Medications

cloBAZam (Onfi) Pharmacological class: Benzodiazepine Therapeutic class: Anticonvulsant

The client is taking this medication to manage her seizure disorder (NDH, 2023).

Nursing assessments: "Be aware that benzodiazepine therapy like clobazam should only be used concomitantly with opioids in patients for whom other treatment options are inadequate" (NDH, 2023, p. 297).

levocarnitine (carnitor) Pharmacological Class: Nutraceutical products Therapeutic class: Amino Acid supplements

The patient is taking levocarnitine to prevent low carnitine to promote energy levels (Drugs.com, 2024).

Nursing assessment: The medication works best when taken with food (Drugs.com, 2024).

azithromycin (Zithromax): Pharmacological class: Macrolide Therapeutic class: Antibiotic

The patient is taking azithromycin is used for this patient to treat possible parainfluenza (NDH, 2023).

Nursing assessment: Be aware that laboratory abnormalities can be seen for a patient taking azithromycin (NDH, 2023).

valproic acid (Depakene) oral syrup Therapeutic class: anticonvulsants Pharmacological Class: Fatty acid derivatives

The patient is taking valproic acid to manager her seizure disorder (Drugs.com, 2023).

Nursing assessment: Depakene should be taken with food if it causes upset stomach (Drugs.com, 2023).

Demographic Data

Admitting diagnosis: Para influenza

Age of client: 5 years old

Sex: Female

Weight in kgs: 21.3 kg

Allergies: No known allergies

Date of admission: 10/15/2024

Psychosocial Developmental Stage: Preoperational

Cognitive Development Stage: Initiative vs guilt

Admission History

Pathophysiology

Disease process: "Parainfluenza is a broad term that healthcare providers use to describe human parainfluenza viruses (HPIVs) — a group of infectious organisms (pathogens). Parainfluenza viruses cause many types of lower and upper respiratory illnesses. Respiratory illnesses cause mild to serious symptoms, like sore throat, cough, and shortness of breath" (Cleveland Clinic, 2022). Parainfluenza is the most common when the weather drops in temperature in the fall and winter months. The patient has a history of respiratory infections. The patient has Wolf-Hirschhorn syndrome, extra copies of 18p and partial deletion of 4p. This leads to weak lungs and muscles due to her incapability to exercise strengthen muscles or lungs, and inability to cough well. Neurologically, pediatric patients with parainfluenza may experience seizures if the patient is febrile (Yoon Han &Beom Han, 2021). Other systemic complications may arise but are not common.

S/S of disease: Cough, sore throat, hoarseness, runny nose, and shortness of breath are signs and symptoms of parainfluenza (Cleveland Clinic, 2022). This patient presented with fever and cough. Parainfluenza can cause further infection. This patient has a history of respiratory infections and is prone to respiratory illnesses. It is likely that the fever is due to pneumonia having developed. The patient also had a runny nose.

Method of Diagnosis: Parainfluenza presents similarly to other respiratory infections. Diagnosing must happen through tests separating the types of infections. The patient has had two chest x-rays done to diagnose the infection. A polymerase chain reaction test is how parainfluenza is typically diagnosed. Rapid antigen tests may also be used however are less accurate (MedlinePlus, 2022).

Treatment of disease: Treatment of parainfluenza includes acetaminophen for pain and fever. Resting and drinking plenty of fluids are also helpful for managing parainfluenza. Croup, which is in some cases associated with parainfluenza, can be treated with corticosteroids, epinephrine, and bronchodilators (Mayo Clinic, 2022). The patient has seizure precautions in place. She has a history of seizures and seizures are also a complication 3of parainfluenza if fever is present.

The patient was ill for several days and visited a convenient care for treatment before going to the emergency room. Patient presented to convenient care with fever, cough, and tachycardia. The patient started azithromycin and augmentin following her visit to the clinic. The patient presented to the emergency department with a 103-degree fever and a productive cough. The patient's mother was also concerned about a possible UTI.

Assessment	
General	Patient is awake, alert and oriented, and content. The child does not appear malnourished. The patient is unable to consume nourishment by mouth and has a G-tube.
	IV in right arm is patent, clean, and dry. No infiltration or hematoma noted. Cyanosis and clubbing absent, capillary refill < 2 s standard with no bald spots, no lesions, rashes, redne
Musculoskeletal	Patient is strong bilaterally in legs and arms. Range of motion appears normal. The child's motor function is poor and she is at risk for falls.
Neurological	The patient is alert and oriented x4. The patient is restless. The patient has deceased neurological function for her age, likely due to her gene abnormalities. Patient is nonverbal. Patient is developmentally delayed.
Most recent VS (highlight if abnormal)	**Time: 4:20 p.m.** **Temperature: 98.2 degrees Fahrenheit** **Route: axillary** **RR: 38 bpm** **HR: 93**

Relevant Lab Values/Diagnostics

Parainfluenza virus 1 – detected (not detected): Due to parainfluenza infection (Paganda et al., 2022).

Ketone 40 mg/dL (negative mg/dL): May be detected due to possible UTI (Paganda et al., 2022).

WBC (urine) 29 /uL (0-25 /uL) – Increased due to infection (Paganda et al., 2022).

Albumin 3.2 (3.8 – 5.4 g/dL): may be decreased due to possible consumption of an unbalanced diet (Cleveland Clinic, 2022).

AST 36 (5-34 U/L): Increased due to possible skeletal muscle disease (Pagnada et al., 2022).

Valproic acid 45.6 (50.0-100.0 ug/mL): Decreased due to the patient taking clobazam which may increase the metabolism of liver enzymes which decreases blood levels of valproic acid (Rahman et al., 2024).

WBC (heme) 4.01 10^3 / uL (4.27-11.40 10^3 / uL): Decreased due to overwhelming infections and dietary deficiency (Pagnada et al., 2022).

MCV 90.1 fL (75.9 – 87.4 fL): Increased due to anemia (Seladi-Schulman, 2023).

MCH 31.6 pg (24.8 – 29.5 pg): Increased due to anemia (Seladi-Schulman, 2023).

MCHC 35.0 g/dL (31.8 – 34.6 g/dL): Increased due to anemia (Seladi-Schulman, 2023).

RDW 11.2 % (12.2 – 14.4 %): Decreased due to anemia (Cleveland Clinic, 2022).

Platelet 98 10^3 / uL (199 – 367 10^3 / uL): Decreased due to infection (Pagnada et al., 2022).

Absolute EOS 0.00 10^3 / uL (0.30 – 0.47 10^3 / uL): Decreased due to infection (Fletcher, 2022).

C-Reactive Protein 4.7 mg/dL (0.00 – 0.50 mg/dL): Increased due to possible urinary tract infection (Pagnada et al., 2022).

Chest X-ray – 10/15/2024 – Patchy right upper lobe opacities in the setting of decreased lung volumes may indicate atelectasis or pneumonia. This diagnostic test was done due to the patient's cough and sputum production.

Medical History

Previous Medical History: Acute respiratory failure 10/26, 2022, acute respiratory failure with hypoxia 4/26/2023, Para Influenza infection 4/26/2023, pneumonia 10/8/2021, pneumonia 11/14/2021, Rhinovirus, iron deficient anemia, RSV bronchitis 10/26/2022, Transesophageal fistula, terasomy 18p and 4p, global developmental delay, seizure disorder, esophageal atresia with G tube dependence, left multicyclic dysplastic kidney and right sided kidney with VUR

Prior Hospitalizations: Hospitalized at Carle with right middle lobe infiltrate vs atelectasis with vomiting – Pneumonia (10/8/2021)

Past Surgical History: Bronchoscopy 3/7/2019, eye surgery (Probing of left lacriminal duct) 5/26/2020, Gastrostomy 7/6/2022, Thoracotomy 2/5/2019

Active Orders

- Seizure precautions for safety precautions due to history of seizure disorder
- Contact/droplet isolation due to influenza
- Feeding formula of pediasure 1.5 with fiber via continuous G-tube feeding 30 mL/hour due to patient not being able to feed by mouth
- Vital signs q4hrs to monitor for decline
- CPT q8hr to breakup secretions to treat lung difficulties
- Notify physician of febrile temperatures to promptly treat fever which may be a complication of parainfluenza
- Maintain IV access in case of an emergent event
- Continuous pulse oximetry monitoring due to risk for hypoxic event
- Oxygen per respiratory protocol with humidity via nasal cannula/face mask to keep oxygen saturation >= 92 % per protocol in order to maintain safe oxygenation levels for maintaining breathing ability and healthy tissue perfusion

	BP and MAP: 161/103 – may be inaccurate due to patient moving around and kicking **Oxygen saturation: 95%** **Oxygen needs: Nasal Cannula 0.4**
Pain and Pain Scale Used	F – 0 L – 0 A – 0 C- 0 C – 0 0 according to the FLACC scale

Nursing Diagnosis 1	**Nursing Diagnosis 2**	**Nursing Diagnosis 3**
Risk for respiratory distress related to recurrent respiratory infections creating a weakened lung capacity.	Risk for aspiration related to recent emesis and cough during G-tube feeding.	Risk for role strain related to increased care needs of the child.
Rationale This nursing diagnosis was chosen because reparatory distress is life threatening and the child is at risk due to her history of lung infections as well as her current need for oxygen. The child presented with a fever and cough. This puts her at an increased immediate risk for respiratory distress for which steps must be taken to prevent.	**Rationale** This nursing diagnosis was chosen because if the patient aspirates this would be life threatening. This risk factor paired with the patient's delayed development both motorly and neurologically, means she is at increased risk for being unable to properly handle the situation.	**Rationale** This nursing diagnosis was chosen because the mother is at risk of developing a worsened mental health due to her role as primary caregiver for her daughter. With her daughters' high demand needs, this can become overwhelming for her mother. Proactively implementing interventions so this may not occur, or this may be dealt with properly, is important for both mother and child.
Interventions **Intervention 1:** Monitor to ensure that chest physiotherapy is being done every eight hours. **Intervention 2:** Continuously monitor pulse oximetry.	**Interventions** **Intervention 1:** Keep the head of bed elevated to prevent aspiration. **Intervention 2:** Check G-tube placement prior to administering a new feeding.	**Interventions** **Intervention 1:** Educate on Respite Care. **Intervention 2:** Refer for a social work consultation.
Evaluation of Interventions 1. This intervention has been implemented so far throughout the child's time in the unit. The child is not in reparatory distress. Therefore, this has been successful. 2. This intervention has been implemented, pulse oximetry is being continuously monitored by the nurse and myself. The pulse oximetry is attached to the child's toe. This intervention has been successful.	**Evaluation of Interventions** 1. The head of bed has been elevated throughout my shift. The intervention has been successful, the patient has not aspirated. **2.** The G-tube placement is being checked as the feedings are replaced every four hours. The child has not aspirated. This intervention has been successful.	**Evaluation of Interventions** 1. This intervention has not happened yet. I would expect the mother to be receptive to the intervention. 2. This intervention has not happened yet. I would expect the mother to be receptive to the intervention.

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