Medications

hydrALAZINE (10 mg = 0.5 mL, IV push, one)
- Class: Pharmacologic class: vasoconstriction, therapeutic class: antihypertensive
- Pt. is prescribed this because of her being diagnosed with hypertension. Helps dilate the blood vessels by relaxing the muscles (Drugs.com, 2024).

apixaban (Eliquis) 2.5 mg = 1 tabs, oral BID
- Class: Pharmacologic class: factor Xa inhibitor, therapeutic class: anticoagulant
- Used because of hip replacement. Helps to prevent blood clots and/or DVT (Drugs.com, 2024).

carvedilol (Coreg) 3.125 mg = 0.5 tabs, PO, BID
- Class: Pharmacologic class: nonselective beta blocker and alpha-1 blocker, therapeutic class: antihypertensive, heart failure treatment adjunct
- A beta blocker, used to help treat the patients' history of hypertension. This drug helps with the heart affect and circulation of blood (Drugs.com, 2024).

ketorolac (Toradol) 15 mg = 1 mL, IV Push, Q6h
- Class: pharmacologic class: NSAID, therapeutic class: analgesic
- Helps with reducing hormones that can cause inflammation/pain within the body (Drugs.com, 2024). With the patient having her hip replacement realigned, this will be beneficial because of the surgery she will undergo.

atorvastatin (Lipitor) 10 mg PO, daily
- Class: pharmacologic class: HMG-CoA reductase inhibitor, therapeutic class: antihyperlipidemic
- This medication will help with lowering cholesterol and triglycerides (Drugs.com, 2024). This patient has a history of being diagnosed with high cholesterol.

celecoxib (CeleBREX) 200 mg, PO, daily
- Class: pharmacologic: NSAID, therapeutic class: analgesic, anti-inflammatory, antirheumatic
- These capsules are indicated to help with inflammation throughout the body (Drugs.com, 2024). My patient wants to keep her inflammation down after surgery so there are no risks that can evolve.

Lab Values/Diagnostics

Xray: right femur and hip
- Fall with thigh hip and thigh pain.
- Periprosthetic fracture if the proximal right distal.

BUN: 26 (H)
- Normal range: 7-25
- I would expect to see a high BUN for my patient because of being diagnosed with stage III CKD.

Creatinine: 1.24 (H)
- Normal range: 0.6-1.2
- This is an expected finding for my patient because of her medical history of being diagnosed with stage III CKD.

WBC: 12.3 (H)
- Normal range: 4-11.7
- The value is slightly elevated because of inflammation that is present with the patients' revision surgery and pelvic fracture.

Calcium: 7.4 (L)
- Normal range: 8.6-10.3
- My patients' calcium could be low do to being diagnosed with osteoporosis. In osteoporosis the bones become brittle/fragile due to the deficiency of calcium or vitamin D.

Platelets: 108 (L)
- Normal range: 149-393
- Because of the patient recently being diagnosed with osteoporosis, low platelets can be due to low bone mineral within the body. It also can be due to inflammation.

Hgb: 10.4 (L)
- Normal range: 11.3-15.2
- This could be cause of the patients age, long with having low bone mineral. Another possible reason could be because of the patient just getting back from surgery. It was recorded that the patient lost an estimation of 800 mL of blood loss.

Demographic Data

Date of Admission: 03/30/2024
Admission Diagnosis/Chief Complaint: leg pain, osteoporosis
Age: 89
Gender: female
Race/Ethnicity: Asian
Allergies: NKA
Code Status: DNR
Height in cm: 160
Weight in kg: 63.9 kg
Psychosocial Developmental Stage: appropriate for age.
Cognitive Developmental Stage: A&Ox4
Braden Score: 16
Morse Fall Score: 85
Infection Control Precautions: no precautions

Admission History

89 yr-old female, came into ED for right thigh pain. Patient stumbled walking out of her house, family member caught her and lowered her to the ground. States that she felt her leg twist. No deformities. Patient did not try anything to make the pain better or worse, came straight into the ER. Complaining of pain/numbness on right leg, mid-thigh area rating it a 7 on the numeric pain scale.

Medical History

Previous Medical History: CKD stage III, pancreatitis, right hip replacement, hyperlipidemia, hypertension.

Prior Hospitalizations: Arthroplasty hip revision (03/31)

Previous Surgical History: Total right hip replacement (date unknown).

Social History: No history of smoking or alcohol. Lives at home by herself, widow.

Pathophysiology

Disease process:
Osteoporosis is a disease that is more common in postmenopausal females rather than males. It is caused by "an imbalance of bone resorption and bone remodeling, leading to decreased skeletal mass" (Porter & Varacallo pg 1 p 10, 2023). It is when the body has a low bone density which causes bone microstructure (Porter & Varacallo, 2023). Because of this, patients are more at risk for fractures throughout the body. Osteoporosis is related to the aging process. This means that our older adult patients are more at risk for developing this disease. As the human body ages, "bone mass peaks in the third decade, after which bone resorption exceeds bone formation" (Porter & Varacallo pg 1 p 10, 2023). When the body cannot reach a normal peak bone mass, bone loss can lead to osteoporosis (Porter & Varacallo, 2023).

S/S of disease:
Osteoporosis is known as a "silent" disease. This is because there are usually no symptoms until a bone is broken (NIH, 2022). In this disease, bones become fragile. So, we need to pay attention to minor falls, or even simple stresses on the body such as bending, lifting, or simply coughing (NIH, 2022). If any of these incidences resulted in a fracture bone, it is possible the patient has started to develop this disease (NIH, 2022).

Method of Diagnosis:
One method to diagnose osteoporosis is a test called t-score. "Patients with a t-score of negative 2.5 or less should receive treatment" (Porter & Varacallo pg 1 p 24, 2023). T-score test can show the "difference between the measured bone mineral density and the mean value of bone mineral density in young adults". Another test that could be done is a z-score. A z-score is a "number of standard deviations above or below the age-matched bone mineral density" (Porter & Varacallo, 2023). X-rays and ultrasounds can also be used but are the least helpful with diagnosing osteoporosis.

Treatment of disease:
We want recommend lifestyle changes to our patients. For example, weight-bearing physical activity and exercise to improve balance (Porter & Varacallo, 2023). We also need to educate our patients to stop smoking and/or drinking alcohol. They also could take calcium and vitamin D3 supplements to help improve bone strength. There is a test called t-score that can help diagnose how severe this diagnosis is and when the patient needs treatment (Porter & Varacallo, 2023). The pharmacological route could help with treatment as well. There are many medication treatments that are available for osteoporosis.

Active Orders

- **Cardiac monitoring: Telle pack (allowed to be off during activity)**
- **Dressing/reinforce & change: change dressing PRN, reinforce PRN, for drainage through dressing or if dressing not intact.**
- **Foot pump (plexipulse): for feet application.**
- **Incentive spirometer: Q8H; predisposing condition for atelectasis.**
- **Strict I&O.**
- **Morse Fall risk assessment.**

Physical Exam/Assessment

General: awake, alert, and oriented x3. No acute distress. Pleasant and cooperative. Patient is Asian, speaks simple English. Able to understand English.

Integument: skin is pink, warm, and dry. No diaphoresis, no rash. Right elbow abrasion. Scar on right hip from history of hip replacement.

HEENT: Head is normocephalic, no trauma. Minimal hearing loss. Moist mucosal membranes. No signs of drainage from nose, ears, or throat. Nose symmetrical, no deviation. Neck non-tender on palpation, no JVD, lymph nodes nonpalpable.

Cardiovascular: regular rate and rhythm without murmur, gallops, or rubs. Edema +1 on right foot because of surgery swelling.

Respiratory: clear on auscultation bilaterally. Respiration rate in normal range, normal respiratory effort. No wheezing or crackles.

Genitourinary: output appropriate, clear with no odor. No pain when voiding. Intake: 4672.4, output: 2050 - +2622.4.

Gastrointestinal: bowel sounds active in all 4 quadrants, soft and nondistended, nontender, no hepatomegaly. Last BM on 03/30.

Musculoskeletal: No gross deformities, unable to move right lower extremity, 2+ swelling in lower right limb. Moves toes on right foot. Capillary refill less than 3 seconds.

Neurological: awake and alert x 4. No slurred speech and no facial drooping. Appropriate mood for pt. age and cooperative.

Most recent VS (include date/time and highlight if abnormal): 3/30 @ 0829: BP- 103/68, HR- 67, Temp- 37.6, O2- 96% RA, RR- 16, pain – 1 out of 10 on numeric pain scale.

Pain and pain scale used: Numeric pain scale.

Nursing Diagnosis 1	**Nursing Diagnosis 2**	**Nursing Diagnosis 3**
Impaired physical activity relating to the patients fractured hip as evidence by the decrease range of motion.	Risk for injury relating to the patients' diagnosis of osteoporosis as evidence by the patient having a minor fall at home and fracturing her hip.	Deficient knowledge relating to the patient being Asian as evidence by the ability to only understand simple English.
Rationale	**Rationale**	**Rationale**
Patient had a hip replacement done a few years prior, after the patients' minor fall from leaving her home, it resulted in fracturing her hip and a revision of her replacement had to be done.	Patient came into ED after walking outside and stumbling resulting in a fractured hip.	The patients' stepdaughter was by her bedside to make sure she understood all information that was presented to her.
Interventions	**Interventions**	**Interventions**
Intervention 1: Monitor to make sure physical therapy is seeing her once a day and that patient is participating in exercises**.** **Intervention 2:** Assist patient to get out of bed at least 3 times a day as tolerated.	**Intervention 1:** Keep the patient as an "up with assist" when getting out of bed to make sure a healthcare professional is always with her during activity. **Intervention 2:** Make sure call light is always in reach and educate patient to call if she needs to get out of bed.	**Intervention 1:** Locate a healthcare translator to make sure all information is getting to the patient correctly. **Intervention 2:** Assess the clients' knowledge and willingness to learn about her new diagnosis of osteoporosis.
Evaluation of Interventions	**Evaluation of Interventions**	**Evaluation of Interventions**
The patient was able to get out of bed with a walker to use the bathroom before discharge.	Patient was able to stay injury free during her whole stay at the hospital.	Translator was able to locate and patient was able to express her knowledge on her new diagnosis.

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