Medications

Acetaminophen (Tylenol) – 500mg=1 tab, PO, Q6 PRN, Pain/Fever, Pharmacological: Nonsalicylate, Therapeutic: Antipyretic, Monitor liver function & use cautiously with renal impairment

Morphine sulfate – 4mg=1ml, IV, Q3, Severe acute pain, Pharmacological: Opioid, Therapeutic: Opioid analgesic (Controlled substance schedule: II), Monitor for signs of hypotension & decreased respiratory function

Ketorolac (Toradol) – 15mg=1ml, IV, Q6, Acute pain, Pharmacological: NSAID, Therapeutic: Analgesic, Access patient's level of pain & administer with antacid or food to prevent GI upset

D5 0.9% NaCl – 75ml/hr *Safe dose, IV, Hydration, Pharmacological: Electrolyte cation, Therapeutic: Electrolyte replacement, Monitor serum electrolyte levels & monitor for cardiac arrhythmias

(Learning, J & B., 2023)

Demographic Data

Admitting diagnosis: Sickle Cell Pain Crisis

Age of client: 15 years old

Sex: Female

Weight in kgs: 46.2 kg

Allergies: NKA

Date of admission: 10/02/2024

Admission History

The patient presented to the emergency department on 10/01/2024 with increasing back, leg, and abdominal pain. The patient also stated having a headache that would not go away. The pain was described as aching all over and an 8/10 on the numerical pain scale. Moving around caused the pain to increase. The only thing that makes the pain more tolerable is rest with pain medication. The patient said she had taken her oxycodone and ibuprofen at home before coming the emergency department; however, the pain was still not at a tolerable level.

Pathophysiology

Disease process: Sickle cell anemia is an inherited homological disorder in which a genetic mutation causes abnormal synthesis of hemoglobin molecules (Capriotti, 2020). The mutated gene causes the structure of the RBCs to become more fragile, distorting to a "sickle" shape (Capriotti, 2020). This RBC insufficiency leads to stress and hypoxia of the cells. These RBCs become less capable of appropriately delivering oxygen to needed tissues. These sickle cells are broken down by the spleen much faster than normal RBCs, causing severe hemolytic anemia (Capriotti, 2020). Their irregular shape makes obstructions more prevalent in the vessels, leading to organ damage and risk for infarction (Capriotti, 2020).

S/S of disease: Signs and symptoms of sickle cell anemia include fatigue, intolerance to physical activity, hypoxia, chest pain, tachypnea, fever, and cough (Capriotti, 2020). Patients may present by guarding and expressing severe pain.

Method of Diagnosis: The clinical diagnosis for sickle cell anemia is performed by a blood sample screening for the presence of hemoglobin S, typically done during newborn screenings (Capriotti, 2020). A CBC can screen for anemia, and a blood smear test can detect sickle-shaped cells (Capriotti, 2020).

Treatment of disease: Sickle cell anemia has no cure, but is managed by providing oxygen therapy, pain management, prophylactic antibiotics, and IV fluids (Capriotti, 2020). Blood transfusions are common to help increase the number of normal RBCs within the body (Capriotti).

Assessment	
General	Alert and responsive, no acute distress, normal appearance
Integument	Skin color normal for ethnicity, dry, warm, intact, tan, no rashes/lesions/lumps/bruises, capillary refill <2 seconds, no signs of jaundice
Neurological	No deficits, alert and oriented to person/place/situation/time, answered questions and responded appropriately
Most recent VS (highlight if abnormal)	**Time:** 0820 **Temperature:** 36.6 C **Route:** Oral **RR:** 18 **HR:** 77 **BP:** 118/68 **Oxygen saturation:** 97% **Oxygen needs:** Room Air
Pain and Pain	

Relevant Lab Values/Diagnostics

WBC – 11,740 (5000-10,000); Elevated due to the patient's inflammatory response to sickle cell crisis

RBC – 5.7 (10-15.5); Low due to the patient's history of sickle cell anemia. Sickle cells break down at a much faster rate than normal healthy RBCs

HCT – 16.0 (32-44); Low due to patient's low RBC count, elevated WBC count, and dehydration

CT scan – No acute abnormalities, findings as expected

MRI – The ventricles, cortical sulci, and basal cisterns demonstrate normal contour. Findings as expected

(Pagana et al., 2022)

Medical History

Previous Medical History: Acute Chest Syndrome, Pica of Infancy and Childhood, Sickle Cell Pain Crisis, Sickle Cell Disease

Prior Hospitalizations: Sickle Cell Pain Crisis (09/01/2023)

Past Surgical History: Tonsillectomy and Adenoidectomy (08/29/2024)

Social needs: N/A

Active Orders

Vital signs – Q4 monitoring

Intake & Output – Monitoring fluid balance due to the patient's need for adequate hydration

IV Peripheral Access – Ordered for IV fluid and medication administration

Regular Diet – Ordered so that fluid and nutrition needs are met

Neonatal/Pediatric Airway Status – Indicated as a routine provider's order

CBC w/o Diff – Ordered for routine monitoring of the patient's complete blood count. Monitoring need for possible blood transfusion

Scale Used	Numerical Pain Scale (8/10)

Nursing Diagnosis 1	**Nursing Diagnosis 2**	**Nursing Diagnosis 3**
Acute pain related to sickle cell pain crisis as evidenced by expression of pain	Risk for imbalanced fluid volume related to malnutrition as evidenced by poor appetite	Impaired physical mobility related to pain as evidenced by resistance to activity
Rationale This nursing diagnosis was chosen due to the patient's acute onset of pain due to sickle cell crisis	**Rationale** This nursing diagnosis was chosen due to the patient's decrease in appetite due to pain and discomfort	**Rationale** This nursing diagnosis was chosen due to the patient's decreased physical mobility and lack of motivation to get out of bed
Interventions **Intervention 1:** Assess the patient's level of pain with hourly rounding **Intervention 2:** Provide comfort measures with patient positioning while in bed	**Interventions** **Intervention 1:** Educate the patient on the importance of maintaining adequate nutrition with sickle cell anemia **Intervention 2:** Monitor strict input and output	**Interventions** **Intervention 1:** Assist the patient in performing active or passive ROM exercises once a shift **Intervention 2:** Assist the patient with transferring to the bathroom and chair
Evaluation of Interventions The patient's pain score was assessed routinely to keep pain controlled at a tolerable level, and the patient frequently repositioned when feeling discomfort	**Evaluation of Interventions** The patient maintained adequate nutritional intake and had appropriate urine output	**Evaluation of Interventions** The patient participated in daily ROM exercises while in bed, got up to sit in the chair, and started walking to the bathroom rather than using the bedside commode

(Phelps, 2023)

		What do you expect?	What did you observe?
Erickson's Psychosocial Developmental Stage	Identity vs Role Confusion	The patient knows their identity, goals, beliefs, and values. The patient	The patient was coloring in a coloring book, and when asked about her drawings stating that she loved art.
Piaget's Cognitive Developmental Stage	Formal Operational Stage	The patient uses abstract thinking, deductive reasoning, and is self-conscious	The patient was self-conscious of their diagnosis and the plan of treatment. The patient did not engage in much conversation and was very quiet when not spoken to by the nurse.
Age-Appropriate Growth & Development Milestones	**1.** Ability to think abstractly and consider hypothetical situations **2.** Completion of puberty with physical changes in height growth and sexual maturation **3.** Ability to manage complex emotions such as romance and anger		
Age-Appropriate Diversional Activities	**1.** Listening to music **2.** Watching movies **3.** Playing card games		

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