, AST, Coombs test, hemoglobin, serum protein, and reticulocyte count (Ricci et al., 2021).

Treatment of disease: Once hyperbilirubinemia is confirmed, the doctor will order phototherapy to break the bilirubin down (Ricci et al., 2021). The newborn will be undressed down to the diaper and wear an eye shield to protect his eyes. The fluorescent phototherapy lamp will be over the bed, and the baby will lay on a Bili-bed or Bili blanket (Ricci et al., 2021). Reposition the baby and assess his skin every couple of hours for the maximum benefit of the therapy and to ensure no skin

Assessment									
General	Integument	HEENT	Cardiovascular	Respiratory	Neurological	Most recent VS (highlight if abnormal)	Pain and Pain Scale Used		
Well-groomed Alert and comfortable	Visible jaundice Cling brows	Head and neck are symmetrical.	Clear heart lungs		No known deficits. Moro and gag	Time: 0845 Temperature: 93.9 F axillary @	NIPS - 1/7 noted during vitals and heel stick. Pacifier and		
Relevant Lab Values/Diagnostics Total Bilirubin-Normal range: 1.0-12.0 mg/dL (Pagana et al., 2021). This patient's bilirubin was checked twice a day from 6/19 - 6/22. The patient was admitted on 6/21 around 1800. He was placed in a Bili-bed and under a fluorescent phototherapy lamp on high. Increased levels of bilirubin as seen in this patient are a result of immature an immature liver that is unable to breakdown bilirubin fast enough (Pagana et al., 2021). 6/19 @ 0444 - 6.3 mg/dL 6/19 @ 1540 - 8.0 mg/dL 6/20 @ 0400 - 10.4 mg/dL 6/20 @ 1640 - 12.1 mg/dL 6/21 @ 1235 - 15.0 mg/dL 6/21 @ 2155 - 16.1 mg/dL 6/22 @ 1100 - 11.0 mg/dL			Medical History Previous Medical History: Born @ 36w 5d, spontaneous vaginal delivery. Apgar's 1 and 5. No previous medical history. Prior Hospitalizations: No prior hospitalizations. Born @ 36w 5d. Chronic Medical Issues: No chronic medical issues Social needs: During hospitalization, he should be held during feedings, and when he is awake and not required to be under phototherapy lights. He should be talked to, smiled at, sang to, caressed, and loved on. When he cries, he should be attended to, fed, changed, or comforted (Ricci et al., 2021).				Active Orders Vitals: q4h - Assessing vitals regularly will help identify pain in neonates, as well as changes indicating a decline in health or condition (Ricci et al., 2021). Bili-bed/Phototherapy - To bring the bilirubin level down, the baby was placed on a Bili-bed and a phototherapy lamp was placed above him on high. Phototherapy is an effective treatment for neonatal jaundice (Ricci et al., 2021). Feeding - The baby's mom is not breastfeeding. His order is 30-40 mL of Similac Total Care every 2-3 hours. The baby is removed from the lights, the eye shield removed, and bottle-fed every 2-3 hours. Regular feeding will help promote the excretion of bilirubin (Ricci et al., 2021). Daily weight - Measuring weight daily will assess for proper hydration and nutrition status in this 4-day-old newborn (Ricci et al., 2021). Strict I/O - Monitoring intake and output can assess hydration status. Babies under phototherapy are at risk for dehydration (Ricci et al., 2021).		
					No scars were noted. No abdominal drains were present.	HR: 120 bpm @ 0845. 127 bpm @ 1120 BP and MAP: 62/34 map not noted. Blood pressure is a little lower than the normal expected range for a newborn, however, this patient was born at 36w 5d. Oxygen saturation: 96% @ 0845. 97% @ 1120 Oxygen needs:			

									Room air, no supplemental oxygen needed.	
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Nursing Diagnosis 1 Imbalanced nutrition less than body requirements related to insufficient feeding as evidenced by the mother not waking him to feed	Nursing Diagnosis 2 Risk for hypothermia related to ineffective thermoregulation as evidenced by a rectal temperature of 93.5 F	Nursing Diagnosis 3 Knowledge deficit regarding newborn's diagnosis and treatment related to first exposure, as evidenced by mother asking questions
Rationale Due to his improper thermoregulation, he uses up his fat stores to help keep him warm and his mother is not feeding him as she should.	Rationale This 4-day-old baby was on a Bili-bed, under phototherapy so he could only be in his diaper. Newborns are not able to regulate their body temperatures the way adults can. They have thinner skin, less fat, and a larger body surface area (Ricci et al., 2021).	Rationale The baby's mom had several questions about his condition, symptoms, and feeding. This baby is her first child to be born early and have hyperbilirubinemia
Interventions Intervention 1: Encouraged mom to feed every 2-3 hours even if he is sleeping Intervention 2: Monitor weight and strict I/O	Interventions Intervention 1: Swaddle the baby in warm blankets immediately to increase his temperature and keep him warm Intervention 2: Recheck his temperature every fifteen to thirty minutes	Interventions Intervention 1: Educate mom on feeding frequency, and monitoring wet diapers daily Intervention 2: Provide education about hyperbilirubinemia and what to watch for
Evaluation of Interventions The student educated the mom about the importance of waking the baby for regular feeding. The student suggested that mom keep track of the time he eats, how much he eats, and how many wet and soiled diapers he has during the day. The student nurse and primary nurse monitored his weight, intake, and output. The student discussed and demonstrated ways to encourage and improve feeding, such as unswaddling, changing his diaper, and eliciting the rooting reflex by gently stroking his cheek. (Ricci et al., 2021).	Evaluation of Interventions The baby was swaddled in two warm blankets for thirty minutes and his temperature was rechecked. The doctor had put in an order for one rectal temperature which was the initial 93.5 F temperature. After thirty minutes of being swaddled, his temperature was rechecked and had gone up to 96.0 F (axillary). He remained swaddled and his temperature was rechecked and had increased to 97.0 F (axillary). The intervention was successful, and he remained swaddled to continue to increase his temperature to a normal newborn level of 97.9 F-99.7 F (Ricci et al.,).	Evaluation of Interventions Explained that the baby should be fed every 2-3 hours to help promote the excretion of bilirubin (Ricci et al., 2021). Explained some of the signs and symptoms are decreased appetite, difficulty waking up, and yellowing of the whites of the eyes and, changes in his normal routine (Ricci et al., 2021). Mom was receptive to the information provided and reiterated some of the things we discussed and asked additional questions.

References (3):

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