**Patient:** Aisha Williams (DOB 2003-03-10)  
**Medical Record Number:** 738695  
**Date of Admission:** 2025-03-25  
**Date of Discharge:** 2025-03-30  
**Admitting Physician:** Dr. K. Johnson (Hematology)  
**Consulting Physician:** Dr. M. Peterson (Pain Management), Dr. L. Garcia (Infectious Disease)

**Discharge Diagnosis: Sickle Cell Disease (HbSS) with Acute Vaso-occlusive Crisis**

**1. Detailed Diagnosis:**

Primary Diagnosis: Sickle Cell Disease (Hemoglobin SS)  
Date of Initial Diagnosis: At birth, confirmed at 6 months of age (2003)  
Genotype Confirmation:

* Homozygous for hemoglobin S (HbSS)
* Alpha globin gene analysis: Normal (No alpha thalassemia)
* Beta globin gene: Homozygous for βS mutation (GAG→GTG at codon 6)

**2. Current Treatment:**

Current Clinical Presentation:

* Severe pain in lower back, bilateral hips, and right knee
* Pain score 9/10 at admission (using numeric rating scale)
* No fever, chest pain, or respiratory symptoms
* No neurological symptoms

Imaging Studies:

* Chest X-ray: No acute cardiopulmonary process, stable cardiomegaly
* Abdominal ultrasound: Mild hepatomegaly (16.2 cm), moderate splenomegaly (15.8 cm), post cholecystectomy

Pain Management:

* Intravenous fluids: 0.9% normal saline at 125 mL/hr
* Opioid analgesics:
  + Morphine 6 mg IV every 4 hours scheduled
  + Morphine 4 mg IV every 2 hours PRN breakthrough pain
* Non-opioid adjuncts:
  + Ketorolac 15 mg IV every 6 hours for 48 hours, then transitioned to ibuprofen
  + Acetaminophen 1000 mg PO every 8 hours

Disease-Specific Treatment:

* Hydroxyurea 1500 mg PO daily (continued home dose)
* Oxygen supplementation: 2L by nasal cannula to maintain SpO2 >95%
* Incentive spirometry: 10 breaths every 2 hours while awake

Supportive Measures:

* DVT prophylaxis with enoxaparin 40 mg SubQ daily
* Continued folic acid supplementation
* Docusate sodium 100 mg PO twice daily for opioid-induced constipation prevention
* Warm compresses to painful areas
* Physical therapy consultation for gentle mobility exercises

**3. History of Previous Treatment:**

Disease-Modifying Therapy:

* Hydroxyurea initiated at age 8 (2011) due to frequent vaso-occlusive crises
* Current dose: 1500 mg PO daily (approximately 25 mg/kg/day)
* Good response with reduction in annual crisis frequency from 6-8 to 2-3

Transfusion History:

* No chronic transfusion program
* Last transfusion: 2024-11 during hospitalization for vaso-occlusive crisis
* Estimated lifetime units received: 32 units
* No evidence of alloimmunization (negative antibody screen)

Prior Complications and Hospitalizations:

* Average 2-3 hospitalizations annually for vaso-occlusive crises
* Acute chest syndrome: 3 episodes (2012, 2017, 2022)
* Avascular necrosis of right humeral head (2016)
* Cholecystectomy for cholelithiasis (2019)
* Right ankle ulcer (2021) - healed after 6 months of wound care
* No history of stroke or acute neurological events

Outpatient Pain Management:

* Home pain regimen: Oxycodone 5-10 mg every 6 hours PRN
* Non-pharmacological: Heat therapy, massage, meditation

**4. Comorbidities:**

* Mild iron overload (related to chronic hemolysis and transfusions)
* Avascular necrosis of right humeral head
* Vitamin D deficiency
* Mild asthma
* History of anxiety and depression

**5. Physical Exam at Admission:**

General: 22-year-old female in acute distress due to pain.

Vitals: Temperature 37.2°C, Heart Rate 104 bpm, Respiratory Rate 22/min, Blood Pressure 128/76 mmHg, Oxygen Saturation 94% on room air, Weight 55 kg, Height 162 cm, BMI 21 kg/m².

HEENT: Normocephalic, atraumatic. Scleral icterus present. Mucous membranes moist. Neck: Supple, no lymphadenopathy.

Cardiovascular: Tachycardic with regular rhythm, 2/6 systolic flow murmur. No rubs or gallops.

Respiratory: Clear to auscultation bilaterally. No rales, rhonchi, or wheezes.

Abdomen: Soft, tender in right upper quadrant. Liver edge palpable 3 cm below costal margin. Spleen tip palpable. Normal bowel sounds.

Musculoskeletal:Marked tenderness to palpation of lumbar spine, bilateral hips, and right knee. Limited range of motion due to pain. No joint effusions.

Skin: No jaundice, pallor, or rashes. No active ulcers. Well-healed scar on right ankle from previous ulcer.

Neurological: Alert and oriented ×3. Cranial nerves II-XII intact. Motor strength 5/5 in upper extremities, 4/5 in lower extremities (limited by pain). Sensory intact. Deep tendon reflexes 2+ throughout.

**6. Epicrisis:**

Ms. Williams is a 22-year-old female with homozygous sickle cell disease (HbSS) who presented with an acute vaso-occlusive crisis manifesting as severe pain in her lower back, bilateral hips, and right knee. She reported gradual onset of pain over 48 hours that failed to respond to her home pain regimen, prompting her to seek emergency care. She denied fevers, respiratory symptoms, or new neurological complaints. She did report missing two doses of hydroxyurea in the week prior to admission due to nausea.

On admission, she was found to have mild dehydration, leukocytosis, and a hemoglobin level of 7.2 g/dL, which is lower than her baseline of 8.0-8.5 g/dL but did not meet her transfusion threshold. She was started on IV hydration, supplemental oxygen, and a multimodal pain management approach including scheduled and as-needed intravenous morphine, ketorolac, and acetaminophen.

Her hospital course was complicated by initially difficult pain control requiring escalation of the opioid regimen and the addition of a lidocaine patch to her lower back. By hospital day 3, her pain began to subside, allowing for de-escalation to oral analgesics. Blood cultures obtained on admission remained negative, and there was no evidence of acute chest syndrome, infection, or other complications during the hospitalization.

Hydroxyurea was continued throughout the admission, and the importance of medication adherence was reinforced. The patient received comprehensive education on triggers for vaso-occlusive crises, including dehydration, extreme temperatures, stress, and infection.

Prior to discharge, her pain was adequately controlled on oral analgesics, her hemoglobin had stabilized at 7.3 g/dL, and her reticulocyte count remained appropriate. She was able to ambulate with minimal assistance and perform activities of daily living, so VTE prophylaxis was discontinued. A detailed pain management plan was established for outpatient care, including specific instructions for breakthrough pain.

**7. Medication at Discharge:**

* Hydroxyurea 1500 mg PO daily
* Oxycodone 10 mg PO every 6 hours PRN
* Ibuprofen 600 mg PO every 8 hours with food for 7 days
* Acetaminophen 1000 mg PO every 8 hours (not to exceed 3000 mg daily)
* Folic acid 1 mg PO daily
* Docusate sodium 100 mg PO twice daily
* Vitamin D3 2000 IU PO daily
* Albuterol inhaler 2 puffs every 4-6 hours PRN wheezing

**8. Further Procedure / Follow-up:**

Hematology Follow-up:

* Appointment with Dr. K. Johnson in 1 week (2025-04-06)
* Laboratory studies (CBC, reticulocyte count, LDH, comprehensive metabolic panel) to be performed prior to appointment
* Discuss possible adjustment to hydroxyurea dosing

Pain Management:

* Referral to pain management clinic (Dr. M. Peterson) for appointment in 2 weeks
* Review and potential optimization of outpatient pain control regimen
* Exploration of additional non-pharmacological pain management strategies

Primary Care:

* Follow-up with primary care physician in 4 weeks
* Update on hospital course and medication changes
* Annual influenza vaccination due (seasonal)

Additional Services:

* Social worker referral to assess need for additional home support services
* Physical therapy for strengthening exercises and pain management techniques (appointments scheduled weekly for 4 weeks)
* Psychological support referral to address anxiety and depression

Patient Education:

* Review of sickle cell disease triggers and early intervention strategies
* Hydration importance and targets (minimum 2-3 liters daily)
* Signs and symptoms requiring urgent medical attention
* Medication administration, side effects, and adherence strategies
* When to use rescue medications vs. when to seek emergency care

**9. Lab Values (Excerpt):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Admission (2025-03-25)** | **Discharge (2025-03-30)** | **Units** | **Reference Range** |
| Hemoglobin | 7.2 | 7.3 | g/dL | 12.0-15.0 |
| Hematocrit | 21.6 | 21.9 | % | 36.0-46.0 |
| WBC | 18.6 | 12.4 | ×10^9/L | 4.0-11.0 |
| Neutrophils | 14.2 | 9.2 | ×10^9/L | 1.8-7.5 |
| Platelets | 485 | 450 | ×10^9/L | 150-400 |
| Reticulocytes | 15.8 | 16.2 | % | 0.5-2.5 |
| Absolute Reticulocytes | 315 | 325 | ×10^9/L | 25-100 |
| MCV | 88 | 87 | fL | 80-100 |
| Total Bilirubin | 3.4 | 3.2 | mg/dL | 0.1-1.2 |
| Direct Bilirubin | 0.6 | 0.5 | mg/dL | 0.0-0.3 |
| LDH | 520 | 485 | U/L | 135-225 |
| AST | 48 | 42 | U/L | 10-40 |
| ALT | 36 | 34 | U/L | 10-55 |
| BUN | 18 | 14 | mg/dL | 7-20 |
| Creatinine | 0.8 | 0.7 | mg/dL | 0.5-1.1 |
| Sodium | 136 | 138 | mmol/L | 135-145 |
| Potassium | 3.9 | 4.1 | mmol/L | 3.5-5.0 |
| Chloride | 102 | 104 | mmol/L | 98-107 |
| CO2 | 24 | 25 | mmol/L | 22-29 |
| Calcium | 9.2 | 9.3 | mg/dL | 8.6-10.2 |
| CRP | 3.2 | 1.5 | mg/dL | <0.5 |
| Ferritin | 8408 | - | ng/mL | 15-150 |

Electronically Signed By:  
Dr. K. Johnson (Hematology)  
Date/Time: 2025-03-30 14:30

Dr. M. Peterson (Pain Management)  
Date/Time: 2025-03-30 13:15