

Medications

Atorvastatin (Lipitor)- 20mg PO Nightly for the patient's hyperlipidemia (NDH, 2023).
 Pharmacological Class- HMG-CoA reductase inhibitor (NDH, 2023) Therapeutic Class- Antihyperlipidemic (NDH, 2023)
 Key Nursing Assessment- liver function test to be performed before therapy starts and then thereafter as clinically necessary (NDH, 2023)

Furosemide (Lasix)- 40mg IV daily for the patient's fluid volume overload causing 4+ pitting edema and CHF (NDH, 2023).
 Pharmacological Class- Loop Diuretic (NDH, 2023) Therapeutic Class- Antihypertensive, diuretic (NDH, 2023)
 Key Nursing Assessment- Obtain patient's weight before and during administration to monitor fluid loss (NDH, 2023)

Glargine (Lantus)- 100 units/ml daily in the morning subQ for DM (NDH, 2023).
 Pharmacological Class- Long acting insulin (NDH, 2023) Therapeutic Class- Insulin (NDH, 2023)
 Key Nursing Assessment- Administer SubQ route only (NDH, 2023)

Insulin (Humalog)- 100 units/ml sliding scale subQ for DM (NDH, 2023).
 Pharmacological Class- Rapid- acting insulin (NDH, 2023) Therapeutic Class- Insulin (NDH, 2023)
 Key Nursing Assessment- Administer SubQ route only (NDH, 2023)

Lactulose (Enulose)- 10g PO BID for liver cirrhosis (NDH, 2023).
 Pharmacological Class- Disaccharide (NDH, 2023) Therapeutic Class- Colonic acidifier (NDH, 2023)
 Key Nursing Assessment- Monitor blood ammonia level in patients with hepatic encephalopathy (NDH, 2023)

Levothyroxine sodium (Synthroid)- 112mcg PO daily for thyroid disease CHF (NDH, 2023).
 Pharmacological Class- Synthetic thyroxine (NDH, 2023) Therapeutic Class- Thyroid hormone replacement (NDH, 2023)
 Key Nursing Assessment- Monitor blood glucose level of diabetic patient because drug may worsen glycemic control (NDH, 2023)

Montelukast sodium (Singulair)- 10mg PO Daily for asthma (NDH, 2023).
 Pharmacological Class- Leukotriene receptor antagonist (NDH, 2023) Therapeutic Class- Antiallergen, antiasthmatic (NDH, 2023)
 Key Nursing Assessment- Prescribed drug for asthma instruct patient to take in the evening (NDH, 2023)

Oxbutynin (Diltropan XL)- 5mg daily for acute cystitis (NDH, 2023).
 Pharmacological Class- anticholinergic (NDH, 2023) Therapeutic Class- Antispasmodic (NDH, 2023)
 Key Nursing Assessment- Assess urinary symptoms before and after treatment (NDH, 2023)

Pantoprazole sodium (Protonix)- 40mg PO daily for GERD (NDH, 2023).
 Pharmacological Class- Proton Pump Inhibitor (NDH, 2023) Therapeutic Class- Anticancer (NDH, 2023)
 Key Nursing Assessment- Notify prescriber if urine output decreases or there is blood in the patient's urine (NDH, 2023)

Pregabalin (Lyrica)- 50mg PO daily for diabetic neuropathy (NDH, 2023).
 Pharmacological Class- Gamma-aminobutyric acid analogue (NDH, 2023) Therapeutic Class- analgesic, anticonvulsant, schedule V controlled substance (NDH, 2023)
 Key Nursing Assessment- Monitor for evidence of suicidal behavior or thinking when starting this drug or dosage changes (NDH, 2023)

Demographic Data

Date of Admission: 9/10/2023
Admission Diagnosis/Chief Complaint: CHF, Volume Overload/SOB
Age: 63
Gender: Female
Race/Ethnicity: White/Caucasian
Allergies: Lavender Oil, Hydralazine
Code Status: Full
Height in cm: 162.6 cm
Weight in kg: 107 kg
Psychosocial Developmental Stage: Formal Operational Stage
Cognitive Developmental Stage: Generativity -vs- Stagnation
Braden Score: 19

Lab Values

- **Sodium 133 (136-145mmol/L) fluid over load and CHF (Martin, 2023)**
- **Potassium 5.8 (3.5-5.1mmol/L) fluid over load and CHF (Martin, 2023)**
- **CO2 Venus 18 (20-30mmol/L) CHF and COPD (Martin, 2023)**
- **BUN 89 (10-20mg/dl) fluid over load and CHF (Martin, 2023)**
- **Creatinine 1.91 (0.6-1.0mg/dL) AKI and fluid over load (Martin, 2023)**
- **GFR Estimated 39 (>=60) AKI (Martin, 2023)**
- **BUN/Creatinine Ratio 47 (12-20ratio) AKI, fluid over load, and CHF (Martin, 2023)**
- **Glucose 397 (70-99mg/dL) DM (Martin, 2023)**
- **Calcium 8.1 (8.7-10.5mg/dL) fluid over load, and CHF (Martin, 2023)**
- **Phosphorus 5.1 (2.5-4.5mg/dL) fluid over load, and CHF (Martin, 2023)**
- **Albumin 2.0 (3.5-5.0 g/dL) liver cirrhosis (Martin, 2023)**
- **A/G Ratio 0.5 (1.0-2.2) liver cirrhosis, AKI (Martin, 2023)**
- **Uric Acid 11.1 (2.5-6.2mg/dL) AKI (Martin, 2023)**

Diagnostics

- **9/10/23 CXR- Progressed bilateral pulmonary congestion. Ash cath removed. Needed for SOB**
- **9/10/23 CT of abdomen with out contrast- Cirrhotic liver with TIPS shunt, moderate splenomegaly, severe anasarca, bilateral small pleural effusion with adjacent atelectasis, heart mildly enlarged, normal caliber of the bowels. Needed for acute localized abdominal pain**

Admission History

Patient states that her shortness of breath started in the morning of 9/10/2023 and continued off and on throughout the day. Patient states she usually is able to take a nebulizer and that helps but her nebulizer machine is broke. Her shortness of breath

Medical History

Previous Medical History: CHF, AKI, Asthma, Fluid Overload, DM, HTN, COPD, Thyroid Disease, Hyperlipidemia, Arthritis, Depression, Liver Cirrhosis, CAD, MI, Hepatic Encephalopathy, Acute Cystitis, ESBL in urine

Prior Hospitalizations: 7/31/2023- Cellulitis, 8/12/2023 Volume Overload, 9/5/2023 Anasarca

Previous Surgical History: TICS

Pathophysiology

Disease process: Congestive Heart Failure, on a cellular level, is stated that the heart goes through a remodeling, causing the mitochondria, the heart's primary energy source of the heart, to generate and transfer energy, thereby causing mitochondrial dysfunction and contractile failure (Hinkle et al., 2021). Heart failure occurs when the heart muscle does not pump blood as well as it should (Hinkle et al., 2021). When the heart reaches this stage, fluid can build up in the lungs due to congestion and cause shortness of breath. As the condition progresses and arteries in the heart narrow, even more blood pressure will go up, and the weak heart will eventually give out (Hinkle et al., 2021).

S/S of disease: Symptoms may develop slowly. Sometimes, heart failure symptoms start suddenly. Heart failure symptoms may include: Shortness of breath with activity or when lying down, fatigue and weakness, and swelling in the legs, ankles, and feet (Hinkle et al., 2021). Rapid or irregular heartbeat, reduced ability to exercise, wheezing, a cough that doesn't go away or a cough that brings up white or pink mucus with spots of blood, swelling of the belly area, very rapid weight gain from fluid buildup, nausea and lack of appetite (Hinkle et al., 2021)

Method of Diagnosis: CHF is diagnosed by blood test looking at kidney and thyroid functions as well as cholesterol levels, BNP and blood cell count (Hinkle et al., 2021). Diagnostic tests such as Chest X-Ray to look to see if the heart is enlarged or fluid filled in the lungs, an Echocardiogram to evaluate the heart valves, MRI to detect any damage to the heart muscle or if there are any blockages in the heart (Hinkle et al., 2021). Stress tests can also be completed to measure the health of the heart and the amount of stress it can take (Hinkle et al., 2021).

Treatment of disease: Treatment of heart failure depends on the cause and the stage of failure the patient is in (Hinkle et al., 2021). Medications like ACE Inhibitors to lower blood pressure and improve blood flow could be prescribed (Hinkle et al., 2021). Beta blockers slow the heart rate and diuretics can help to rid the body of excess fluid build up (Hinkle et al., 2021). Heart surgery may be needed to open arteries in most serious cases (Hinkle et al., 2021). For those who have exhausted medication routs and heart repair surgery may have to end up getting a heart transplant (Hinkle et al., 2021).

- **Compression device to bilateral lower extremities related to DVT prevention**
- **Up with Assistance related to high fall risk**

Physical Exam/Assessment

General: Alert and Oriented x 4, no acute distress, and well-groomed

Integument: Skin is tan and dry. Bilateral lower extremities cool to the touch, and upper extremities warm to touch. Bilateral lower extremity edema. Bilateral upper extremity nail beds show signs of clubbing. Skin turgor is tight. Bandage to right anterior chest related to dialysis port being removed.

HEENT: Head and neck symmetrical. Ears had no deformities, lesions, or no drainage bilaterally. The trachea was midline without deviation. Eyes had bilateral white sclera, clear, no discharge. PERRLA is intact bilaterally, with EMOs intact bilaterally. Tonsils are moist and pink without exudates. Tonsils are at. 2+. Uvula is midline. Soft pallet rises and falls symmetrically. Lymph nodes non-palpable. Glasses for vision and reading. Full upper and lower dentures.

Cardiovascular: S1 and S2 presented without murmurs and gallops. PMI was palpable. Normal rate and rhythm. BUE pulses 2+; BLE pulses femoral, popliteal 2+; not able to feel pedal, or posterior tibial pulses related to edema. Capillary refill less than 3 seconds on bilateral hands. Nail beds had clubbing present. Capillary refill could not be done on feet due to orange nail polish. 4+ pitting edema to BLE 2000cc fluid restriction.

Respiratory: Normal rate and rhythm. Breaths were non-labored and symmetrical. Breath sounds crackles in bilateral upper lobes and diminished in bilateral lower lobes.

Genitourinary: Urine was yellow and clear. The patient had average urine output. No pain while urinating. Uses a female external catheter.

Gastrointestinal: The abdomen was soft and tender. The patient had no masses or enlarged organs found. Bowel sounds were hyperactive in all four quadrants. Complaints of nausea.

Musculoskeletal: ROM was affected on the lower extremities due to edema, and the patient did not want to move due to pain. Hand grips strength was at a 4 bilaterally. Pedal push and pulls was at a 2 related to edema and required passive ROM.

Neurological: Normal cognition. Speech is clear. The patient was awake. Short and long memory was intact.

Most recent VS (include date/time and highlight if abnormal): 9/11/2023 @ 1500 BP: 143/54 P: 79 O2: 94% on 3LNC Temp: 36.1c RR: 18

Pain and pain scale used: 0-10. Verbal: 7/10 Unable to provide pain relieve pharmacologically related to renal disease

<p align="center">Nursing Diagnosis 1</p> <p align="center">Impaired gas exchange related to CHF and COPD evidenced by requiring continuous supplemental oxygen @ 3LNC</p>	<p align="center">Nursing Diagnosis 2</p> <p align="center">Excess fluid volume related to CHF as evidence by crackles noted in the lungs and bilateral pitting edema to the lower extremities.</p>	<p align="center">Nursing Diagnosis 3</p> <p align="center">Risk for infection related to compromised skin integrity as evidence by surgical site to right anterior chest</p>
<p align="center">Rationale</p> <p>The patient requires supplemental oxygen to keep O2 sats above 92% and breathe more effectively due to progressing CHF and COPD</p>	<p align="center">Rationale</p> <p>Patient has 4+ pitting edema to bilateral lower extremities and crackles noted to bilateral upper lobes of the lungs.</p>	<p align="center">Rationale</p> <p>Patient recently has surgery to remove old dialysis port to the right anterior chest.</p>
<p align="center">Interventions</p> <p>Intervention 1: Monitor VS and O2 sats per protocol (Phelps, 2021).</p> <p>Intervention 2: Keep HOB elevated at 30 degrees to facilitate chest expansion and enhance gas exchange (Phelps, 2021).</p>	<p align="center">Interventions</p> <p>Intervention 1: 2000ml fluid restriction</p> <p>Intervention 2: Monitor routine labs (Phelps, 2021).</p>	<p align="center">Interventions</p> <p>Intervention 1: Monitor for redness, swelling, drainage and odor to the incision site when completing dressing change (Phelps, 2021).</p> <p>Intervention 2: Monitor labs for infection (Phelps, 2021).</p>
<p align="center">Evaluation of Interventions</p> <p>Patient's VS were taken every 8 hours and PRN with results reported to the nurse. HOB remained elevated at 30 degrees as well as patient sat up in her chair with legs elevated. Interventions for effective gas exchange is successful with a PaO2 of 94% at 1500</p>	<p align="center">Evaluation of Interventions</p> <p>Interventions still ongoing. Patient is compliant with fluid restriction and education to keep legs elevated. Daily labs continue to show slight improvements.</p>	<p align="center">Evaluation of Interventions</p> <p>Unable to visualize wound due to the dressing just being placed that morning.</p>

References (3) (APA):

Hinkle, J., Cheever, K., & Overbaugh, K. (2021). *Textbook of medical-surgical nursing*. (15th ed). Wolters Kluwer

Martin, P. (2023, September 3). *Complete Normal Lab Values Reference Guide & Cheat Sheet*. Nurselabs. Retrieved September 13, 2023, from <https://nurseslabs.com/normal-lab-values-nclex-nursing/>

Nurse's drug handbook. (2023). Jones & Barlett Learning

Phelps, L. L. (2021). *Nursing diagnosis reference manual* (11th ed.). Wolters Kluwer.

