Medications

Apixaban (Eliquis)

Pharm: factor Xa inhibitor Therapeutic: anticoagulant

Reason client is taking medication: Prevent blood clotting and potential stroke because of diagnosis of atrial fibrillation.

Nursing assessment prior to administration: Assess lab values before administration.

Furosemide (Lasix)

Pharm: loop diuretic Therapeutic: antihypertensive

Reason client is taking medication: congestive heart failure

Nursing assessment prior to administration: Take blood pressure and pulse before administration.

Metoprolol (Toprol-XL)

Pharm: Beta-blocker Therapeutic: antihypertensive

Reason client is taking medication: congestive heart failure

Nursing assessment prior to administration: Take blood pressure and pulse before administration.

Spironolactone (Aldactone)

Pharm: potassium-sparing diuretic Therapeutic: diuretic

Reason client is taking medication: congestive heart failure

Nursing assessment prior to administration: Assess blood pressure before administration.

Lab Values/Diagnostics

BNP: 1,070 (0-100) BNP is elevated because the patient has congestive heart failure. In some individuals with CHF, the markers may remain elevated (ITesting, 2022).

Creatinine: 1.12 (0.6-1) As kidney function decreases, serum creatinine levels will increase (RenalTracker Team, 2021). This patient has a history of chronic kidney disease, which is why her levels were elevated.

Neutrophils: 81.5 (47-73) High neutrophils could indicate stress on the body (Cyr, 2022).

A chest x-ray, echocardiogram, and EKG were done on this patient.

Chest x-rays produce images of the heart, lungs, airway, and blood vessels (Mayo Clinic, 2022). They can also reveal fluid in or around the lungs. This patient presented to the ER with chest pain, which is why a chest x-ray was done. The chest x-ray showed fluid in the lungs, resulting from CHF.

An EKG is a test that involves the placement of electrodes on the chest to record heart rhythm, beat frequency, and conduction (Carrus Health, 2022). It can reveal a thickening of the left ventricle or an abnormal heartbeat rhythm, which are signs of congestive heart failure (Carrus Health, 2022). In the ED, the EKG showed atrial fibrillation, which is a common finding in CHF patients.

An echocardiogram uses ultrasound technology to examine the heart structure and movement and whether the heart is pumping efficiently (Carrus Health, 2022). The echo showed her ejection fraction as 15-20% in this patient's case.

Demographic Data

Date of Admission: 11/8/2022
Admission Diagnosis/Chief Complaint: shortness of breath
Age: 94 years old
Gender: Female
Race/Ethnicity: white
Allergies: none
Code Status: Full code
Height in cm: 160 cm
Weight in kg: 59.9 kg
Psychosocial Developmental Stage: The patient lives at home by herself. She has lost her children and husband. Therefore, she doesn't have a support system. She appears to have appropriate coping mechanisms.
Cognitive Developmental Stage: Cognitive development was appropriate for age.
Braden Score: 20
Morse Fall Score: 30
Infection Control Precautions: none

Admission History

Patient reported shortness of breath and chest pain that awoke her during the night. It had been getting worse over for the past 3 days. There is mild swelling of her legs and patient also had atrial fibrillation noted along with shortness of breath. Shortness of breath gets worse with exertion and there are no relieving factors. Patient has not sought care for this complaint.

Medical History

Previous Medical History: Arthritis, GERD, high cholesterol, hypertension, atrial fibrillation, chronic kidney disease.

Prior Hospitalizations: None

Previous Surgical History: EGD, colonoscopy

Social History: Patient has never smoked. Does not report any use of illicit drugs or alcohol.

Pathophysiology

Disease process: Congestive heart failure (CHF), develops when there are structural changes to the heart muscle (Braun, 2022). The blood is unable to pump efficiently and can result in the blood and fluid building up in the lungs, arms, and legs (Braun, 2022). Certain heart conditions such as coronary artery disease and high blood pressure leave the heart muscles weakened, therefore increasing the risk of developing CHF. Physicians will use an ejection fraction to determine what percentage the heart is working at (Braun, 2022). The ejection fraction represents the percentage of blood pumped out of the left ventricle when the heart contracts (Braun, 2022). In a healthy heart, the ejection fraction is around 52-74% (Braun, 2022). In this client's scenario, her ejection fraction decreased from her previous visit. It was now 15-20%. CHF is usually irreversible and gets worse over time (Braun, 2022). Other conditions that are accompanied with CHF include diabetes, sleep apnea, and kidney disease (Braun, 2022).

S/S of disease: Signs and symptoms of heart failure include shortness of breath, fatigue, weakness, irregular heartbeat, swelling in the abdomen, feet, ankle, or legs, and nausea and vomiting (Braun, 2022). In this patient's case she had complaints of shortness of breath while lying flat and she has atrial fibrillation.

Method of Diagnosis: There are many diagnostic tests that can be done to diagnose CHF. Some tests include blood tests, chest x-ray, electrocardiogram (ECG), and echocardiogram (). In this patient scenario an ECG, chest x-ray, and echocardiogram were used for diagnosis. An ECG is a painless test that records electrical signals in the heart. It shows the timing and length of heartbeats, indicating any abnormalities (). An echocardiogram uses sound waves to produce images of the heart (). It can be used to measure ejection fraction (). A chest x-ray was done because the patient presented with shortness of breath. An x-ray will produce images of the heart and lungs to show any enlargement, fluid, or abnormal tissue within the chest.

Treatment of disease: Heart failure is a chronic disease needing lifelong management (Mayo Clinic, 2021). Physicians usually treat heart failure with a combination of medications, depending on the symptoms (Mayo Clinic, 2021). This patient was on a diuretics and beta-blockers. Diuretics make the patient urinate more, thus decreasing the amount of fluid that is accumulated. Beta blockers are used to slow the heart rate and reduce blood pressure (Mayo Clinic, 2021). These medications may reduce signs and symptoms of heart failure, improve heart function, and help them live longer (Mayo Clinic, 2021). This patient also weighs herself daily and eats a low sodium diet to manage this disease.

Active Orders

Telemetry monitoring- Patient has a history of atrial fibrillation and it was noted when she arrived in the ER. Continuous monitoring is necessary to ensure normal sinus rhythm.

Cardiac diet- Patient has CHF, therefore limiting her salt intake will help with edema.

Vitals Q4 hours- Vitals taken every 4 hours is important in assessing if the patient has signs of fluid volume overload.

Measure intake and output- This intervention ensures the patient is not retaining any fluid. Which is a complication of CHF.

Daily weights- Assessing if the patient has gained weight will ensure the interventions in placed for CHF are working.

Physical Exam/Assessment

General: Patient is alert and oriented times person, place, and time. She awakens upon arousal and doesn't appear to be in any acute distress.

Integument: Skin color is pink, dry, and cool to touch. There are no lesions, rashes, or bruises present upon inspection. Skin turgor is normal, less than 3 seconds. Patient's Braden score is 20.

HEENT: Head and neck are symmetrical upon inspection and the trachea is midline. There are no noted nodules and the thyroid is nonpalpable. Bilateral carotid pulses 2+ upon palpation. Bilateral auricles have no visible deformities or drainage. Both eyes appear to have no lesions upon inspection. PERRLA. EOMs are intact on both eyes. Septum is midline with no notable drainage. Oral mucosa is pink and moist with no noted lesions. Patient has clean, intact teeth.

Cardiovascular: Normal heart sounds with no murmurs or gallops present. Rhythm is normal, rate is tacycardic. Presents with a 2+ pulse upon palpation of all pulse sites. Capillary refill is less than 3 seconds bilaterally. No edema or neck vein distension is present.

Respiratory: Normal breath sounds in all lung fields. Respirations and patterns are non-labored with a normal respiratory rate. Patient is not using accessory muscles when breathing.

Genitourinary: Patient's urine was yellow with no odor. There was no pain during urination, and she is not on dialysis. Unable to examine genitals or amount of urine voided. There was no catheter present.

Gastrointestinal: Patient was on a cardiac diet during hospitalization. Patient was on a regular diet at home, stating she has poor nutrition. Normoactive bowel sounds are present in all 4 quadrants among auscultation. Upon inspection, no distension, incisions, scars, drains, or wounds were present. No ostomies, nasogastric tubes, or feeding tubes present. Patient's height is 160 cm and weight is 59.9kg. Last bowel movement was11/8/2022

Musculoskeletal: There was no noted weakness on any extremity. Muscle strength is even in all limbs. Patient does not need help with activities of daily living. Patient has a walker at home, though she doesn't normally need it. She is able to turn independently in bed. Patient is a low fall risk, with a Morse score of30.

Neurological: Patient moves all extremities well. No noted weakness throughout limbs and strength is equal. Patient is alert and oriented times person, place, and time. She answers questions appropriately.

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Decreased cardiac output related to alteration in heart rhythm as evidenced by EKG showing atrial fibrillation.	Risk for fluid volume overload related to shortness of breath as evidenced by BNP of 1,070.	Risk for imbalanced nutrition related to age-related changes in appetite.
Rationale The patient had an episode of atrial fibrillation in the ER, and Cardizem was administered. She also has a history of atrial fibrillation.	**Rationale** The patient's chief complaint was shortness of breath related to her CHF.	**Rationale** The patient stated she has a poor appetite and does not prepare meals as she should.
Interventions **Intervention 1:** The patient is placed on continuous telemetry monitoring. **Intervention 2:** Administer medications as prescribed.	**Interventions** **Intervention 1:** Measure intake and output. **Intervention 2:** Weigh patient daily and take vital signs Q4 hours.	**Interventions** **Intervention 1:** Provide the patient with resources regarding nutrition. **Intervention 2:** Encourage the patient to order appropriate meals and provide snacks**.**
Evaluation of Interventions The patient demonstrated adequate cardiac output as evidenced by telemetry monitor noting normal sinus rhythm.	**Evaluation of Interventions** The patient has a balanced intake and output and a stable weight. Vital signs are within normal limits.	**Evaluation of Interventions** The patient will understand the importance of meeting the body's requirements during mealtimes. She has the appropriate resources for when she goes home.

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