

Adult/Geriatric Critical Thinking Worksheet

Student Name: Brynne Barker

Unit:

Pt. Initials:

Date: 1/13/2021

1. Disease Process & Brief Pathophysiology

Sickle Cell Disease: "This is an inherited, autosomal recessive, condition cause by mutations in the B-globin gene. These mutations cause the sixth amino acid to be changed from glutamic acid to valine. The resultant hemoglobin (called HbS) has abnormal physiochemical properties, and is prone to polymerization with other hemoglobin molecules under conditions of low oxygen tension. This has a number of adverse affects on erythrocytes. The normally freely flowing cytosol of red cells become viscous making the red cell much less deformable and impairing its ability to traverse tight capillary beds. As HbS continues to polymerize the entire RBC is deformed giving the characteristic sickle shape."

Herman, M., & Chaudhry, S. (2010, December 11). Sickle Cell Disease. McMaster Pathophysiology Review. <http://www.pathophys.org/scd/>

4. Diagnostic Tests pertinent or confirming of diagnosis

- hemoglobin electrophoresis
- high performance liquid chromatography (HPLC)
- deoxyribonucleic acid (DNA) testing (P)
- blood test

2. Factors for the Development of the Disease/Acute Illness

- genetic factors (2 defective genes) (P)
- ethnic background (sub-Saharan African descent, South America, Cuba, Central America, Saudi Arabia, India, Turkey, Greece, and Italy) (P)

5. Lab Values that may be affected

- reduced hemoglobin and hematocrit levels (P)

3. Signs and Symptoms

- fever
- swollen hands and feet
- pain in chest, abdomen, arms, legs, joints, bones (P)
- enlarged organs including heart, liver, and spleen
- increased risk of infection, especially pneumonia (P)
- symptoms of anemia including severe fatigue, headache, lightheadedness, shortness of breath (P)
- yellowish tone to the whites of the eyes and the skin
- episodes of sickle cell crisis: severe chest pain, shortness of breath, severe abdominal pain, severe bone pain (P), nausea (P), fever, prolonged erections of the penis

6. Current Treatment

- medications (P)
- blood transfusions
- stem cell transplant
- surgery (P)

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-complete blood count (P)

-folic acid supplements (P)

7. Focused Nursing Diagnosis:

Ineffective Tissue Perfusion

8. Related to (r/t):

Hemoglobin not reaching the tissues of the extremities.

9. As evidenced by (aeb):

Patient's bones were necrotic and tissues in the extremities were not well oxygenated. Patient had already undergone a left shoulder replacement and was needing a right shoulder replacement and right and left hip replacement.

11. Nursing Interventions related to the Nursing Diagnosis in #7:

1 .Start oxygen therapy to raise O2 saturation levels

Evidenced Based Practice:

"Providing oxygen therapy saturates circulating hemoglobin and augments the efficiency of blood that is reaching the ischemic tissues."

Wayne, G. (2019, February 12). Ineffective Tissue Perfusion Nursing Care Plan. Nurseslabs. <https://nurseslabs.com/ineffective-tissue-perfusion/>

2. Apply SCDs to the patient's legs to allow blood flow and prevent DVT.

Evidenced Based Practice:

Since the patient is so weak and can barely move his bilateral lower extremities, this is a good option

12. Patient Teaching:

1. Make sure the patient is drinking enough fluids to stay hydrated.

2. Wash hands frequently to prevent infections which can lead to serious sickle cell crisis.

3. Do not smoke or drink alcohol as this can lead to hypoxia.

13. Discharge Planning/Community Resources:

1. Sickle cell support groups to help the patient cope with their disease.

2. Make sure the patient is up to date on their vaccinations before they leave the hospital that way they are preventing possible infections like pneumonia or influenza.

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to promote blood flow in his legs since he is sedentary.

3. Create a pain management plan for at home that way the patient is comfortable.

(not cited)

10. Desired patient outcome:

Have the patient drink a carton (4 oz) of apple juice to keep him hydrated and restore his electrolytes throughout the day by 5 p.m.

3. Educate patient about nutrition.

Goal met on 1/13/21

Evidenced Based Practice:

"Malnutrition contributes to anemia, which further compounds the lack of oxygenation to tissues."

Wayne, G. (2019, February 12). Ineffective Tissue Perfusion Nursing Care Plan. Nurseslabs. <https://nurseslabs.com/ineffective-tissue-perfusion/>