Medications

- **Cefepime (maxipime):** Order: 1 g in sodium chloride 0.9% 100 mL IVPB. 1 g IV every 12 hours 1st dose 9/6/23 at 0900 until discontinued. Administer over 4 hrs. Indications Bacteremia at 25 mL/hr. **Pharmacologic class:** Cephalosporin antibiotic. **Therapeutic class:** Antibiotic. This client is taking this medication to treat bacteremia. **Key Nursing assessment:** Review clients medical record and if currently if the client has recently been vaccinated by using Cholera Vaccine live or is currently using furosemide or warfarin consult the provider.
- **Enoxaparin (Lovenox):** Order: injection 30 mg. 30 mg sub-Q every 24 hours daily. 1st dose 9/16/23 at 1400 until discontinued. **Pharmacologic class:** Antithrombotic/Low-molecular-weight heparin. **Therapeutic class:** Anticoagulant. The client is taking this medication to prevent DVT due to restricted mobility during acute illness. **Key Nursing assessment:** review clients health history for bleeding disorders, blood clots, recent surgery, and trauma. Also monitor vital signs before and after administering the medication.
- **Metoprolol succinate (Toprol-XL):** Order: XL tablet 50 mg. 50 Mg oral daily 1st dose 9/7/23 at 1900 until discontinued. (DO NOT CRUSH). **Pharmacologic class:** Cardio selective beta-1-adrenergic receptor inhibitor. **Therapeutic class:** Beta blocker**.** The client is taking this medication to treat hypertension. **Key Nursing assessment:** Assess apical pulse rate before administering; if it is less than 60 beats/minute, withhold the drug and call the prescriber immediately, unless other parameters are provided.
- **Vancomycin (vancocin**): Order: 1,000 mg in sodium chloride 0.9% 250 mL IVPB. Continue 0.9% sodium chloride solution at 100 mL/hr. IV continuous. Starts 9/6/23 at 1400 until discontinued. **Pharmacologic class:** Glycopeptide. **Therapeutic class:** Antibiotic**.** The client is taking this medication to prevent sepsis. **Key Nursing assessment:** review client's medical history for inflammatory intestinal disorder, renal impairment, or recent cataract surgery before administering. Assess client's skin regularly for reactions notify prescriber at first sign of rash, blisters, or mucosal lesions.

Lab Values/Diagnostics

Creatine: 1.90 **(**.70-1.30): Measures how well the kidneys are performing.

WBC: 3.30 (4-12): Measures white blood cell count to detect inflammation/infections.

Neutrophils: 83.5 (40-68): High Neutrophil level due to inflammation/infections.

RBC: 3.33 (4.40-5.80): Measures the amount of RBC.

HGB: 9.9 (13-16.5): Measures the amount of protein RBC carry and if oxygen is properly carried to the lungs and then to the reset of the body.

HCT: 29.6 (38.0-50): Measures the amount of RBC and detect disease or disorders.

Platelet: 134 (140-440): detects low number of platelets in the blood.

Lymphocytes: 9.7 (19-49): Measures white blood cell count to detect inflammation/infections.

CT of abdomen: reason to detect sepsis: impression noted cholecystectomy detected in distal common bile duct and minimal air detected in central intrahepatic biliary tree.

XR chest single view: reason to detect sepsis: lungs calcified, granuloma noted in right midlung, lungs clear otherwise, heart normal size, port a cath. Noted, and no acute disease detected.

Demographic Data

Date of Admission:9/5/2023
Admission Diagnosis/Chief Complaint: Cholangitis
Age: 47
Gender: Female
Race/Ethnicity: Caucasian
Allergies: NKA
Code Status: Full code
Height in cm: 167.6 cm
Weight in kg: 86.6 kg
Psychosocial Developmental Stage: Generativity vs Stagnation.
Cognitive Developmental Stage: Formal operational stage.
Braden Score: 18 Mild risk.
Morse Fall Score: 30 Low risk.
Infection Control Precautions: None currently in place.

Admission History

Client states the onset of present illness began 9-5-23 and consisted of extreme pain in the RUQ resulting from the diagnosis of cholangitis and is noted as the client's chief complaint upon admission. The duration of the present illness began 9-5-23 and is still present. Characteristics include swelling, nausea, and pain that can only be somewhat alleviated by medications. Patient states that alleviation of symptoms prior to admission consisted of "nothing makes it feel better" and "everything makes it worse". Client's status is being aggravated by her current cancer diagnosis and sepsis.

Medical History

Previous Medical History:

- Carcinoma (HCC).

Prior Hospitalizations:

- 6/9/2023 ED Anemia.
- 5/13/2023 ED Conjunctivitis.
- 2/28/2023 ED Aortic root dilation.

Previous Surgical History:

- Cholecystectomy Laparoscopic 11/21/2013.

Social History: Client reports no history of alcohol, substance abuse, tobacco use, or smokeless nicotine use.

Pathophysiology

Disease process: Cholangitis is a rare but serious bacterial infection of the bile ducts located in the liver often leading to obstructions. Inflammation and infection causing the obstruction can lead to increased bacteria and endotoxins within the lymphatic and vascular drainage systems. This causes bile to not evenly flow through the biliary ducts resulting in bacteria not properly flushing leading to sepsis that can lead to fatality.

S/S of disease: Abdominal pain, especially in the right upper quadrant or middle of the abdomen, fever and chills, Jaundice, dark urine and clay-colored stools, nausea and vomiting, itchy skin, fatigue, and dry eyes and mouth.

Method of Diagnosis: Ultrasound/CT scan of the liver and bile ducts with possible dye used to show blockages, liver function blood test to check the levels of liver enzymes and other indicators of inflammation or damage, physical exam looking for signs of jaundice/enlarged liver or spleen/abdominal tenderness or pain, or a liver biopsy.

Treatment of disease: Antibiotic therapy directed towards enteric pathogens and biliary drainage, extensive cardia monitoring, and fluid/electrolyte replacement.

Active Orders

- Admission weight: standard admission protocol.
- Cardiac monitoring: included in the treatment of cholangitis.
- Elevate HOB to client comfort provides comfort because of pain level.
- Provide client/family transfusion brochure: education purposes.
- Hold transfusion and notify physician and blood bank.
- Initiate adult sepsis alert: Standard protocol when sepsis is diagnosed.
- Insert/maintain large bore peripheral IV: IV must be large enough to provide blood transfusion if needed.
- Monitor intake and output: monitoring to ensure kidneys are correctly functioning.
- Notify physician if: pulse less than 50 or higher than 120, temperature higher than 101.5, or if clients pain worsens. And notify when prior to admission med review is complete: signs of infection/sepsis.
- Vital signs per unit routine; standard protocol.
- Nursing at night calls if IV expires: standard protocol.
- Pulse ox stat: standard protocol.
- Transfusion reaction management.: standard protocol when blood transfusions may be needed.
- Client up as tolerated: to prevent blood clot formation.
- Verify informed consent: standard protocol.
- Vital signs 30 mins. before initiating, 15 min. after start, and 5 mins. after 750/70 min blood completion: standard protocol.

Physical Exam/Assessment

General: Client is a 47-year-old Caucasian female who reports severe pain of the RUE with a fever starting 9/5/2023. Patient reports she "started to experience severe stomach pain on her right side and noticed a mild fever and decided to head to the ER because of her current stage 4 cancer diagnosis". Patient reports pain has been consistent since being admitted and that she noticed a decrease in fever last night. The client states "that nothing alleviates the pain". Patient appears well groomed with no signs of distress and is alert and oriented x4.

Integument: Skin is jaundice, warm, dry, and intact with no signs of lesions, rashes, bruising, or masses. Hair is thin and evenly distributed. Skin turgor returns to normal in less than 3 seconds.

HEENT: Head and neck are symmetrical, trachea is midline without deviation, thyroid is not palpable, no noted nodules. Bilateral carotid pulses are palpable and 2+. No lymphadenopathy in the head or neck is noted. Preauricular, posterior auricular, occipital, tonsillar, posterior cervical, submandibular, submental, anterior cervical, and supraclavicular lymph nodes not palpable. Sclera is white, conjunctiva is pink and moist, eyelids clear with no drainage or lesions present, eyebrows and hair on head are thin and evenly distributed. PERRLA noted bilaterally, redlight reflex present, EOMS intact bilaterally, and Rosenbaum noted as 14/14. Septum midline with no deviation noted, turbinate's moist and pink, no lesions polyps or bleeding visible. Frontal and maxillary sinuses nontender to palpation bilaterally. External ear has no visible lesions, redness, or drainage. Tympanic membrane in canal is pearly grey with no drainage or redness noted bilaterally. Throat symmetrical upon inspection. No lesions, inflammation, or dryness noted. Oral mucosa is pink and moist no lesions notes. Soft pallet rises and falls, hard pallet is intact, uvula is midline, and tonsils are a 1 with no exudate noted. Teeth are good with no signs of damage or missing teeth.

Cardiovascular: S1 and S2 sounds clear with no signs of murmurs, rubs, or gallops and normal rate and rhythm noted.

Respiratory: Normal rate and pattern of respirations, respirations symmetrical and non-labored, lung sounds clear throughout anterior/posterior bilaterally, no wheezes, crackles, or rhonchi noted.

Genitourinary: Client reports no pain, bleeding, burning, or change in urination. Client reports last urination an hour ago.

Gastrointestinal: Abdomen is soft with no tenderness or pain reported in all RLQ, LUQ, and LLQ quadrants upon palpation. Client reports severe pain within the RUQ. No enlargements, masses, abnormalities, or lesions noted in all 4 quadrants. Bowel sounds normal and active in all 4 quadrants. Client reports no pain, bleeding, or change in bowel movements. Client reports last bowel movement 9/10/23 0900.

Musculoskeletal: All extremities upper and lower noted as pink, warm, dry, and symmetrical. Cap refill is less than 3 seconds on fingers and toes bilaterally with no signs of clubbing or cyanosis. ROM noted in all extremities as full range, hand grips and pedal push/pulls noted as normal with equal strength bilaterally Homans sign negative bilaterally. No edema noted in all 4 extremities. Pulses 2+ bilaterally throughout.

Neurological: Patient appears well groomed with no signs of distress and is alert and oriented x4.

Most recent VS (include date/time and highlight if abnormal): 9/11/2023 @ 1500 BP: 114/67 P: 66 R: 20 O2: 98% (room air) T: 97.8 (oral).

Pain and pain scale used: Client states that when utilizing the numeric pain scale her pain is "8/10 and the pain is not consistent and often feels like a dull stabbing pain".

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Acute pain related to inflammation of the bile ducts in the liver as evidenced by client report of RUQ pain level of 8/10, guarding, and restlessness.	Risk for deficient fluid volume as evidenced by insufficient fluid intake.	Risk of imbalanced nutrition as evidenced by insufficient nutritional intake.
Rationale To alleviate the symptoms of acute abdominal pain on the right upper quadrant of the abdomen. Pain medications may include narcotics, anticholinergics, or smooth muscle relaxants. To increase the oxygen level by allowing optimal lung expansion.	**Rationale** To replenish fluids lost. Evaluate electrolyte levels and labs to ensure homeostasis is restored.	**Rationale** To help the patient gain a sense of control in his/her nutritional intake and meal planning
Interventions **Intervention 1:** Administer prescribed pain medications. **Intervention 2:** Elevate the head of the bed and position the patient in semi-Fowler's.	**Interventions** **Intervention 1:** Start IV fluid therapy as prescribed. **Intervention 2:** Monitor clients electrolyte balance/labs.	**Interventions** **Intervention 1:** Ask the client's preferences regarding food and drinks. Discuss with the patient the short term and long-term nutritional goals. **Intervention 2:** Refer client dietitian.
Evaluation of Interventions The patient will demonstrate relief of pain as evidenced by a pain score of 0 out of 10, stable vital signs, and absence of restlessness.	**Evaluation of Interventions** Within 48 hours of nursing interventions, the patient will be able to maintain fluid balance.	**Evaluation of Interventions** The patient will be able to achieve a weight within his/her normal BMI range, demonstrating healthy eating patterns and choices.

References (3) (APA):

Capriotti, T. & Frizzell, J.P. (2020). *Pathophysiology: Introductory concepts and clinical perspectives.* (2nd ed.). F.A. Davis Company.

Hogan-Quigley, B., Palm, M., & Bickley, L. (2022). *Bates' nursing guide to physical examination and history taking* (3rd ed.). Wolters Kluwer.

Jones & Bartlett Learning. (2020). *2021 Nurse's drug handbook (19th ed.).* Jones and Bartlett Learning.

Lynn, P. (2019). *Taylor's clinical nursing skills: A nursing process approach (5th ed.).* Wolters Kluwer

Phelps, L.L. (2020). *Nursing Diagnosis Reference Manual* (12th ed.). Wolters Kluwer

Taylor, C., Lynn, P., & Bartlett, J. L. (2023). *Course Point for Fundamentals of nursing: The art and science of person-centered care (10th ed.).* Wolters Kluwer