**Patient:** Alexander Thompson (DOB 1971-02-01)  
**Medical Record Number:** 854721  
**Date of Admission:** 2025-03-18  
**Date of Discharge:** 2025-03-24  
**Admitting Physician:** Dr. M. Jacobs (Hematology/Oncology)  
**Consulting Physician:** Dr. J. Rodriguez (Cardiology)

**Discharge Diagnosis: Newly Diagnosed Chronic Myeloid Leukemia**

**1. Detailed Oncological Diagnosis:**

Primary Diagnosis: Chronic Myelogenous Leukemia (CML)  
Date of Diagnosis: March 2025 (current admission)

Histology:

* Bone marrow aspirate and biopsy (March 19, 2025): Hypercellular marrow (95%) with marked myeloid hyperplasia. Myeloid:erythroid ratio markedly increased at 20:1 (normal 3:1). Left-shifted myeloid maturation with increased myelocytes and metamyelocytes. Blast percentage 3% (within limits for chronic phase). Megakaryocytes increased with some small hypolobated forms. Reticulin fibrosis grade 1/4.
* Immunohistochemistry: CD34+ blasts <5%, MPO+ myeloid precursors markedly increased, CD61+ megakaryocytes increased with clustering.
* Flow cytometry: Myeloid predominance with left shift, no aberrant antigen expression, blast percentage 2.8%.

Molecular Studies:

* Qualitative RT-PCR: BCR-ABL1 fusion transcript positive
* Quantitative RT-PCR: BCR-ABL1/ABL1 ratio (IS) 78.6%
* BCR-ABL1 transcript type: e14a2 (b3a2) major breakpoint
* Cytogenetics: 46,XY,t(9;22)(q34;q11.2) in 20/20 metaphases
* FISH: BCR-ABL1 fusion positive in 95% of analyzed nuclei
* Additional mutations: Next-generation sequencing panel negative for additional mutations, including ABL1 kinase domain mutations

Staging/Risk Stratification:

* Sokal Score: 0.9 (Intermediate risk) [Age: 54 years, Spleen: 5 cm below costal margin, Platelets: 480 × 10^9/L, Peripheral blood blasts: 1%]
* EUTOS Score: 69 (Low risk) [Spleen: 5 cm below costal margin, Basophils: 7%]
* ELTS Score: 1.39 (low risk) [Age: 54 years, Spleen: 5 cm below costal margin, Peripheral blood blasts: 1%, Platelets: 480 × 10^9/L]

Laboratory Findings at Diagnosis:

* Complete Blood Count:
  + WBC: 186.4 × 10^9/L (elevated)
  + Hemoglobin: 11.2 g/dL (mildly decreased)
  + Platelets: 480 × 10^9/L (elevated)
* Differential: Neutrophils: 58%, Myelocytes: 12%, Metamyelocytes: 8%, Promyelocytes: 4%, Blasts: 1%, Basophils: 7%, Eosinophils: 5%, Lymphocytes: 5%)
* Chemistry Panel: LDH: 780 U/L (elevated), Uric acid: 8.2 mg/dL (elevated), Creatinine: 1.1 mg/dL (normal), ALT: 45 U/L (normal), AST: 38 U/L (normal), Total bilirubin: 0.8 mg/dL (normal), Potassium: 4.2 mmol/L (normal), Calcium: 9.4 mg/dL (normal)

Imaging:

* Abdominal Ultrasound (March 19, 2025): Splenomegaly with spleen measuring 17 cm in craniocaudal length (normal <13 cm). Liver size within normal limits. Focal lesion 4cm in liver, suggestive of chloroma. No significant abdominal lymphadenopathy.
* Chest X-ray (March 18, 2025): No significant abnormalities. No mediastinal widening. No pleural effusion.

**2. Current Oncological Treatment:**

Tyrosine Kinase Inhibitor (TKI) Therapy:

* Dasatinib (Sprycel®) 100 mg PO daily, initiated March 21, 2025

Management of Hyperleucocytosis and Tumor Lysis Prevention:

* Cytoreduction with hydroxyurea 2000 mg PO daily for 3 days (March 19-21, 2025), reduced to 1000 mg on March 22, then discontinued on March 23, 2025 after WBC decreased to 24.6 × 10^9/L
* Allopurinol 300 mg PO daily (initiated March 19, 2025, to continue for 2 weeks)
* Aggressive hydration with IV normal saline at 150 mL/hour for 48 hours

Symptom Management:

* Acetaminophen 650 mg PO Q6H PRN for low-grade fevers and bone pain

**3. History of Oncological Treatment:**

This is the initial diagnosis of CML, so there is no prior oncological treatment history.

**4. Comorbidities:**

* Appendectomy (2002) without complications
* Moderate persistent asthma, well-controlled on inhaled corticosteroids
* History of nephrolithiasis (2018, passed spontaneously)
* Essential hypertension (diagnosed 2019, well-controlled on single agent)
* Mild depression (diagnosed 2020, on SSRI)
* Seasonal allergic rhinitis
* Allergies: Penicillin (urticaria), Iodinated contrast (rash)

**5. Physical Exam at Admission:**

General: 54-year-old male appearing mildly fatigued but not in acute distress.

Vitals: BP 142/88 mmHg, HR 88 bpm, RR 16/min, Temp 37.2°C, SpO2 97% on room air.

HEENT: Normocephalic, atraumatic. Conjunctivae pale. Oropharynx clear without lesions.

Neck: No lymphadenopathy or thyromegaly.

Cardiovascular: Regular rate and rhythm. Normal S1, S2. No murmurs, rubs, or gallops.

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

Abdomen: Soft, non-distended. Left upper quadrant tenderness. Spleen palpable 5 cm below left costal margin. No hepatomegaly.

Extremities: No edema. No petechiae or ecchymoses.

Skin: No rashes. Normal turgor.

Neurological: Alert and oriented x3. Cranial nerves II-XII intact. Motor strength 5/5 in all extremities. Sensation intact. Normal reflexes.

ECOG Performance Status: 1 (Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature).

**6. Epicrisis (Hospital Course Summary):**

Mr. Thompson is a 54-year-old male who presented with fatigue, early satiety, left upper quadrant discomfort, night sweats, and an incidental finding of markedly elevated white blood cell count (186.4 × 10^9/L) during a routine physical examination. He was admitted for expedited diagnostic evaluation and management of suspected hematologic malignancy.

Bone marrow biopsy and aspirate were performed on day 1 of admission, which confirmed the diagnosis of Chronic Myeloid Leukemia in chronic phase. Cytogenetic and molecular studies demonstrated the characteristic t(9;22) translocation and BCR-ABL1 fusion transcript. Risk stratification placed the patient at intermediate risk by Sokal and ELTS scores, and low risk by EUTOS score.

Due to the markedly elevated WBC count, cytoreduction was initiated with hydroxyurea while awaiting diagnostic confirmation. Aggressive hydration and allopurinol were administered for tumor lysis prevention. Diagnostic studies were completed expeditiously, and the patient was started on standard-dose dasatinib (100 mg daily) as first-line tyrosine kinase inhibitor therapy on day 3 of admission.

The patient tolerated initial therapy well, with mild muscle cramps and headache that responded to symptomatic management. His WBC count decreased appropriately to 24.6 × 10^9/L by day 5, allowing for discontinuation of hydroxyurea. His splenomegaly decreased slightly to 4 cm below the costal margin by discharge, with corresponding improvement in early satiety and left upper quadrant discomfort.

Prior to discharge, the patient received comprehensive education regarding CML, treatment expectations, potential side effects of dasatinib, and the importance of medication adherence and follow-up. A cardiac evaluation was conducted before initiating TKI therapy, with particular attention to QTc interval and left ventricular function, both of which were normal. Baseline pulmonary function tests were also performed and were within normal limits.

The patient is now clinically stable, with improving blood counts and understanding of his diagnosis. He is deemed appropriate for outpatient management with close follow-up in the hematology clinic.

**7. Medication at Discharge:**

New Medications:

* Dasatinib (Sprycel®) 100 mg PO daily with or without food (take at the same time each day)
* Famotidine 20 mg PO daily (2 after or 10 hours before Dasatinib!)
* Allopurinol 300 mg PO daily (to continue for 2 weeks total)
* Acetaminophen 650 mg PO Q6H PRN for headache or muscle cramps
* Loperamide 2 mg PO PRN for diarrhea (max 8 mg daily)

Chronic Medications:

* Lisinopril 10 mg PO daily
* Fluticasone/salmeterol 250/50 mcg inhaler, 1 puff BID
* Escitalopram 10 mg PO daily
* Loratadine 10 mg PO daily PRN for allergic rhinitis
* Albuterol inhaler 2 puffs Q4H PRN for wheezing

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

Hematology/Oncology Follow-up:

* Follow up with Dr. M. Jacobs in 1 week (March 31, 2025) for clinical assessment and blood counts
* CBC with differential twice weekly for 2 weeks, then weekly until stable
* Comprehensive metabolic panel weekly for 1 month
* BCR-ABL1 quantitative PCR testing at 3 months to assess for Early Molecular Response (target: BCR-ABL1 ≤10% IS)
* Monitoring schedule: BCR-ABL1 quantitative PCR every 3 months for first year, then every 3-6 months if responding well

Recommendations:

* Alert healthcare team of any new symptoms, particularly shortness of breath, chest pain, or significant bruising/bleeding
* Monitor for fluid retention and report any sudden weight gain, peripheral edema, or dyspnea
* Avoid PPI and take H2RA only in specified time window
* Avoid strong CYP3A4 inhibitors (e.g., ketoconazole, clarithromycin) and inducers (e.g., rifampin, phenytoin)
* Avoid grapefruit juice and St. John's wort
* No restrictions on physical activity as tolerated
* Avoid live vaccines while on TKI therapy
* TKI adherence is critical to achieving optimal response
* Men and women should use effective contraception during treatment with dasatinib

Patient Education Provided:

* CML disease process and natural history
* Treatment goals and monitoring milestones
* Importance of medication adherence
* Common side effects of dasatinib and management strategies
* Symptoms requiring immediate medical attention (respiratory symptoms, bleeding)
* Contact information for oncology nurse navigator
* Information about CML patient support resources

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

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| --- | --- | --- | --- | --- |
| **Parameter** | **Admission (3/18/2025)** | **Discharge (3/24/2025)** | **Units** | **Reference Range** |
| WBC | 186.4 | 24.6 | × 10^9/L | 4.0-11.0 |
| Hemoglobin | 11.2 | 11.5 | g/dL | 13.5-17.5 (M) |
| Hematocrit | 33.5 | 34.2 | % | 40-52 (M) |
| Platelets | 480 | 420 | × 10^9/L | 150-400 |
| Neutrophils | 58 | 62 | % | 40-70 |
| Lymphocytes | 5 | 15 | % | 20-40 |
| Myelocytes | 12 | 5 | % | 0 |
| Metamyelocytes | 8 | 3 | % | 0 |
| Blasts | 1 | 0 | % | 0 |
| Basophils | 7 | 5 | % | 0-2 |
| Eosinophils | 5 | 3 | % | 0-6 |
| LDH | 780 | 520 | U/L | 135-225 |
| Uric Acid | 8.2 | 5.6 | mg/dL | 3.5-7.2 |
| Creatinine | 1.1 | 1.0 | mg/dL | 0.7-1.3 |
| Potassium | 4.2 | 4.0 | mmol/L | 3.5-5.0 |
| ALT | 45 | 48 | U/L | 7-56 |
| AST | 38 | 42 | U/L | 8-48 |

**Electronically Signed By:**  
Dr. M. Jacobs (Hematology/Oncology)  
Date/Time: 2025-03-24 15:45

Dr. J. Rodriguez (Cardiology)  
Date/Time: 2025-03-23 10:30