Medications

Atorvastatin- to control lipid levels as adjunct to diet in primary (Jones & Bartlett, 2023). Pt. has a past medical history of hyperlipidemia.

- Pharm class: HMG-CoA reductase inhibitor (Jones & Bartlett, 2023).
- Therapeutic class: antihyperlipidemic (Jones & Bartlett, 2023).
- Nursing assessment: Monitor pt blood glucose levels because this therapy can affect blood glucose control and pt. is DM type 1 (Jones & Bartlett, 2023).

Nortriptyline- to treat depression (Jones & Bartlett, 2023).

- Pharm class: tricyclic antidepressant (TCA) (Jones & Bartlett, 2023).
- Therapeutic class: antidepressant (Jones & Bartlett, 2023).
- Nursing assessment: Monitor pt suicidal tendencies when starting this medication and when dosage amount is changed (Jones & Bartlett, 2023).

Diazepam- to relieve anxiety (Jones & Bartlett, 2023).

- Pharm class: benzodiazepine (Jones & Bartlett, 2023).
- Therapeutic class: anticonvulsant (Jones & Bartlett, 2023).
- Nursing assessment: Nurse needs to monitor the pt renal function because renal and hepatic impairment (Jones & Bartlett, 2023).

Carvedilol- to control pt history of hypertension (Jones & Bartlett, 2023).

- Pharm class: Nonselective beta blocker and alpha-1 blocker (Jones & Bartlett, 2023).
- Therapeutic class: antihypertensive, heart failure treatment adjunct (Jones & Bartlett, 2023).
- Nursing assessment: Need to monitor pt glucose levels because this med may alter glucose levels and cause hypoglycemia (Jones & Bartlett, 2023).

Furosemide- to reduce edema caused by heart failure and renal disease (Jones & Bartlett, 2023).

- Pharm class: loop diuretic (Jones & Bartlett, 2023).
- Therapeutic class: antihypertensive, diuretic (Jones & Bartlett, 2023).
- Nursing assessment: Need to obtain pt. weight before this med therapy and periodically throughout the time the pt. is receiving this med (Jones & Bartlett, 2023).

Isosorbide mononitrate- to prevent angina (Jones & Bartlett, 2023).

- Pharm class: Nitrate (Jones & Bartlett, 2023).
- Therapeutic class: antianginal (Jones & Bartlett, 2023).
- Nursing assessment: Need to check pt. vital signs frequently as it could cause hypotension and reduced cardiac output (Jones & Bartlett, 2023).

Ibuprofen- to relieve moderate pain (Jones & Bartlett, 2023).

- Pharm class: NSAID (Jones & Bartlett, 2023).
- Therapeutic class: Analgesic, anti-inflammatory (Jones & Bartlett, 2023).
- Nursing assessment: Need to monitor pt GI tract and make sure there is no bleeding and want to use this med for the shortest time possible (Jones & Bartlett, 2023).

Clopidogrel- to reduce the rate of CVA and MI in patients with established peripheral arterial disease (Jones & Bartlett, 2023).

- Pharm class: P2Y12 platelet inhibitor (Jones & Bartlett, 2023).
- Therapeutic class: platelet aggregation inhibitor (Jones & Bartlett, 2023).
- Nursing assessment: Need to monitor pt. platelet levels. This med can prolong bleeding time (Jones & Bartlett, 2023).

Gabapentin- to manage postherpetic neuralgia (Jones & Bartlett, 2023).

- Pharm class: 1-amino-methyl cyclohexane acetic acid (Jones & Bartlett, 2023).
- Therapeutic class: anticonvulsant (Jones & Bartlett, 2023).
- Nursing assessment: Need to monitor pt renal function test results, as ordered, and expect to adjust dosage if needed (Jones & Bartlett, 2023).

Amiodarone- to treat life-threatening recurrent ventricular fibrillation and hemodynamically unstable ventricular tachycardia with arrythmias (Jones & Bartlett, 2023). Pt. has a medical history of hypertension, CHF with cardiomyopathy, and coronary artery disease.

- Pharm class: benzofuran derivative (Jones & Bartlett, 2023).
- Therapeutic class: Class III antiarrhythmic (Jones & Bartlett, 2023).
- Nursing assessment: Monitor pt vital signs and oxygen level often during and after giving amiodarone. Pt also needs to be on continuous Telle (Jones & Bartlett, 2023).

Lab Values/Diagnostics

Cr: 0.57 (0.6-1.2) – this could be because of the patient being diagnosed with chronic kidney disease stage 3. Her kidneys are not working effective enough to keep creatinine levels within normal limits.

Albumin: 2.6 (3.5-5.2)- this is also low due to her history of chronic kidney disease. It is showing that the kidney has dysfunctions.

CT Angio chest pulmonary w contrast: bilateral pneumonia, classified mediastinal and hilar lymph nodes consist with granulomatous

CT chest w/o contrast: streaky bilateral lung opacities, favor predominantly atelectasis & scarring although component of right middle lobe pneumonia/pneumonitis may also be present

Echo: 65-70% grade 1

Demographic Data

Date of Admission: 10/29/2024
Admission Diagnosis/Chief Complaint: Chest pain
Age: 70
Gender: Female
Race/Ethnicity: White
Allergies: contrast media, flu vaccine
Code Status: full code
Height in cm: 164 cm
Weight in kg: 75.800 kg
Psychosocial Developmental Stage: integrity vs. despair
Cognitive Developmental Stage: No impairments and appropriate for pt. age.
Braden Score: 17
Morse Fall Score: 60
Infection Control Precautions: standard

Admission History

Pt to ED with complaints of chest pain. Pt states symptoms started yesterday but came in tonight because of weakness and could not get off the floor. No fall, attempted to crawl to bathroom. Symptoms started yesterday feeling tight, and constant. Nothing taken to help with symptoms and no other visits were done before coming into ED. Pt presents not feeling well, generalized weakness, no fever, and tachycardic with multiple PVCs. Pain is 5/10 on numeric pain scale.

Medical History

Previous Medical History: Blind/low vision bilaterally, CHF w cardiomyopathy, chronic kidney disease stage 3, coronary artery disease, DM type 1, non-ST elevation myocardial infarction (NSTEMI), HTN, hyperlipidemia, hypertensive cardiovascular disease

Prior Hospitalizations: Colonoscopy (4/25/2024), bronchoscopy (11/19/2020), stent placement (2/18/2020), drug-eluting coronary artery stent (12/23/2019), cystoscopy (05/21/2019), hysterectomy (06/24/2008)

Previous Surgical History: Acute chest pain (05/25/2022), sepsis (12/03/2021), frequent PVCs (10/29/2024)

Social History: never smoked, denies alcohol use, no substance abuse, diabetic diet, lives with spouse, disabled

Pathophysiology

Disease process: Within the body, there is a balance between organisms residing in the lower respiratory tract and the local and systemic defense mechanisms (innate and acquired) (Jain et al, 2023). When these are disturbed, inflammation of the lungs can happen which causes pneumonia (Jain et al, 2023). For pneumonia to occur, macrophages take over these pathogens and trigger molecules and cytokines that develop inflammatory cells like neutrophils to the site of infection (Jain et al, 2023). These microorganisms also present these antigens to the T cells that trigger both cellular and humoral defense mechanisms (Jain et al, 2023). Because of this, inflammation of the lung parenchyma occurs and makes the lining capillaries "leaky", which leads to congestion and underlying manifestations of pneumonia (Jain et al, 2023).

S/S of disease: When a patient comes in with pneumonia, some systemic manifestations could be fever with chills, malaise, loss of appetite, and/or muscle pain/tenderness (Jain et al, 2023). Patients may also present with an altered mental status, abdominal pain, chest pain, and other systemic findings (Jain et al, 2023). This patient came into the ED with extreme weakness and complaints of chest pain which are manifestations of pneumonia. Some other signs and symptoms of pneumonia could be tachypnea, tachycardia, decreased breath sounds, crackles on auscultation of the affected regions of the lung, and dullness on percussion (Jain et al, 2023).

Method of Diagnosis: To diagnosis a patient with pneumonia, we will first want to perform a thorough health history and physical examination (Jain et al, 2023). A chest x-ray will be ordered because it is found to be the best method for diagnosing pneumonia (Jain et al, 2023). The nurse should also make sure to do a blood culture, routine blood counts, and lymphocyte count (Jain et al, 2023). This patient received a chest x-ray to help diagnose this infection.

Treatment of disease: Before pneumonia can be treated, the nurse needs to figure out whether the patient can be treated outpatient with antibiotics, or if they need to be admitted to an intensive care unit setting because of severity (Jain et al, 2023). Typically, these patients receive empiric therapy. This therapy is guided by resistance patterns and patient risk factors for multi-drug-resistant organisms (Jain et al, 2023). Patients might need supplemental oxygen until lungs begin to clear along with antibiotics. Some examples of these antibiotics are imipenem, meropenem, aztreonam, piperacillin/tazobactam, ceftazidime, or cefepime (Jain et al, 2023).

Active Orders

Orthostatic BP & HR- pt. came into the ED extremely weak and need to make sure her BP is not fluctuating from a laying to standing position.

Above knee graduated knee compression stockings- Need to keep pt blood circulation continuous because of coronary artery disease and with being weak we do not want DVT to form.

Pt. safety and fall prevention assist x 1-2- Pt is not strong enough to get up by herself. She is a fall risk. This is for own patient safety.

Heart healthy diet, low carb- pt is diagnosed with DM type 1 along with having CHF, HTN, and coronary artery disease.

I & O- Pt. is sick with pneumonia and is not eating or drinking as usual. Nurse needs to make sure she is still voiding within limits. She also is diagnosed with chronic kidney disease stage 3. Nurse needs to make sure pt does not start retaining fluid as well.

Glucose monitoring before meals- pt is diagnosed with DM type 1. This helps administer the correct of insulin for the pt.

Q2 turn- pt. is not up and moving as frequently because of weakness. This reduces the risk for pressure ulcers.

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Physical Exam/Assessment

General: A&O to self, time, and place. Pt. seems to show a little distress because of her headache. Pt. is groomed appropriately for age. Pt overall seems comfortable.

Integument: Skin is dry, warm, and intact. Turgor recoils immediately. No rashes or bruising. No wounds. Pt is at risk for pressure sores because of decreased mobility so she will remain a Q2 turn.

HEENT: Normocephalic, no obvious abnormalities, hair distributed symmetrically, no enlarged thyroid. Trachea midline. No discharge, erythema, or swelling in ears. PERRLA, conjunctiva/cornea clear. Slight purulent drainage out of nose. Nares are intact, septum midline. Teeth are intact with no cracks or deformities.

Cardiovascular: Regular rate and rhythm. S1 and S2 normal with no abnormal heart sounds. Peripheral pulses +2 bilaterally on all distal extremities. Cap refill less than 3 seconds. No edema noted.

Respiratory: Crackles in breath sounds. Chest rises and falls with respirations equally bilaterally. While pt is on O2, she knows no signs of SOB, dyspnea, or retractions.

Genitourinary: Clear, yellow and odorless. Output: 600 mL. Dry and intact. Pt states no pain or difficulties when urinating.

Gastrointestinal: Heart healthy, low carb diet. Bowel sounds active in all four quadrants. Last bowel movement was 11/03. When palpating abdomen, there were no signs of masses or pain.

Musculoskeletal: Strength grip and push and pull are equal bilaterally. Mobility is assist x 1 because of pt weakness. Able to walk okay, just for extra support of tires. No assistive devices.

Neurological: A&O x4. Cranial nerves and sensory function intact. Alert and oriented to time, place, and self. Speech is clear with no slurs. Sensory intact. LOC with no barriers.

Most recent VS (include date/time and highlight if abnormal): 11/04/2024 @ 0810- T: 36.9, HR: 69, RR: 20, O2: 95% 1L O2, BP: ==144==/76

Pain and pain scale used: 5/10 pain on numeric scale. Pt states it is a headache.

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Impaired gas exchange related to inflammation of the lungs as evidenced by dyspnea and lethargy (Wagner, 2024)	Ineffective airway clearance related to excessive mucus buildup as evidence by crackle/rhonchi lung sounds (Wagner, 2024)	Risk for infection related to presence of existing infection as evidence by the patient being diagnosed with pneumonia (Wagner, 2024)
Rationale	**Rationale**	**Rationale**
Patient is currently on 1L of oxygen to help improve gas exchange and keep O2 stat higher than 90%	During lung sounds assessment, crackles and rhonchi were auscultated within the lower lobes of the lungs.	Patient came into ED being so weak that she couldn't get herself off the floor. The nurse should monitor the patient closely to make sure the infection does not get worse.
Interventions	**Interventions**	**Interventions**
Intervention 1: Assess lung sounds and vital signs Q4 (Wagner, 2024) **Intervention 2:** Monitor ABGs and oxygen saturation (Wagner, 2024)	**Intervention 1:** Assist the patient with respiratory devices (incentive spirometer) and techniques (cough, turn, deep breath) to help with airway clearance (Wagner, 2024) **Intervention 2:** Make sure to encourage movement and positioning to mobilize secretions (Wagner, 2024)	**Intervention 1:** Assess lab values daily (Wagner, 2024) **Intervention 2:** Administer antibiotics as ordered and on time (Wagner, 2024)
Evaluation of Interventions	**Evaluation of Interventions**	**Evaluation of Interventions**
Patient was able to keep her O2 stat above 90% before discharge so she did not have to be put on home oxygen.	Patient was able to maintain a patent airway throughout the whole stay in the hospital.	Patients daily labs have shown improvement throughout her stay in the hospital and no signs of a worsening infection.

References (3) (APA):

Jain, V., Vashisht, R., Yilmaz, G., & Bhardwaj, A. (2023, July 31). *Pneumonia pathology*. StatPearls [Internet].

   https://www.ncbi.nlm.nih.gov/books/NBK526116/

Jones & Bartlett Learning. (2023). *2023 Nurse's Drug Handbook*.

Wagner, M. (2024, July 2). *Pneumonia: Nursing diagnoses, care plans, Assessment & Interventions*. NurseTogether.

   https://www.nursetogether.com/pneumonia-nursing-diagnosis-care-plan/