N431 Concept Map

Student Name: Alexandria De Roeck

Medications

Meropenem merrem 500 mg q6hr IV push carbapenem antibiotic for sepsis aspiration. The nurse should assess for any signs of extravasation and hepatotoxicity.

Enoxaparin lovenox subcutaneous injection 100 mg q12hr, heparin prophylactic anticoagulant, to prevent DVTs and related blood clots. The nurse should review the patient's anticoagulation labs and should assess the patient for signs of increased bleeding.

Gabapentin neurontin by g-tube 300 mg TID anticonvulsants,1-aminomethyl cyclohexyl acetic acid, DB's brain injuries can make them more susceptible to seizures. The nurse should monitor renal function lab results.

Oxycodone roxicodone by g-tube 5 mg q6hrs opioid, opioid analgesic, is used to control DB's pain. The nurse should assess the client's respiratory status before administration.

Propranolol 20 mg q8hr by g-tube, beta blocker,antihypertensive, this is used to control DB's hypertension. The nurse should obtain the patient's heart rate and blood pressure before administration. The nurse should hold the dose if the systolic bp is less than 100 and the pulse less than 60 bpm

Dem

Date of Admission
Admission Diagno
skull fracture and
related to auto vs
Age: 21
Gender: Male to F
Race/Ethnicity:Wh
Allergies:Amoxicill
erythromycin- hiv
Code Status:full
Height in cm:180.3
Weight in kg:
Psychosocial Deve
versus isolation
Cognitive Develop
Operational
Braden Score:12
Morse Fall Score:5

Pathophysiology

Disease process:

DB suffered a subarachnoid hemorrhage following a basilar skull fracture that resulted from a pedestrian versus auto collision. On a cellular level, the accumulation of blood between the arachnoid and pia mater spaces increases the number of macrophages in the choroid plexus (Capriotti, 2020). Brain hemorrhages affect other body systems by inducing seizures, vasospasms, and confusion. Common features that follow the course of hemorrhage are pulmonary edema and stunned neurogenic myocardium(Capriotti, 2020). Following a subarachnoid hemorrhage, blood particles circulate in the body cavity and develop into arachnoid granulations. These granulations make fluid clearance and circulation almost impossible to happen. Hydrocephalus is the accumulation of cerebrospinal fluid in the brain. Hydrocephalus can lead to brain herniation and death(Mayo Clinic, 2022).

S/S of disease:

The signs and symptoms of a brain hemorrhage can vary because most of these cases occur from trauma. The most common chief complaint of a subarachnoid hemorrhage is a thundering headache associated with nausea and vomiting (Mayo Clinic, 2022). These hemorrhages can also affect the cranial nerves. Frequent neurologic assessments are needed to identify the degree of the hemorrhage. As the blood collects in the brain, cranial nerves may become absent, and the level of consciousness may become altered. These patients may also present in a coma depending on the severity of the blood (Mayo

Student Name: Alexandria De Roeck

Lab Values/Diagnostics

Ca-8.7 (8.9-10.6)- This is most likely due to the client's subarachnoid hemorrhage, hypocalcemia can occur in trauma patient's who sustain a hemorrhage or bleed (Pagana et al., 2021).

WBC- 11.86 (4-11)- This is most likely related to the client's episode of vomit in the ED that developed into aspiration pneumonia (Pagana et al., 2021).

RBC- 3.80 (4.10-5.70)- DB's subarachnoid hemorrhage has lead to a deplenished red blood cell count (Pagana et al., 2021).

HBG- 11.2 (12.0-18.0)- A low hemoglobin count is related to the blood loss DB suffered followed their subarachnoid hemorrhage (Pagana et al., 2021).

HCT- 34.4 (37.0-51.0)- DB has a low hematocrit due to his blood loss and his low hemoglobin(Pagana et al., 2021).

PLT- 408 (140-400)- Trauma, infections, and low iron are all causes of low platelets (Pagana et al., 2021).

Neutro-7.99 (1.60-7.70)- A high neutrophil count is most likely related to DB's infection (Pagana et al., 2021).

CTA of brain w/o contrast 9/16- Trace scattered subarachnoid hemorrhage is seen along the lateral left frontoparietal sulci.

CT facial bones w/o contrast 9/16

Impression: Skull basilar fracture involving the clivus extending into the sella and closely approximating the carotid canals. Right transverse temporal bone fracture with a small focus of pneumocephalus.

Xray of left leg, KUB, and pelvis are unremarkbale for damage 9/17.

CT of spine is unremarkable for damage 9/16.

Admission History

Pt was brought into ED via ambulance on 9/16/22 following collision with car, pt was on foot, he was diagnosed with a fracture of the base of his skull, SAH Acute respiratory failure, EMS attempted to intubate in

Medical History

Previous Medical History:ADHD, depression, gender dysphoria, social anxiety

Prior Hospitalizations:
None
Previous Surgical History:
Tonsillectomy and adeniodectomy - UTA date
Social History: UTA

Active Orders

Contact plus protection related to a soil based infection, the nurse was unable to find the specific name of the bacteria.

NPO due to the client's tracheostomy and g-tube. The patient receives all nutrition through the g-tube.

Rectal tube was placed on 10/4 because DB had 5 bowel movements through the night.

External catheter was placed due to functional incontinence.

Q2 turns were implemented because the patient is unable to regulate their own position.

Neuro checks q4 due to DB's subarachnoid hemorrhage and propensity for seizure activity.

Blood glucose q4 is a Carle mandated proceeding if the patient is in the ICU. This helps monitor the TPN's effectiveness.

Oral care/trach q shift related to DB's tracheostomy and inability to clear their own secretions.

Physical Exam/Assessment

General: The patient appears confused, alert, and drowsy, calm, and has no signs of distress.

Integument: The patient's skin is warm, dry, and pink, without discoloration. DB has normal skin turgor mobility, they also have a 12 Fr NG tube, and a 14 Fr external catheter.

HEENT: DB's head and neck are symmetrical, the trachea is midline without deviation, the thyroid is non-palpable, no noted nodules, no lymphadenopathy is noted in head or neck. Eyes are white and clear, the conjunctiva is pink, minimal drainage noted bilaterally, the septum is midline, moist, and pink, some congestion, no bleeding or polyps noted, Dentition is good, oral mucosa is pink and the patient has some oral drainage which was suctioned.

Cardiovascular: Clear S1,S2, without murmurs, gallops, or rubs. Normal rate and rhythm, NSR, peripheral pulses are 2+, capillary refill is less than 3 seconds, no noted edema bilaterally.

Respiratory: Diminished breath sounds in the right lung fields, with no accessory muscle use. Left lung fields are clear.

Genitourinary: Urine is yellow and dark , 325 cc, no pain or dialysis, genitals appear normally developed, external catheter 14 Fr

Gastrointestinal: The patient is NPO in the hospital but was a full diet at home, they are 180.3 cm and weighs 107.7 kg. Their bowel sounds are normoactive in all four quadrants, their last bowel movement was at 1143, no pain, guarding, masses, and the abdomen is not distended, the patient has a G-tube, no scars, or wounds noted, no ostomy, NG tube 12 Fr in the left nare, the patient also has a rectal tube

Musculoskeletal: A&O x1, diminished, weak strength bilaterally, the patient is a fall risk, fall score of 50, Max assist, hoyer, +3 person, the patient needs support to stand and walk

Neurological: The patient moves all extremities on command, PERRLA is intact, A&O x1, mental status is confused is drowsy, the patient is unable to speak due to weaning sedation and trach placement, the client is semi-conscious to their environment.

Most recent VS (include date/time and highlight if abnormal):

T: 97.8 HR:86 B/P131/77: O:95 on 30/30 optiflow R:14

Pain and pain scale used: No presence of pain using the FLACC nonverbal pain scale

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Risk for infection related to aspiration pneumonia as evidenced by high white blood count.	Risk for hemorrhage related to subarachnoid hemorrhage as evidenced by diagnostic imaging.	Impaired gas exchange related to acute respiratory failure as evidenced by hypoxia and pulmonary embolism.
Rationale This diagnosis was chosen because DB aspirated upon arrival to the ED and developed pneumonia as a result.	**Rationale** This diagnosis was chosen because DB has a basilar skull fracture and a subarachnoid hemorrhage that could worsen at any moment.	**Rationale** This diagnosis was chosen because BD developed aspiration pneumonia as well as an acute respiratory failure while intubated. Following these events, DB received a tracheostomy.
Interventions **Intervention 1: Use strict sterile technique when performing invasive procedures** **Intervention 2:Administer topical, oral, or parenteral antibiotics as ordered.**	**Interventions** **Intervention 1: Assess for bleeding** **Intervention 2: Assess for a change in level of consciousness.**	**Interventions** **Intervention 1:Monitor the patient's respiratory status often.** **Intervention 2:Raise the patient's head of bed.**
Evaluation of Interventions The student nurse administered lovenox as ordered and used aseptic technique	**Evaluation of Interventions** **The client did not show signs of bleeding or change in LOC.**	**Evaluation of Interventions** **The patient's respiratory findings were within the normal range and HOB stayed above 30 degrees.**

References (3) (APA):

Mayo Clinic. (2022). *Subarachnoid hemorrhage - Diagnosis and treatment - Mayo Clinic*. Mayoclinic.org. https://www.mayoclinic.org/diseases-conditions/subarachnoid-hemorrhage/diagnosis-treatment/drc-20361014

Capriotti, T. M. (2020). *Davis advantage for pathophysiology introductory concepts and clinical perspectives* (2nd ed.). F. A. Davis Company. https://fadavisreader.vitalsource.com/books/9781719641470

Kathleen Pagana, Timothy Pagana, & Theresa Pagana. (2021). *Mosby's diagnostic and laboratory test reference*. Elsevier.