

Medications

Aspirin 81 mg (1x daily)- Pharm Class-Salicylate/ Therapeutic Class- NSAID (anti-inflammatory, antiplatelet, antipyretic, nonopioid analgesic) *patient taking to reduce the risk of death due to her diagnosis of Coronary Artery Disease* (Nurse's Drug Handbook, 2023). *With the patient noted to have gastrointestinal issues, take the medication with a full glass of water to help with gastrointestinal effects and swallow it whole* (NDH, 2023). **Key Nursing Assessment:** *if the patient is scheduled for surgery aspirin must be halted 5-7 days prior* (NDH, 2023).

Atorvastatin (per half 5 mg daily)- Pharm Class- HMG-CoA reductase inhibitor/Therapeutic Class- Antihyperlipidemic- *patient taking to reduce cholesterol due to diagnosis of hypercholesterolemia* (NDH, 2023). **Key Nursing Assessment:** *expect to measure lipid levels 2 to 4 weeks after the start of medication to adjust dosage as directed* (NDH, 2023).

Furosemide (40 mg 2 x daily)- Pharm Class- Loop diuretic/Therapeutic Class- Antihypertensive diuretic- *patient taking to reduce edema due to the possible diagnosis of Congestive Heart Failure* (NDH, 2023). **Key Nursing Assessment:** *Monitor the patient's weight before starting medication and often to monitor fluid loss* (NDH, 2023).

Metoprolol Succinate (50 mg oral daily)- Pharm class- Beta-adrenergic blocker/Therapeutic class- antianginal, antihypertensive- *patient taking to treat her hypertension* (NDH, 2023). **Key Nursing Assessment:** *since this patient has Congestive Heart Failure use cautiously because beta-blockers, such as this drug, can further depress heart contractures leading to more extensive heart failure* (NDH, 2023). **Monitor vitals.**

Polyethylene Glycol 17g (Oral 2 x daily)- Pharm class- osmotic laxative/Therapeutic class-laxative- *patient taking due to gastrointestinal issues of prior swollen abdomen and feces not wanting to excrete* (NDH, 2023). **Key Nursing Assessment:** *Monitor bowel sounds routinely for any bowel obstruction or perforation* (NDH, 2023).

Potassium Chloride (10 mEq oral 2 x daily)- Pharm class- Electrolyte cation/Therapeutic class- Electrolyte replacement- *patient taking due to slightly low potassium level* (NDH, 2023). **Key Nursing Assessment** *Monitor the patient for signs of hypokalemia, such as arrhythmias, fatigue, and weakness* (NDH, 2023).

Rivaroxaban (10 mg 1 x daily)- Pharm class- Factor Xa inhibitor/Therapeutic class- anticoagulant- *patient taking due to Atrial Fibrillation and to reduce the risk of stroke due to family history* (NDH, 2023). **Key Nursing Assessment** *Since the patient is elderly, monitor closely for signs of bleeding before giving the medication* (NDH, 2023).

Spirinolactone (25 mg oral daily)- Pharm class- potassium-sparing diuretic/Therapeutic class- Diuretic- *patient taking to increase urinary excretion of sodium and water and reduce blood volume and blood pressure* (NDH, 2023). **Key Nursing Assessment:** *evaluate the effectiveness of the drug by monitoring the patient's blood pressure and degree of edema* (NDH, 2023).

Sulfamethoxazole Trimethoprim 800 (160mg per tab 2 x daily) Pharm class- antibiotic/Therapeutic class- antibiotic- *patient taking for a possible urinary tract infection, since patient stated that she was having trouble voiding and stated that she had blood in her urine before the catheter* (NDH, 2023). **Key Nursing Assessment:** *Due to the patient's cardiac history, monitor for chest pain or tightness* (NDH, 2023).

Lab Values/Diagnostics

Lab Values-

Potassium 3.4 (normal range 3.5-5.1mEq/L) *below normal level could be due to the diuretic of Furosemide* (Pagana et al., 2021).

Bun/Creatinine Ratio 11 (normal range 12-20 ratio) *below normal ratio could be caused by fluid overload* (Pagana et al., 2021).

Glucose 102 (normal range 70-99) *slightly above normal could be caused by the patient becoming pre-diabetic considering the family history.*

INR 1.9 (normal range 0.8-1.1) *above normal could be due to her anticoagulant medication or antibiotic* (Pagana et al., 2021).

Protime PT 21.1 (normal range 10.1-13.1) *above normal could be due to her anticoagulant medication or antibiotic* (Pagana et al., 2021).

RBC 5.31 (normal range 3.80-5.30) *above normal could be a sign of undiagnosed Chronic Obstructive Pulmonary Disease since she is having issues with her breathing* (Pagana et al., 2021).

MCV 80.4 (normal range 82-96) *below normal could mean the patient has iron deficiency anemia* (Pagana et al., 2021).

Platelet 88 (normal range 140-440) *below normal could be due to an infection* (Pagana et al., 2021).

RDW 17.5 (normal range 11.8-15.5) *above normal could mean iron deficiency anemia* (Pagana et al., 2021).

MPV 12.6 (normal range 9.7-12.4) *above normal could be due to having valvular heart disease considering her other heart conditions* (Pagana et al., 2021).

Neutrophils 74.3% (normal range 47-73%) *above normal due to the client having a bacterial infection* (Pagana et al., 2021).

Lymphocytes 8.9% (normal range 18-42%) *below normal could be due to the patient having a viral infection* (Pagana et al., 2021).

Monocytes 14.3% (normal range 4-12%) *above normal could be due to the patient having a viral infection* (Pagana et al., 2021).

Absolute Lymphocytes 0.60 (normal range (1.30-3.20) *below normal could be due to the patient having a viral infection* (Pagana et al., 2021).

Diagnostics-

CT Angio without contrast- *rule out pulmonary embolism.*

XR Abdomen Kub Flat Plate- *The patient reported abdominal pain and constipation.*

US Bilateral Duplex Lower Extremity Veins- *to check for the presence of bilateral deep vein thrombosis (DVT).*

Demographic Data

Date of Admission: 1/24/24

Admission Diagnosis/Chief Complaint: Shortness of Breath

Age: 78

Gender: Female

Race/Ethnicity: Caucasian

Allergies: No Known Allergies

Code Status: Full

Height in cm: 167.6

Weight in kg: 79.4

Psychosocial Developmental Stage: Integrity vs. Despair

Cognitive Developmental Stage: Formal Operational

Braden Score: 22

Morse Fall Score: 78

Infection Control Precautions: Standard

Admission History

The onset of the condition was on Wednesday, 1/24/24. The client stated that she had an appointment at Carle Clinic with her heart specialist, and when she arrived home, she said she "could not see straight." She "lost her balance, fell inside her home, was short of breath, and could not get up." The location of the condition was her "left leg and foot was very swollen" but she attributed the swelling to "the veins and arteries being taken out in 1996 during her heart surgery." The client stated she "noticed her legs being swollen in September 2023, and they have been swollen ever since, but this time the left leg seems to be worse." The characteristics of the legs were "large, swollen, and dry, with the left leg being a bit more solid and swollen." The feet were also swollen. The client stated the aggravating factors were "after she eats food high in sodium." The client says that the relieving factors for her swollen legs are "going to bed, and when I awake, they are normal." The treatment used is "Sarna lotion from Walmart, which helps to stop the itch." The severity of the pain was based on a 0-10 scale, and the client rates it a 0 and denies any pain. She concluded that "her puffy feet and swollen legs are hereditary."

Medical History

Previous Medical History: Coronary Artery Disease, Hypertension, and Pure Hypercholesterolemia

Prior Hospitalizations: 12/13/23, swelling of lower legs.

Previous Surgical History: Coronary Bypass Quadruple Arterial Graft at Carle Hospital in 1996 and Knee Surgery, unknown date

Social History: Nonsmoker, no smokeless tobacco, no alcohol, no drugs

Family History- Mother- Heart condition, Diabetes Mellitus, Obese, Cerebral Vascular Accident

Father- Diabetes Mellitus

Brother- Heart Condition

Pathophysiology – Congestive Heart Failure

Disease process:

The average heart works through a contraction and relaxation process. First, the conduction system stimulates the contraction of the atria and then the ventricles (Hinkle et al., 2023). Since the atria and ventricles work together, they fill the ventricles completely before ventricular ejection (Hinkle et al., 2023). The cycle of the heart maintains blood flow and ensures oxygen and nutrients are distributed throughout the body. Congestive heart failure can be described as a chronic condition in which the right side of the heart stops working accurately because of the failure of the left side (Hinkle et al., 2023). If there is a left-sided failure, more fluid pressure is moved back through the lungs, leading to injury to the right side (Hinkle et al., 2023). This can lead to the right side losing pumping force, ultimately backing it into the venous system (Hinkle et al., 2023). For proper heart function, the left and right sides need to be working properly and in sync to pump blood efficiently.

S/S of disease:

Swelling or congestion in the legs, ankles, or abdomen may be present (Hinkle et al., 2023). Increased venous pressure can lead to jugular vein distention and more hydrostatic pressure in the venous system; pulmonary edema, fatigue, and shortness of breath may occur (Hinkle et al., 2023). The patient presented with swollen legs, pitting edema at +1, and shortness of breath.

Method of Diagnosis:

There are several different diagnostic tests used for heart failure. They include blood tests, chest X-rays, electrocardiograms, echocardiograms, multiple-gated acquisition scans, cardiac catheterization, and angiography (Capristo, 2023). Other laboratory work may include brain natriuretic peptide and serum electrolyte levels (Capristo, 2023). The patient had bloodwork drawn, which showed lower than normal potassium, low platelets, a high MPV value, and a low haem/creatinine ratio, among other abnormal labs. A CT Angio was performed to rule out a pulmonary embolism and US bilateral duplex of lower extremity veins to check for deep vein thrombosis.

Treatment of disease:

Treatment includes lifestyle modifications, such as more exercise, losing weight, quitting smoking, and sodium restriction (Hinkle et al., 2023). Supplemental oxygen or surgical interventions with a cardiac device implanted (Hinkle et al., 2023). Prescription medications may also be prescribed, such as a diuretic, angiotensin system blocker, and beta-blocker (Hinkle et al., 2023). The patient is currently on a cardiac diet along with diuretics and hypertensive/antianginal medication for treatment.

Active Orders

Diet- Cardiac diet- *the patient is a heart patient and must have reduced sodium in her diet to help with edema of the lower extremities.*

Labs- BMP with Ca, Total, CBC with Differential, CBC without differential- *the patient needs blood monitoring to see if there are any infections and to monitor electrolyte levels such as potassium since it is low.*

Respiratory- pulse oximetry *the patient needs to have her oxygen monitored to know how well the blood is being carried to the extremities.*

Admission- weight- *the patient is at risk for fluid overload and monitoring her weight is a way to see if she is retaining water.*

Already on Antithrombotic medication- reason for no VTE prophylaxis- *the patient is on Rivaroxaban so no VTE prophylaxis.*

Insert and maintain indwelling urethral catheter- *if the patient is still retaining urine.*

Insert and maintain peripheral IV- *the patient needs this for medication administration through IV.*

Straight catheter - *is needed if the client starts retaining urine.*

Intake and Output- *the patient needs this due to possible fluid overload as evidenced by swelling in the lower extremities. This ensures the amount of intake in fluids is equal to the amount of output.*

Maintain IV while on telemetry- *the patient needs IV access in case of an emergency while being monitored on telemetry.*

Vital signs- *are needed to assess the patient's health status such as blood pressure, respirations, oxygen, temperature, and heart rate.*

Up as tolerated- *the patient has cardiovascular issues so keeping her up and moving is helpful to keep the blood circulating properly.*

Physical Exam/Assessment

General: Patient is alert and oriented to person, place, and time. She is well-groomed and has no acute distress. The patient communicated with me openly, and it seemed like her mind was strong. However, she did seem **paranoid about doctors** and nurses speaking ill of her. She is a very particular person who is well-organized and set in her ways. She lives alone and describes herself as a “loner”. Her husband passed away several years ago, and her son passed away a few years ago from kidney disease. She mentioned several times how the added medication of blood thinners and Lasix to her daily routine makes her sick. She wants “quality of life vs. quantity of life.” She also mentioned that she “wants to try and take a lower dose of medication than what is prescribed to see if that makes her feel better.”

Integument: Skin color is appropriate for ethnicity. Hair is evenly distributed. Skin turgor normal. The patient has some **redness on her buttocks** that looks irritated possibly from laying in the hospital bed for an extended period. A **small bruise on her right buttocks** is also noticed. The skin above her midline is normal, pink, warm, and dry. Below the waist, there **is bilateral edema in both legs with the left being more swollen and harder**. Her **legs are scaly, and her feet are cold to the touch. Petechiae is also noticed on her feet.**

HEENT: Head and neck are symmetrical, the trachea is midline without deviation, and the thyroid is not palpable. The patient’s **left side of her neck seems firmer than the right side**, but no noted nodules. Bilateral carotid pulses are palpable and 2+ and no lymphadenopathy in the head or neck is noted. No lumps or lesions on ears, eyes are bilateral sclera white, bilateral cornea clear, conjunctiva pink, with no visible drainage. PERRLA bilaterally.

Cardiovascular: Pulses are normal at 3+. A cardiac **irregular heartbeat** is heard, and the patient is noted to have **Atrial fibrillation**. The **abnormality of the heartbeat could be felt on the radial artery** as well. Clear sounds with no murmur. **The feet have pitting edema of +1**. Capillary refill less than 3 seconds.

Respiratory: Normal rate and pattern of respirations, respirations are regular and non-labored, and no wheezing or rhonchi heard. The **lung sounds are slightly diminished**. The patient states she has “**trouble breathing with exertion because her legs are so heavy that it is hard for her to breathe.**”

Genitourinary: The patient has **trouble voiding, or urinary retention**. She has a hard time urinating on the toilet, so she **stands up and force urinates in a paper cup**. She said that “**sometimes she just can’t go.**” The patient had some **hematuria before and after the Foley catheter**.

Gastrointestinal: The patient says that her abdomen has been swollen, but no swollen abdomen seen during this assessment. Bowel sounds can be heard in the right lower quadrant. The patient says her **feces do not want to come out but is not constipated**. The patient also says that she **feels full quite often and does not want to eat much**.

Musculoskeletal: Balanced and smooth gait. Hand grips and pedal pushes and pulls demonstrate normal and equal strength. Strength rate 5 with active motion against full resistance. All extremities have the full range of motion. The patient is alert with full consciousness and answers all questions appropriately. Nail beds are hard and yellow.

Neurological: Alert and oriented x4, memory intact, speech is clear, and has normal cognition.

Most recent VS (include date/time and highlight if abnormal): 1/29/24 @ 11:30 am Temp = 98.6, Heart Rate= 95, Respiratory Rate= 18, Blood Pressure= **115/81**, O2= 97% on room air

Pain and pain scale used: The patient reports a 0 on the 0-10 pain scale and states that she has not had any pain.

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Decreased Cardiac Output as evidenced by an irregular pulse and shortness of breath (Phelps, 2023).	Excess fluid volume as evidenced by swelling of legs and pitting edema of feet (Phelps, 2023).	Deficient knowledge as evidenced by patient altering medication dosages (Phelps, 2023).
<p style="text-align: center;">Rationale</p> <p>The patient has a history of heart complications, including bypass surgery in 1996. Along with her signs and symptoms of heart failure, she needs to be monitored for decreased cardiac output.</p>	<p style="text-align: center;">Rationale</p> <p>The patient mentioned that as soon as she eats any food with sodium her legs and feet swell. She also has shortness of breath and does not like taking Furosemide due to it making her feel ill.</p>	<p style="text-align: center;">Rationale</p> <p>The patient expressed several times how all the medications make her sick. She alters her doses and sometimes just does not take them at all. The patient needs to be educated on the seriousness of her condition and the necessity of medication.</p>
<p style="text-align: center;">Interventions</p> <p>Intervention 1: Monitor at least every 4 hours for dyspnea, fatigue, or jugular distention (Phelps, 2023).</p> <p>Intervention 2: Auscultate for heart and breath sounds at least every 4 hours. Report abnormal sounds as soon as they develop (Phelps, 2023).</p>	<p style="text-align: center;">Interventions</p> <p>Intervention 1: Maintain accurate record of intake and output to aid estimation of patient's fluid balance (Phelps, 2023).</p> <p>Intervention 2: Obtain and record the patient's weight at the same time every day to help ensure accurate data (Phelps, 2023).</p>	<p style="text-align: center;">Interventions</p> <p>Intervention 1: Establish an environment of mutual trust and respect to enhance learning (Phelps, 2023).</p> <p>Intervention 2: Negotiate with the patient to develop goals for learning (Phelps, 2023).</p>
<p style="text-align: center;">Evaluation of Interventions</p> <p>The patient was monitored every 4 hours with no signs of dyspnea, fatigue, or jugular distention. The patient does not report verbally or through behavior chest pain, dyspnea, or fatigue (Phelps, 2023).</p> <p>The patient was auscultated for heart and breath sounds every 4 hours with no abnormal heart sounds or arrhythmias during monitoring or physical examination (Phelps, 2023).</p>	<p style="text-align: center;">Evaluation of Interventions</p> <p>The patient's intake and output were recorded and maintained within established limits (Phelps, 2023).</p> <p>The patient was weighed daily before breakfast and maintained weight (Phelps, 2023).</p>	<p style="text-align: center;">Evaluation of Interventions</p> <p>The patient expressed the motivation to learn (Phelps, 2023).</p> <p>The patient states understanding of all that has been learned (Phelps, 2023).</p>

References

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