Medications

Nystatin 100,000 unit/gram (mycostatin) topical cream TID (6-14-22)

- **Pharmacological class:** "Polyene macrolide" (Jones & Bartlett, 2023).
- **Therapeutic class:** "Antifungal" (Jones & Bartlett, 2023).
- **Indication of use:** To help treat sacral pressure injury/make barrier to prevent further damage
- **Nursing assessments prior to administering:**
  - Assess skin color, lesions, and area around lesions (Jones & Bartlett, 2023).
  - Get culture of wound before administering nystatin (Jones & Bartlett, 2023).

Acetaminophen (Tylenol) 160mg/5mL (5mL) oral liquid 38.4 mg

- **Pharmacological class:** "Nonsalicylate, para-aminophenol derivative" (Jones & Bartlett, 2023).
- **Therapeutic class:** "Antipyretic, nonopioid analgesic" (Jones & Bartlett, 2023).
- **Indication of use:** To help reduce prior fever and pain
- **Nursing assessments prior to administering:**
  - Assess body weight of infant to administer the correct dosage (Jones & Bartlett, 2023).
  - Asses kidney and liver function prior to administering acetaminophen (Jones & Bartlett, 2023).

Demographic Data

Admitting diagnosis: Dehydration/malnutrition/failure to thrive

Age of client: 15 weeks old (11/4/23) 48 weeks 2 days PMA, 32 weeks 3 days GA, 8 weeks when considering premature birth

Sex: Male

Weight in kgs: 2.38 kg

Allergies: No known allergies at this time

Date of admission: 2/20/24

Psychosocial Developmental Stage: Trust vs. mistrust stage

Cognitive Development Stage: Sensorimotor stage

Admission History

Pathophysiology

Disease process: A developing child's failure to acquire weight as it should is referred to as "failure to thrive." Being unable to thrive is not in and of itself a sickness or issue. Instead, it indicates that a child is malnourished. Children who don't flourish typically don't consume enough calories to develop and acquire weight in a healthful manner. Children who struggle to put on weight also frequently don't grow to their full potential in height. Children require adequate calories in order to properly learn and grow. Children who do not thrive may therefore be slower to walk and talk than their peers and may find it difficult to learn in school (Kids Health, 2023). This patient fits into the failure to thrive diagnosis due to the low weight, malnutrition, dehydration, and family situation. Due to this patient being premature, this could affect the body system and how it develops which could affect how the body takes in the everyday needs that are important for the patient to develop. When the patient was found during the well fair check at the patient's home, the patient was malnourished and dehydrated which is another aspect that goes along with failure to thrive. Looking at the abnormal labs that go along with this patient it is evident that this patient has a low level of red blood cells potentially due to the patient not receiving enough iron in their diet. While reading about this patient, I learned that this patient was not getting the essential amount of iron the body needs through breast milk or formula. Instead of receiving breast milk or formula, the patient was receiving cow's milk instead which does not have the iron that the patient needs. To help with the malnutrition, the patient was put on an NG tube to help with the food consumption.

S/S of disease: Signs and symptoms of failure to thrive may include poor sucking (does not feed well), hard to feed, vomiting or diarrhea, excessive or insufficient sleep, fussiness, weak crying, loss of weight or insufficient weight gain, stiff or "floppy" muscles, slow growth and development, lack of interest in objects nearby, inactivity, and refusal to make eye contact when being held (Nationwide Children's Hospital, 2024). Many of these signs and symptoms correspond with this patient. This patient had a hard time feeding, insufficient sleep, fussiness, insufficient weight gain and loss of weight, and slow growth. The patient was put on an NG tube to help with the food intake due to difficulty eating from a bottle and it was also done to help the patient gain weight. Since the patient was born, the patient is continuously losing weight and having a difficult time with gaining.

Method of Diagnosis: When a child's weight or rate of weight gain is noticeably lower than that of other kids their age and gender, it is considered failure to thrive. In comparison to other children of the same age, infants and children who do not flourish appear noticeably smaller or shorter (Johns Hopkins Medicine, 2024). As for this patient, it was declared failure to thrive related to the low weight, malnutrition, dehydration, and family situation.

Treatment of disease: The age of the child, the accompanying symptoms, and the underlying cause of the stunted growth all influence how failure to thrive is treated. The main objective of treatment is to provide the child enough calories and any additional assistance they need to grow. If the child is experiencing an organic failure to thrive, further therapy to address the underlying medical issue might be required. For instance, digestive diseases may result in inadequate nutrition absorption, or malabsorption, which impairs growth. In this case, a particular diet might be required. Due to the increased care and feeding requirements associated with multiple births, twins or triplets may potentially experience failure to thrive. Because many of the bodily processes required for the correct intake and digestion of the food are immature at birth, a premature baby is more likely to fail to thrive. Particularly in very young infants, lung issues or heart disease can make feedings more challenging, which can result in inadequate calorie intake and failure to thrive (Nationwide Children's Hospital, 2024). For this patient, steps were being taken to help with the failure to thrive diagnosis. This patient was given an NG tube to help with the food intake as a result of the patient having difficulty eating out of a bottle. This patient was also taken into custody by DCFS to help with the family situation and help the patient get as much assistance as they could.

The patient was brought to the emergency department on 2/20/24 following a well fair check done on the patient's home. During the well fair check the patient and the brother of the patient were found malnourished, dehydrated, and sleeping on the floor. During admission it was said that the patient was being fed cow's milk and DCFS took custody. The patient is currently 15 weeks old, born at 32 weeks but appears 8 weeks old when considering the premature birth. The patient was in the crisis nursery two days prior (2/18/24). The patient was brought to the pediatric unit on 2/20/24 following the emergency department. The patient is currently staying on the pediatric unit and the parents of the patient are not allowed any information currently.

Relevant Lab Values/Diagnostics

Labs:

MCH:

Normal range: 24.4-28.9 pg (Per Carle standards) Lab value: 29.2 pg Reason for abnormality: An elevated mean cell hemoglobin concentration may be the consequence of dehydration. This is because water is transferred throughout the body to the cells and tissues that require it most, resulting in a decrease in blood plasma volume. Due to this it can cause a low iron level which may lead to a high MCH level (Medical News Today, 2024).

Platelet:

Normal range: 244-529 10^3/uL (Per Carle standards) Lab value: 211 10^3/uL Reason for abnormality: Reduced bowel movement activities in malnourished children may be the cause of a lower platelet count, which in turn influences megakaryocyte functions indirectly (National Institutes of Health, 2020).

MPV:

Normal range: 8.9-10.6 fL (Per Carle standards) Lab value: 11.2 fL Reason for abnormality: The inflammatory measure mean platelet volume (MPV) was linked to a higher level of inflammation in pediatric patients. Failure to flourish or a rise in the risk of upper airway infections may result from an increase in MPV (BioMed Central, 2020).

Absolute Neutrophils:

Normal range: 0.97-5.45 10^3/uL (Per Carle standards) Lab value: 6.60 10^3/uL Reason for abnormality: Innate immune cells called neutrophils penetrate the mother-fetal contact during preterm delivery, particularly when an infection is present, their buildup is markedly increased (National Institutes of Health, 2019). High levels of neutrophils could also be present due to the sacral pressure injury.

Absolute Eosinophils:

Normal range: 0.03-0.61 10^3/uL (Per Carle standards) Lab value: 0.00 10^3/uL Reason for abnormality: Low eosinophils can be a result form low birth weight in preterm babies.

Transferrin:

Normal range: 196.0-388.0 (Per Carle standards) Labe value: 192.5 Reason for abnormality: Anemia of prematurity is a more serious form of anemia that can strike preterm infants. This indicates that the premature infant has not experienced the biological modifications required to generate new red blood cells apart from their mother (Very Well Health, 2023).

Albumin:

Normal range: 3.8-5.4 g/dL (Per Carle standards) Labe value: 2.8 g/dL Reason for abnormality: Low levels of albumin could be due to a low protein intake as a result of the malnutrition of the patient.

AST:

Normal range: 5-34 u/L (Per Carle standards) Labe value: 101 u/L Reason for abnormality: Infants with elevated liver enzymes are frequently detected with a standard blood test. Increased liver enzyme levels could indicate inflammation, irritation, or injury to the liver (Nationwide Children's Hospital, 2024)

ALT:

Normal range: 0-55 u/L (Per Carle standards) Labe value: 105 u/L Reason for abnormality: Infants with elevated liver enzymes are frequently detected with a standard blood test. Increased liver enzyme levels could indicate inflammation, irritation, or injury to the liver (Nationwide Children's Hospital, 2024)

Labs:

No abnormal labs

Medical History

Previous Medical History: neonatal jaundice associated with preterm delivery (11/9/23-11/11/23)

Prior Hospitalizations: NICU, crisis nursery (2/18/24)

Past Surgical History: No previous surgical history

Social needs: DCFS

Active Orders

- Weigh the patient every four hours to see if weight is improving
- Perform vital signs every four hours to check respiration rate
- Perform blood glucose tests to check sugar levels for malnutrition
- Check pressure injury related to pressure injury on the sacral area
- Check the pulse oximetry to keep 02 greater than or equal to 92%
- Place/check Ng tube related to malnutrition and improving eating habits

Assessment	
General	Alert, spontaneously opens eyes, arousal to voice/touch
Integument	Pale, warm, dry, skin elasticity= quick to return, rash on sacral area
HEENT	Head/face/eyes/nose symmetrical at rest and with movement, no edema, redness or discoloration; no external drainage, nares patent; lips/oral mucosa pink, moist and intact, some swallowing difficulties; no expressed/observed changes in vision or hearing
Cardiovascular	WDL Regular rhythm S1 and S2 present; no reported chest pain
Respiratory	Depth regular, accessory muscle use, tracheal tugging, intercostal retractions, diminished lung sounds
Genitourinary	Reported or observed difficulties with voiding; urine reported or observed clear, yellow, and without foul odor
Gastrointestinal	Abdomen soft, non-distended; bowel sounds audible, normoactive in all four quadrants; no reported/observed nausea, vomiting, diarrhea, or Constipation
Musculoskeletal	Generalized muscle weakness, no joint swelling or tenderness, all extremities with symmetrical movement bilaterally
Neurological	Glasgow coma scale: eye opening= 4 (spontaneously) motor= 6 (moves spontaneously and purposely) verbal= 5 (coos/babbles)
Most recent VS (highlight if abnormal)	**Time:** 1544 **Temperature:** 36.9 (98.4 F) **Route:** Axillary **RR:** 38 **HR:** 136 bpm **BP and MAP:** 109/49 mm/Hg Map: 79 **Oxygen saturation:** 96% **Oxygen needs:** Room air
Pain and Pain Scale Used	FLACC scale= 0

Nursing Diagnosis 1 Deficient fluid volume	**Nursing Diagnosis 2** Imbalanced nutrition: less than body requirement	**Nursing Diagnosis 3** Impaired parenting
Rationale Risk of deficient fluid volume related to inadequate hydration as evidenced by dehydration (Phelps, 2018)	**Rationale** Imbalance nutrition: less than body requirement related to low body weight as evidenced by weakness of muscles (Phelps, 2018)	**Rationale** Impaired parenting related to inability to provide formula as evidenced by feeding the patient cow's milk (Phelps, 2018)
Interventions **Intervention 1:** Monitor vitals every two hours (Phelps, 2018) **Intervention 2:** Measure intake and output every one to four hours (Phelps, 2018)	**Interventions** **Intervention 1:** Access height and weight everyday (Phelps, 2018) **Intervention 2:** Obtain and record weight every day at the same time (Phelps, 2018)	**Interventions** **Intervention 1:** Assess parenting ability (Phelps, 2018) **Intervention 2:** Act as a role model/caregiver (Phelps, 2018)
Evaluation of Interventions I/O was monitored and the IV got taken out due to adequate voiding which is a sign of positive increase in fluid volume (Phelps, 2018)	**Evaluation of Interventions** The patient got an Ng tube placed to help with imbalance nutrition and I/O was monitored (Phelps, 2018)	**Evaluation of Interventions** DCFS took the patient into custody and the nurses are stepping in as caregivers (Phelps, 2018)

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