

Medications

- Brand/Generic: Hydrocodone (Bitartrate)
 - Dose: 5-325 mg tablet, 1 tablet, oral, every 4 hours PRN, moderate pain
 - Therapeutic classification: Opioid analgesic-controlled substance schedule II (Jones & Bartlett Learning, 2021)
 - Pharmacologic classification: Opioid (Jones & Bartlett Learning, 2021)
 - Reason for taking: Moderate pain.
 - Key assessment: Urine or serum drug testing is recommended before opioid initiation (Jones & Bartlett Learning, 2021).
- Brand/Generic: Heparin (sodium)
 - Dose: 1800 units/hr, intravenous
 - Therapeutic classification: Anticoagulant (Jones & Bartlett Learning, 2021)
 - Pharmacologic classification: Anticoagulant (Jones & Bartlett Learning, 2021)
 - Reason for taking: To prevent and treat peripheral arterial embolism.
 - Key assessment: Assessing the patient's bleeding risk is crucial before administering heparin (Jones & Bartlett Learning, 2021).
- Brand/Generic: Alteplase (actvase)
 - Dose: 0.32 mg/hr, intravenous, continuous
 - Therapeutic classification: Thrombolytic (Jones & Bartlett Learning, 2021)
 - Pharmacologic classification: Tissue plasminogen activator (tPA) (Jones & Bartlett Learning, 2021)
 - Reason taking: To treat acute MI
 - Key assessment: measure the patient's blood pressure and blood glucose concentration. Measure stroke severity (Jones & Bartlett Learning, 2021).
- Brand/Generic: Atorvastatin (Lipitor)
 - Dose: 10 mg, oral, at bedtime
 - Therapeutic classification: Antihyperlipidemic (Jones & Bartlett Learning, 2021)
 - Pharmacologic classification: HMG-CoA reductase inhibitor (Jones & Bartlett Learning, 2021)
 - Reason taking: To lower cholesterol and triglyceride levels in the blood
 - Key assessment: Obtain baseline cholesterol, triglycerides, and liver function tests. Monitor liver function and creatine kinase level, assess for signs of muscle weakness or pain. Monitor for EKG (Jones & Bartlett Learning, 2021).
- Brand/Generic: Hydralazine (Apresoline)
 - Dose: 25 mg, oral, every 8 hours PRN
 - Therapeutic classification: Antihypertensive (Jones & Bartlett Learning, 2021)
 - Pharmacologic classification: Vasodilator (Jones & Bartlett Learning, 2021)
 - Reason taking: To manage hypertension.
 - Key assessment: assess patient's medication history and drug allergies, check for contraindications (Jones & Bartlett Learning, 2021).

Demographic Data

Date of Admission: 10-15-2023
Admission Diagnosis/Chief Complaint: Acute pulmonary embolism without acute/ Shortness of breath.
Age: 64-years-old
Gender: Male
Race/Ethnicity: Caucasian
Allergies: Cefitin (cefuroxime acetal)
Code Status: Full code
Height in cm: 177.8 cm
Weight in kg: 109.8 kg
Psychosocial Developmental Stage: Generativity vs Stagnation (Cherry, 2022).
Cognitive Developmental Stage: Formal operational stage (Cherry, 2022).
Braden Score: 21
Morse Fall Score: Johns Hopkins fall risk score is a 3.
Infection Control Precautions: standard precaution

Pathophysiology

Disease process: A pulmonary embolism is an unexpected obstruction in the pulmonary arteries, the blood vessels that carry blood to the lungs. Typically, it occurs when a blood clot in the leg's deep veins breaks off and moves to the lungs (Mayo Clinic, 2022). An embolus is a blood clot that spreads to another body area. Deep vein thrombosis (DVT) is the medical term for a blood clot that develops in one or more deep veins. Pulmonary embolism can be fatal because one or more clots prevent blood from reaching the lungs. However, the danger of dying is significantly decreased with quick treatment. Taking precautions to avoid leg blood clots can lessen the risk of developing pulmonary embolism (Mayo Clinic, 2022).

S/S of disease: Chest pain, dizziness, and shortness of breath are all classic signs that a pulmonary embolism is developing (Mayo Clinic, 2022). Symptoms might vary dramatically depending on how much of the patient's lung is affected. The development of a pulmonary embolism can also be influenced by the size of the clots and any underlying lung or heart conditions the patient may have (Mayo Clinic, 2022).

Method of Diagnosis: Since the patient complained of shortness of breath when they first arrived, the doctor will order tests and labs to rule out any underlying conditions. A chest x-ray, a pulmonary V/Q scan to determine which parts of the lungs are receiving blood flow and oxygen, and a D-dimer blood test to identify blood clot development are some of the lab and diagnostic procedures used to diagnose pulmonary embolism (Mayo Clinic, 2022). Blood tests, a chest x-ray, and an IR pulmonary artery thrombolysis were all performed on the patient (Mayo Clinic, 2022).

Treatment of disease: Since blood clots in the lungs are often treated with anticoagulants or blood thinners, the practitioner will put the patient on these medications. Heparin is being administered to the patient right now to prevent clot formation (Mayo Clinic, 2022). An IR pulmonary artery thrombolysis and a chest x-ray, including pictures of the heart and lungs, have both been performed on the patient. Pulmonary embolism treatments aim to stop existing blood clots from growing and to prevent new clots from developing. Clot dissolver, surgical, and other methods, such as clot removal and vein filtering, can all be used as treatments (Mayo Clinic, 2022). Because this patient may get another pulmonary embolism or deep vein thrombosis, they must continue receiving treatment, such as staying on anticoagulants.

Lab Values/Diagnostics

Chloride: 108 mmol/L - (elevated) due to patients' diagnosis of acute pulmonary embolism.
 Normal range: 98-107 mmol/L

Calcium: 8.5 mg/mL - The calcium level being low can result from problems with the parathyroid glands, as well as from diet, kidney disorders, or certain medications. The patient also has acute pulmonary embolism which may be an indicator for low calcium levels.
 Normal range: 8.9-10.6 mg/mL

BNP: 162.0 pg/mL - (elevated) due to hypertension, the patient is currently taking hypertensive medication (Hydralazine) for management of hypertension.
 Normal range: 0.0-100.0 pg/mL

PTT: 85.6 - (elevated) due to bleeding disorders, the PTT being elevated can mean that the patient's blood is taking longer than usual to clot. The patient is currently taking heparin to help with clotting factors.
 Normal range: 22.4-35.9 seconds

Diagnostics:
 IR pulmonary artery thrombolysis was done because of pulmonary embolism. 10cm infusion catheters was placed in both left and right pulmonary arteries. Thrombolysis uses medication for minimally invasive procedures to break up blood clots and prevent new clots from forming.

XR chest AP or PA only because patient came in with shortness of breath. The chest x-ray can tell if there is pneumonia, tumors in the chest or cardiomegaly). The patient was negative for pleural effusion, there was no discernible pneumothorax, the visualized skeletal structures demonstrate no gross acute abnormality. Therefore, this procedure was completed to rule out pneumonia and there was no evidence of pneumonia.

Admission History

Shortness of breath, which started two days ago, is prevalent in 64-year-old R. J. As he exerts himself, his dyspnea worsens. He denies any chest pain. According to the patient, he has had a cold with nasal congestion for almost a week. A nonproductive cough, he claimed, was present. Along with testosterone hormone therapy, he denied having recently traveled or undergone surgery. The patient claims to have no history of lung or heart disease; however, he did mention that he had previously experienced comparable symptoms when he had pneumonia. He never smokes and just seldom drinks. His use of cocaine is nonexistent. Congestive heart failure runs in the patient's family.

Medical History

Previous Medical History: hypertension, hyperlipidemia

Prior Hospitalizations: N/A

Previous Surgical History: colonoscopy (7-19-2018), Egd/colonoscopy (11-3-2020).

Social History: Patient reports that he has never smoked. He has stopped using smokeless tobacco, his smokeless tobacco included chew. He reports current alcohol use. He reports that he does not use drugs.

Active Orders

- Tele/cardiac monitoring is used to monitor the heart.
- BNP is used to compare previous BNP to see if the heart is still stressed.
- TPA blood thinner/thrombolytic
- Pulse ox because of pulmonary embolism.
- No IM injection because patient is at risk for bleeding.
- No phlebotomy because patient is at risk for bleeding.
- VS every Q1 hour for close monitoring.
- Anti-xa UFH to see if patients' blood is thin or thick enough.

Physical Exam/Assessment

General: Alert and oriented times 4 in no acute distress, and well groomed

Integument: Skin is usual for ethnicity, fair color. Skin is dry and intact, with no rashes, lesions, or bruising. Skin is warm and dry upon palpation. Skin has normal elasticity. The patient does not have any wounds. Capillary refills on the fingers & toes are less than 3 seconds bilaterally. **BRADEN SCORE:** 21. **Patient had a peripheral IV 18g in the anterior; right; upper forearm, a peripheral IV 20g in the anterior; left upper forearm, a peripheral IV 18g in the lower; posterior; right forearm; and a vascular incision vascular puncture in right neck.**

HEENT: Head is normocephalic and atraumatic. Neck is symmetrical. Bilateral carotid pulses are palpable and 2+. Bilateral sclera white, bilateral cornea clear, bilateral conjunctiva pink, no visible drainage from eyes. Bilateral lids are moist and pink without lesions or discharge. PERRLA bilaterally. EOMs intact bilaterally. No drainage or ear wax, hearing intact, bilateral auricles, no visible or palpable deformities, lumps, or lesions. Nose has no drainage, lumps, rashes, lesions, or deformities. Septum is midline. Oral mucosa pink and moist with good dentition.

Cardiovascular: Regular rate and rhythm, S1, S2 present no murmurs, rubs, or gallops, plus 2+ and symmetric, distal pulses strong and equal.

Respiratory: Clear to auscultation bilaterally, respirations unlabored. No wheezes or crackles noted.

Genitourinary: Yellow, clear urine, adequate output.

Gastrointestinal: Abdomen soft, non-tender. Bowel sounds active, no masses, no organomegaly.

Musculoskeletal: Extremities normal ROM, atraumatic, no cyanosis, warm to touch. Hand grips and pedal pushes and pulls demonstrate normal and equal strength.

Neurological: The patient is alert and oriented to person, place, time, and situation.

Most recent VS (include date/time and highlight if abnormal): 10-15-2023, 1500 pm, temperature: 98%, respirations: **32**, oxygen: 93, blood pressure: 123/85

Pain and pain scale used: On a scale of 0-10, patient denies being in any pain.

<p style="text-align: center;">Nursing Diagnosis 1</p>	<p style="text-align: center;">Nursing Diagnosis 2</p>	<p style="text-align: center;">Nursing Diagnosis 3</p>
<p>Risk for impaired skin integrity related to prevention of dislodging blood clot as evidence by prolonged bedrest (Phelps, 2020).</p>	<p>At risk for bleeding related to patient being proscribed heparin as evidence by prolonged PTT of 85.6 seconds (Phelps, 2020).</p>	<p>Risk for infection related to multiple portals of entry as evidence by patient 4 portals for IV access (Phelps, 2020).</p>
<p style="text-align: center;">Rationale</p> <p>This nursing diagnosis was chosen because the patient was diagnosed with a pulmonary embolism and to ad in prevention of the patient developing a blood clot.</p>	<p style="text-align: center;">Rationale</p> <p>This nursing diagnosis was chosen because the patient’s PTT was elevated at 85.6 seconds and puts the patient at a high risk for bleeding</p>	<p style="text-align: center;">Rationale</p> <p>This nursing diagnosis was chosen because the patient is at increased risk for infection due to the nurse having to access multiple portals of entry to administer medications.</p>
<p style="text-align: center;">Interventions</p> <p>Intervention 1: Nurse administering heparin (Phelps, 2020). Intervention 2: SCD placed upon patient to assist in circulation of blood flow (Phelps, 2020).</p>	<p style="text-align: center;">Interventions</p> <p>Intervention 1: The nurse educated the patient about risk reduction of bleeding; avoid straining of bowel movement and the use of a soft toothbrush (Phelps, 2020). Intervention 2: Nurse educates the patient the use of a call light when needing assistance due to patient not being able to ambulate (Phelps, 2020).</p>	<p style="text-align: center;">Interventions</p> <p>Intervention 1: Nurse cleans iv access site every time medication is administered with an alcohol pad (Phelps, 2020). Intervention 2: Nurse will place a new cap on port site every time he/she gains access to administer medication (Phelps, 2020).</p>
<p style="text-align: center;">Evaluation of Interventions</p> <p>The patient will have effective blood flow throughout all extremities (Phelps, 2020).</p>	<p style="text-align: center;">Evaluation of Interventions</p> <p>Patient understands of measures to prevent bleeding and reaching a desired PTT range (Phelps, 2020).</p>	<p style="text-align: center;">Evaluation of Interventions</p> <p>Patient will remain free from signs and symptoms of infection, such as elevation in temperature (Phelps, 2020).</p>

References (3) (APA):

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