Medications

- Apixaban (Eliquis) 5 mg PO once daily
  - Factor Xa inhibitor and anticoagulant
  - Use: to reduce stroke and prevent emboli
  - Monitor patient for kidney disease and bleeding before administration
- Insulin aspart (Novolog) 8 units subcutaneous injection three times daily
  - Rapid-acting insulin and antidiabetic
  - Use: to help manage blood glucose
  - Monitor patient's blood glucose before administration
- Clopidogrel (Plavix) 75 mg PO once daily
  - P2Y12 platelet inhibitor and platelet aggregation inhibitor
  - Use: to prevent stroke
  - Monitor patient's heart rate and rhythm, and assess blood pressure before administration
- Carvedilol (Coreg) 3.125 mg PO twice daily
  - Nonselective beta blocker and alpha-1 blocker
  - Use: to treat high blood pressure
  - Monitor patient's heart rate and blood pressure prior to administration

Lab Values/Diagnostics (Normal values from Cerner)

- Glucose- 354, 190 (H)
  - Normal: <90 mg/dL
  - Elevated due to uncontrolled type 2 diabetes and diabetic ketoacidosis presentation with 354 mg/dL
- Protein- 6 (L)
  - Normal: 60-80 g/L
  - Low level due to poor diet and potential liver or kidney issues
- AST- 12 (H)
  - Normal: 10-40 units/L
  - Elevated due to potential liver illness or damage
- Urine toxicology- positive for methamphetamine
  - Normal: negative for all substances
  - Positive due to methamphetamine use
- Chloride- 95 (L)
  - Normal: 98-106 mEq/L
  - Elevated related to diabetic ketoacidosis
- Bilirubin- 1.1 (H)
  - Normal: <1.0 mg/dL
  - Elevated due to potential liver disease and increased RBC
- Magnesium- 1.4 (L)
  - Normal: 1.6-2.6 mEq/L
  - Elevated due to type 2 diabetes
- HgbA1c- 10.8% (H)
  - Normal: <5.7%
  - Elevated due to type 2 diabetes
- RBC- 5.6 (H)
  - Normal: 4.28-5.56x10^6/mcL
  - Increased due to hemorrhage caused by stroke in brain
- Hematocrit- 49.9% (H)
  - Normal: 38.1-48.9%
  - Increased due to increased RBC
- Echocardiogram without contrast: This diagnostic test was conducted to observe for any heart abnormalities that may be causing the patient's signs and symptoms. However, the echocardiogram revealed an ejection fraction of 65%, a normal left ventricle with some hypertrophy, and the doppler showed a grade I diastolic dysfunction. Findings were adequate.
- MRI angiogram of brain without contrast: This diagnostic test was ordered to assess the presence of any abnormalities of the brain's blood vessels that may be causing the patient's complications. The imaging revealed the anterior and posterior intracranial arteries as patent without significant stenosis or aneurysm. The test revealed no vascular malformations. Findings were adequate.
- MRI of brain without contrast: This diagnostic test was completed to evaluate further the patient's signs and symptoms which may be caused by an abnormality in the brain. The test revealed acute and subacute multifocal infarctions related to the white matter of the brain. The MRI also revealed restricted diffusion in the corpus callosum, left middle cerebellar peduncle with impaired blood supply, and the medical left occipital subependymal white matter with restricted blood flow. Some hemorrhage was present. This confirmed that the patient had a stroke event.
- CT scan of head without contrast: This diagnostic test was done to assess the damage of the stroke in the vessels of the brain. The CT scan revealed mild parenchymal atrophy and chronic small vessel disease. Did not reveal acute infarction. This test also confirmed the presence of a stroke event in the patient.

Demographic Data

Date of Admission: 10/21/2021
Admission Diagnosis/Chief Complaint: Stroke
Age: 59-year-old
Gender: Male
Race/Ethnicity: Caucasian
Allergies: NKA
Code Status: Full code
Height in cm: 170.18
Weight in kg: 77.9
Psychosocial Developmental Stage: Generativity vs. Stagnation
Cognitive Developmental Stage: Formal Operational
Braden Score: 21
Morse Fall Score: 60
Infection Control Precautions: Standard precautions

Admission History

On October 21, a 59-year-old Caucasian male was admitted to Sarah Bush Lincoln Health Center after presenting with weakness, vomiting, nausea, and dizziness. The patient reported no pain, and no general area of pain. The patient has experienced weakness, vomiting, nausea, and dizziness for one day prior to admission. Patient reports no aggravating factors, and did nothing to relieve or treat weakness, vomiting, nausea or dizziness prior to admission.

Medical History

Previous Medical History: TIA, CAD, AKI, hyperlipidemia, hypertensive cardiovascular disease, paroxysmal atrial fibrillation and atrial flutter, uncontrolled type 2 diabetes, esophageal cancer, adult ADHD, GAD, syncope, abnormal stress test, and hypothyroidism

Prior Hospitalizations: 01/26/2020 for chest pain, and 01/31/2020 for fall

Previous Surgical History: Ablation, esophageal biopsy, eye, and left hand

Social History: Patient reports smoking 4-6 cigarettes per day. Patient states using alcohol in the past. Lastly, patient reports using methamphetamine and cannabis.

Pathophysiology

Disease process: Stroke is caused when blood flow is impaired or interrupted in a section of the brain. The brain tissue experiences inefficient oxygen supply and nutrients, and brain cells begin to die within minutes (Mayo Clinic, 2021).

S/S of disease: high blood pressure, smoking, uncontrolled diabetes, high cholesterol, family history, previous TIA (transient ischemic attack), and heart disease (Hinkle & Cheever, 2018).

Method of Diagnosis: Stroke is diagnosed based on the findings of a magnetic resonance imaging (MRI), a computed tomography (CT) scan, and a cerebral angiogram. In addition, a stroke is assessed based on the findings of a neurological exam and laboratory blood tests (Hinkle & Cheever, 2018).

Treatment of disease: The type of treatment for stroke depends on the type of stroke that occurred. Ischemic stroke treatment includes emergency IV injection of alteplase, emergency endovascular procedure such as a stent retriever for a clot, carotid endarterectomy, stent placement, and angioplasty. The treatment for a hemorrhagic stroke includes anticoagulant therapy, surgical repair to stop bleeding, surgical clipping, endovascular embolization, surgical arteriovenous malformation removal, and stereotactic radiosurgery (Mayo Clinic, 2021).

Active Orders

1. Neurologic checks every 2 hours- To monitor any alterations in the level of consciousness, response to stimulation, and orientation to time, place, and person.
2. Turn and reposition every 2 hours- To help prevent pressure ulcers
3. Vitals every 4 hours- To monitor the patient's status for any alterations.
4. Consistent carbohydrate diet- Ordered to help control type 2 diabetes via 1,500-1,700 calorie goal to prevent incidences such as diabetic ketoacidosis, which may be fatal for the patient.
5. Adult glycemic management: To help the patient control blood glucose levels to prevent other health complications.
6. Smoking cessation education- To provide the patient accurate information about the dangers of smoking like a stroke, which the patient had.
7. Discharge to home health- Ordered due to patient's inability to care for the patient's own health.
8. Follow up appointment- To assess how patient is doing within one week prior to hospital discharge.

Physical Exam/Assessment

General: Patient is alert and responsive, A&Ox4 to person, place, situation, and time. No acute distress present in the patient. The patient is appropriately dressed and well-groomed.

Integument: The patient's skin is warm, dry, and intact. The patient's skin color is appropriate and normal for ethnicity. The patient has a normal, elastic skin turgor of less than 1.5 seconds. No wounds or bruises present.

HEENT: Normocephalic head, no tracheal deviation and thyroid rises and fallows withs swallowing, PERLA, tympanic membranes are pearly gray. No drainage or blood leaking from the patient's mouth, nose, eyes, or ears. The patient does not use glasses or any other assistive devices. The ears are bilaterally placed with no abnormalities. Mucous membranes were pink, moist, and firm. The patient's nares are patent and bilaterally equal with no pain upon palpation of the sinuses.

Cardiovascular: S1 and S2 heard with normal sinus rhythm, pulses +3 and equal in all extremities, capillary refill less than 3 seconds, and no edema present.

Respiratory: Respiratory rate and pattern are regular, and breath sounds are clear auscultated in both lungs bilaterally, in the upper and lower lobes both anteriorly and posteriorly. No use of accessory muscles noted.

Genitourinary: Patient's bowel sounds are normoactive in all four quadrants. Last bowel movement was 10/20/2021. No abdominal distention, pain, masses, or tenderness assessed upon palpation. The patient's urine was clear, yellow, and an output of 400 mL of urine. Patient reports no pain with urination.

Musculoskeletal: The patient has active range of motion, and +5 equal strength with active motion against full resistance. The patient is a standby assist x1 with a gait belt. The patient is a high fall risk with a Morse Fall Score of 60. The patient's capillary refill is less than 3 seconds, and extremities are warm.

Neurological: MAEW, PERLA, A&Ox4 to person, place, situation, and time, normal and adequate cognition, speech is clear, patient is alert, awake and answering questions and speaking appropriately. The patient has equal strength in all extremities bilaterally, upper and lower.

Most recent VS (include date/time and highlight if abnormal): 10/25/2021 @1100 BP: 120/68, HR: 61, RR: 16, Temp: 36.9 degrees C, and SpO2: 96%

Pain and pain scale used: At 0900, the patient rated his pain as a 0/10 on the 0-10 numeric scale.

Nursing Diagnosis 1	Nursing Diagnosis 2	Nursing Diagnosis 3
Risk for clot emboli related to acute and subacute infarctions, and atrophy with chronic small vessel disease found in the brain via imaging as evidenced by recent stroke.	Risk for self-care deficit related to prescribed medication noncompliance and harmful substance use as evidenced by high blood pressure, uncontrolled type 2 diabetes, stroke event, and presence of methamphetamine in urine toxicology.	Risk for deficient knowledge about smoking cessation and the adverse effects of smoking like stroke as evidenced by patient being a current smoker and noncompliance with smoking cessation.
Rationale	**Rationale**	**Rationale**
Due to the patient's acute and subacute infarctions, and atrophy with chronic small vessel disease found in the brain via MRI and CT scan the patient is at high risk for clot emboli. Clot emboli or, or blood clots, may occur due to the narrowing of the small vessels of the brain and the small amount of hemorrhage found in the patient. The hemorrhage can easily turn into a clot, which may cause another stroke in the patient.	Due to the patient being non-compliant with any of the prescribed medications as upon admission blood pressure was 231/112, blood glucose was 354, the patient had a stroke, and the patient has a previous history of medication noncompliance. The patient stated that he did not take his medications at home. In addition, the urine toxicology resulted in a positive result of methamphetamine, which is a harmful, illegal drug.	The patient in previous hospital visits and primary physician appointments received education about smoking cessation. However, the patient reports currently smoking at least 4-6 cigarettes per day. Smoking is a main cause of stroke, and a contributing factor to the stroke event of the patient. The patient verbalizes his confusion on why smoking is unhealthy and what bad effects occur from smoking.
Interventions	**Interventions**	**Interventions**
Intervention 1: Administer 5 mg of apixaban orally once daily to prevent clot formation and stroke. **Intervention 2:** Complete neurological checks every two hours to assess for stroke.	**Intervention 1:** Re-education on patient's current prescribed medications and reasons the medications are needed. Patient has prescriptions for insulin, blood pressure medications, and anticoagulants. Explain insulin controls type 2 diabetes, blood pressure medications maintain normal blood pressure, and anticoagulants prevent potential blood clots and future strokes. **Intervention 2:** Discharge the patient to home health care.	**Intervention 1:** Re-educate the patient about the recommendation of smoking cessation and how to stop smoking. Provide pamphlet about smoking cessation, and information about nicotine products, support groups, and smoking cessation programs to help the patient quit smoking. **Intervention 2:** Educate the patient on the adverse effects of smoking such as stroke, lung cancer, esophageal cancer, coronary artery disease, erectile dysfunction, and gum disease.
Evaluation of Interventions	**Evaluation of Interventions**	**Evaluation of Interventions**
1. Patient responds well to apixaban therapy with no clot formation or stroke present. Goal met. No modifications needed.	1. Patient now understands why the medications are prescribed and needed. Patient verbalizes that he will begin	1. The patient receives accurate information and resources for smoking cessation. The patient understood the re-education of smoking

2. Patient has all normal neurological checks with no presence of stroke assessed. Goal met. No modifications needed.	medication regimen once discharged. Goal met. No modifications needed. 2. Patient will be discharged to home health with Carle. Goal met. No modifications needed.	cessation. Goal met. No modifications needed. 2. The patient is successfully educated about the adverse effects of smoking on the patient's body. Goal met. No modifications needed.

References (3) (APA):

Hinkle, J. L. &. Cheever, K. H. (2018). *Brunner & Suddarth's textbook of medical-surgical nursing* (14th ed.). Wolters Kluwer

Jones and Bartlett Learning. (2020). *Nurse's drug handbook* (19th ed.). Jones and Bartlett Publishers.

Mayo Clinic (2021). *Stroke*. https://www.mayoclinic.org/diseases-conditions/stroke/symptoms-causes/syc-20350113

Sarah Bush Lincoln Health Center. (2021). *Cerner*. https://www.sarahbush.org/

Swearingen, P. L., & Wright, J. (2018). *All-in-one nursing care planning resource: Medical-surgical, pediatric, maternity, and psychiatric-mental health* (5th ed.). Mosby.