Medications

1. Coreg 3.125 mg 2x daily w/ meals; to help control heart failure and blood pressure

Pharmacological: Nonselective beta blocker and alpha-1 blocker
Therapeutic: Antihypertensive

2. Levothyroxine 112 mcg daily @0600; to treat hypothyroidism

Pharmacological: Synthetic thyroxine
Therapeutic: Thyroid hormone

3.Onfi 25 mg daily; to treat seizures

Pharmacological: Benzodiazepine
Therapeutic: Anticonvulsant

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Demographic Data

Admitting diagnosis: Accidental overdose

Age of client: 16 years old

Sex: Female

Weight in kgs: 46.5

Allergies: Adhesive, zinc oxide, latex, Topamax, adhesive-tape silicones, cinnamon, J&J baby shampoo, vancomycin

Date of admission: 4/5/24

Admission History

Pathophysiology

Disease process: A urinary tract infection is primarily caused by E.coli, bacteria that colonizes the urinary tract. It enters thru the urethra and attaches to the epithelial cells that line the urethra and makes its way to into the bladder and upper urinary tract (Mayo Clinic, 2022). The bacteria trigger an inflammatory response, and causes the individual pain, swelling, and increased urinary frequency. A UTI can be harmful to several different body systems such as: reproductive, nervous, cardiovascular, gastrointestinal, and the immune system (Mayo Clinic, 2022).

S/S of disease: Foul-smelling urine, hematuria, dysuria, pain, fever, cramping, and urinary incontinence (Mayo Clinic, 2022). The patient is non-verbal, so she is not able to vocalize pain, but she did have foul-smelling urine and a positive E.coli urine test.

Method of Diagnosis: A UTI is typically diagnosed with a urine culture and urinalysis (Mayo Clinic, 2022). However, a provider can also order an ultrasound, CT scan, and cystoscopy to obtain images of the urinary system (Mayo Clinic, 2022).

Treatment of disease: Antibiotic therapy eliminates the bacterial infection (Mayo Clinic, 2022). In addition to the medication, symptom management like drinking plenty of fluids and can help flush out the bacteria and promote healing. The patient was given antibiotics and IV fluids to eliminate the E.coli. from her system.

Patient is a 16 yr. old female with lethargy and increased unresponsiveness. Patient began taking a new med (Vimpat 50 mg BID) three days prior. Her mother gave her the meds the night before and the morning of 4/5/24, when she noticed the patient was unresponsive. Her mother reviewed her meds with the home aide and they discovered the patient was accidently given 50mL. The mother stated the patient's B/P was low, so she gave a bolus of steroid medication to increase it. The mother stated that the steroids improved her B/P.

Assessment	
General	Awake, at baseline mentation. Non-verbal.
Integument	Skin is warm and dry upon palpation. Skin color is pale with no bruising, lesions, or rashes noted.
Musculoskeletal	Spastic quadriplegia. Hypotonia.
Neurological	Awake, at baseline mentation.
Most recent VS (highlight if abnormal)	**Time:** 1530 **Temperature:** 97.1 F **Route:** Axillary **RR:** 16 breaths/ min **HR:** 93 bpm **BP and MAP:** 95/64 mm Hg (her B/P is a little on the lower side, but her mother stated that is her baseline).

Relevant Lab Values/Diagnostics

1. **Chloride 109 mmol/L** (98-107)
2. **CBC w/ Diff 11.36 10^3 uL** (4.19-9.43)
3. **Abs Lymph 3.42 10^3 uL** (1.16-3.33)
4. **Urine culture reflexed (+ E.coli)** (Negative)
5. **Abs Immature Granulocyte 0.04 10^3 uL** (0.00-0.03)

***Diagnostic imaging: N/A**

*lab ranges & diagnostics per Carle charting

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Medical History

Previous Medical History: Allergic rhinitis, atrial septal defect, aspiration pneumonia, brain-hemorrhage open w/o coma, congenital hearing loss, GERD, hemangioma, kidney stones, mitral valve disorder, pulmonary stenosis, reflux nephropathy, ventricular septal defect

Prior Hospitalizations: 38 hospitalizations

Past Surgical History: Adenoidectomy, ASD & VSD repair, cystoscopy bilateral

Social needs: Lives at home with mother. She has a home health aide that assists her with daily needs.

Active Orders

1. **Pediatric feeding; Formula g-tube continuous 23 hrs:** To provide appropriate nutrients to maintain her health
2. **Cardiac monitoring:** The over consumption of Vimpat can potentiate cardiac dysrhythmias
3. **Q2 turn:** to prevent pressure ulcers and promote blood flow
4. **CBC w/ Diff/ Complete Metabolic Panel:** To confirm that the infection did not spread to the bloodstream
5. **Urine Culture;** To detect if the bacteria are still present in the urine

	Oxygen saturation: 99% **Oxygen needs:** Nasal cannula with humidity
Pain and Pain Scale Used	Pain management is being well controlled at this time with morphine. The FLACC scale was utilized, and the patient did not display any signs of discomfort.

Nursing Diagnosis 1 **Knowledge deficient related to Vimpat as evidenced by accidental overdose (Phelps, 2020).**	**Nursing Diagnosis 2** **At risk for Impaired skin integrity related to immobility (Phelps, 2020).**	**Nursing Diagnosis 3** **At risk for aspiration related to g-tube (Phelps, 2020).**
Rationale **The patient was accidentally given 50 mL instead of 50 mg of Vimpat.**	**Rationale** **The patient is quadriplegic and cannot move independently. She is at high risk for pressure sores and impaired skin integrity.**	**Rationale** **The patient is at risk for aspiration because she is on continuous feeds. She must be positioned correctly at all times.**
Interventions **Intervention 1:** Assess patient's levels of consciousness frequently (Phelps, 2020). **Intervention 2:** Educate the family on strategies on how to prevent medication errors.	**Interventions** **Intervention 1:** Reposition the patient every 2 hours to prevent skin breakdown and promote blood flow (Phelps, 2020). **Intervention 2:** Monitor the skin's condition and provide daily skin care as directed (Phelps, 2020).	**Interventions** **Intervention 1:** Elevate the head of the bed at least 30 degrees during feeds (Wagner, 2024). **Intervention 2:** Monitor g-tube for large residual contents (leakage) because it can be a sign of ineffective digestion and increased risk for aspiration (Wagner, 2024).
Evaluation of Interventions The mother stated that this was the first time this ever happened. She said she has a routine when administrating all the medications, but since it's a new one it threw her off. She was in agreeance when it was suggested she take her time especially now that it's a new step to her routine. It was also suggested the Vimpat be stored in a designated area with the instructions printed largely next to it as a reminder. When you function on "auto pilot" it can sometimes lead to mistakes.	**Evaluation of Interventions** The patient's skin was intact, and she was moved by the nurses every 2 hours. She did not have any pressure sores or skin breakdown.	**Evaluation of Interventions** The patient's bed was properly positioned during her feed. The g-tube was also dry and intact with no signs of leakage. The patient tolerated her feeds well and showed no signs of aspiration.

		What do you expect?	What did you observe?
Erickson's Psychosocial Developmental Stage	**Stage 5: Identity vs. Confusion**	This stage is composed of teens from ages 12-18 (Cherry, 2022). This stage is a when they develop a sense of self and independence (Cherry, 2022).	Due to the patient's health conditions, sadly she is not able to complete this stage. The patient cannot perform any daily care for herself. She is non-verbal and cannot communicate her needs.
Piaget's Cognitive Developmental Stage	**Formal Operational**	This stage is for adolescents 12 and older (Cherry, 2023). They enter this stage when they learn to think in an abstract way and think systematically about the world around them (Cherry, 2023).	The patient is not able to enter and complete this stage. She cannot think in a hypothetical manner or form arguments to persuade another individual.
Age-Appropriate Growth & Development Milestones	1. They develop more agility and coordination (Nzeh, 2022). 2. They develop the visual-spatial coordination needed to determine distance and speed to react quickly (Nzeh, 2022). 3. They require more sleep and food to keep with growth (Nzeh, 2022).		
Age-Appropriate Diversional Activities	1. If the patient is up for it, encourage them to invite their friends so they can spend time with their peers. 2. Allow them to play videogames or watch movies. 3. Have them keep up with their schoolwork.		

Medications

1. Coreg (Carvedilol) 3.125 mg 2x daily w/ meals; to help control heart failure and blood pressure (Nurse's Drug Handbook, 2022).

Pharmacological: Nonselective beta blocker and alpha-1 blocker (NDH, 2022).
Therapeutic: Antihypertensive (NDH, 2022).
Key Nursing Assessment prior to admin: Obtain the patient's apical pulse and blood pressure (NDH, 2022).

2. Levothyroxine 112 mcg daily @0600; to treat hypothyroidism (NDH, 2022).

Pharmacological: Synthetic thyroxine (NDH, 2022).
Therapeutic: Thyroid hormone (NDH, 2022).
Key Nursing Assessment prior to admin: Make sure the patient has not had a feed yet, and administer on an empty stomach (NDH, 2022).

3.Onfi (Clobazam) 25 mg daily (she has been weaning off this medication); to treat seizures (NDH, 2022).

Pharmacological: Benzodiazepine (NDH, 2022).
Therapeutic: Anticonvulsant (NDH, 2022).
Key Nursing Assessment prior to admin: Review the patient's liver, kidney, and blood count levels (NDH, 2022).

Relevant Lab Values/Diagnostics

1. **Chloride 109 mmol/L** (98-107) due to kidney dysfunction (Martin, 2023)
2. **CBC w/ Diff 11.36 10^3 uL** (4.19-9.43) due to her urinary tract infection (Martin, 2023)
3. **Abs Lymph 3.42 10^3 uL** (1.16-3.33) due to infection and inflammation
4. **Urine culture reflexed (+ E.coli)** (Negative) causative bacterial agent for the urinary tract infection (Martin, 2023)
5. **Abs Immature Granulocyte 0.04 10^3 uL** (0.00-0.03) due to infection (Martin, 2023)

Diagnostic imaging: N/A

*lab ranges and diagnostic results per Carle charting

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