PATIENT: Miller, Robert James **MRN:** SYN001

DATE OF BIRTH: 1958-03-15
ATTENDING PHYSICIAN: Dr. Evelyn Reed, MD (Medical Oncology)
CONSULTING PHYSICIANS: Dr. Alistair Finch, MD (Orthopedic Surgery); Dr. Sarah Chen, MD (Radiation Oncology); Dr. Marcus Jones, MD (Palliative Care)

DATE OF ADMISSION: 2023-03-05
DATE OF DISCHARGE: 2023-03-10

ADMISSION DIAGNOSES:

1. Acute-on-Chronic Right Hip and Femur Pain, Severe.
2. Pathologic Fracture, Right Proximal Femur.
3. Metastatic Non-Small Cell Lung Cancer (NSCLC), Adenocarcinoma, EGFR Exon 19 deletion positive.
4. Disease Progression on Osimertinib.
5. Mild Hypoxemia.

DISCHARGE DIAGNOSES:

1. **Primary:** Stage IV Adenocarcinoma of the Lung, EGFR Exon 19 deletion positive, with confirmed disease progression after ~19 months on first-line Osimertinib therapy. Sites of progression include primary lung lesion, liver, and bone.
2. **Secondary:**
    - Non-displaced Pathologic Fracture, Right Proximal Femur, secondary to metastatic disease (managed non-operatively).
    - Severe Malignant Bone Pain (significantly improved with medication titration).
    - Resolved Mild Hypoxemia.
    - Hypertension (chronic, controlled).
    - Hyperlipidemia (chronic, controlled).
    - Benign Prostatic Hyperplasia (BPH) (chronic, stable).
    - History of Tobacco Use (30 pack-years, quit 2011).

REASON FOR HOSPITALIZATION:
Mr. Miller presented to the Emergency Department via private vehicle on 03/05/2023 with a several-week history of escalating right hip pain, becoming acutely severe over the prior 48 hours, rendering him nearly unable to ambulate. He also reported mild shortness of breath on exertion, new over the past few days. Pain had been previously managed with occasional oxycodone 5mg alongside his daily Osimertinib but became refractory.

PERTINENT ONCOLOGIC HISTORY:
Mr. Miller was diagnosed with Stage IV Lung Adenocarcinoma on July 22, 2021.

- **Diagnosis:** Presented with persistent cough, fatigue, and unintentional weight loss (~15 lbs over 3 months).
- **Initial Staging (July 2021):** CT Chest/Abdomen/Pelvis revealed a 4.5 cm mass in the left upper lobe (LUL), extensive mediastinal lymphadenopathy (stations 4R, 4L, 7), multiple bilobar hepatic metastases (largest 2.8 cm in segment VI), and numerous

osseous metastases (mixed lytic/sclerotic) involving T-spine, L-spine, ribs, pelvis, and proximal femora. Brain MRI negative at diagnosis.

- **Pathology:** Bronchoscopy with biopsy of LUL mass (07/25/2021): Adenocarcinoma, moderately differentiated, TTF-1 positive, Napsin-A positive.
- **Molecular Testing (Tissue NGS Panel, report date 08/02/2021):** EGFR Exon 19 deletion (p.E746_A750del) detected. KRAS, ALK, ROS1, BRAF, MET exon 14 skipping, RET fusion all negative. Tumor Mutation Burden (TMB) 4 mut/Mb.
- **PD-L1 Immunohistochemistry (IHC):** Dako 22C3 pharmDx assay: Tumor Proportion Score (TPS) = 60%; Combined Positive Score (CPS) = 65; Immune Cell (IC) Score = 2/+ (Approx. 10% of tumor area occupied by PD-L1 staining ICs). *Note: Performed prior to EGFR result per institutional protocol.*
- **First-Line Therapy:** Commenced Osimertinib 80 mg PO daily on August 10, 2021. Patient experienced excellent clinical benefit and radiographic partial response (RECIST 1.1), with near resolution of the primary lung lesion, significant decrease in hepatic metastases, and stabilization/sclerosis of bone lesions. Tolerated well initially, main side effects Grade 1 rash (managed with topical steroids) and Grade 1 diarrhea (managed with loperamide PRN). Maintained ECOG performance status 0-1. Last restaging scans prior to admission (October 2022) showed stable disease.

HOSPITAL COURSE NARRATIVE:
Upon presentation, Mr. Miller was in moderate distress due to pain. Vital signs on arrival: T 37.1C, BP 145/88 mmHg, HR 95 bpm, RR 20, SpO2 94% on room air. Exam significant for exquisite tenderness to palpation and minimal ROM of the right hip/proximal femur. Lungs had faint bibasilar crackles. Remainder of exam unremarkable.

- **Laboratory Findings:**
  - *Admission:* CBC: WBC 8.9k/µL, Hgb 10.8 g/dL (baseline ~11.5-12.0), Hct 32.4%, Plt 245k/µL. CMP: Na 138, K 4.1, Cl 102 , CO2 25, BUN 18, Cr 1.1 mg/dL (baseline ~1.0), Glucose 105, Calcium 9.8 mg/dL, Total Protein 6.5, Albumin 3.4, AST 55 U/L (baseline ~30), ALT 62 U/L (baseline ~35), Alk Phos 450 U/L (baseline ~180, trending up from 320 U/L in Oct 2022), Total Bili 0.8 mg/dL.
  - *Hospital Day 3 (03/08):* Hgb 10.5, Cr 1.0, Alk Phos 475, Calcium 9.5. LFTs slightly improved (AST 48, ALT 55).
- **Imaging Findings:**
  - *X-Ray Right Hip/Femur (03/05):* Diffuse metastatic disease. Large lytic lesion in the proximal right femoral diaphysis with cortical thinning and suspected non-displaced fracture line.
  - *CT Chest (with contrast, 03/05):* Comparison to 10/15/2022. Increase in size of the residual primary LUL lesion, now measuring 2.1 x 1.8 cm (previously 0.8 x 0.6 cm). Several new small pulmonary nodules bilaterally (<5mm). Stable mediastinal lymphadenopathy. Small bilateral pleural effusions, slight increase from prior.
  - *CT Abdomen/Pelvis (with contrast, 03/05):* Comparison to 10/15/2022. Significant interval increase in size and number of hepatic metastases; largest lesion in segment VI now measures 4.2 x 3.8 cm (previously 1.5 x 1.2 cm). Multiple new smaller hepatic lesions. Worsening appearance of diffuse osseous metastatic disease throughout the visualized skeleton.
  - *Dedicated CT Right Femur (without contrast, 03/06):* Confirmed non-displaced transverse pathologic fracture through a large (approx. 5 cm craniocaudal) lytic lesion centered in the proximal diaphysis, approximately 8

cm distal to the lesser trochanter. Extensive surrounding marrow replacement by metastatic disease.
    - *Brain MRI (with/without contrast, 03/07):* No evidence of acute intracranial process or metastatic disease. Mild chronic microvascular ischemic changes.
- **Consultations & Management:**
    - **Pain Management:** Initial pain score 9/10. Placed on supplemental O2 (2L NC, improved SpO2 to 97%, weaned off by Day 2). Received IV morphine pushes in ED with partial relief. Palliative Care consulted. Pain regimen transitioned from ineffective PRN short-acting opioids to scheduled long-acting morphine sulfate ER (MS Contin) initiated at 15 mg PO q12h, titrated to 30 mg PO q12h by discharge. Breakthrough pain managed with oxycodone 5-10 mg PO q4h PRN. Achieved good pain control (resting pain 2-3/10, movement pain 4-5/10) by discharge. Bowel regimen (Senna-S, Miralax) initiated.
    - **Orthopedic Surgery (Dr. Finch):** Consulted 03/06. Reviewed imaging and examined patient. Recommended non-operative management due to non-displaced nature, extensive diffuse disease burden making stable fixation difficult, and patient's overall prognosis/need for systemic therapy. Plan: Strict protected weight-bearing (toe-touch weight bearing - TTWB) right lower extremity, close clinical follow-up, and coordination with Radiation Oncology for palliative RT. Discussed risks/benefits of prophylactic fixation vs. non-operative approach extensively with patient and team.
    - **Radiation Oncology (Dr. Chen):** Consulted 03/07. Agreed with non-operative approach. Recommended palliative external beam radiation therapy (EBRT) to the right proximal femur for pain control and fracture stabilization. Discussed options (8 Gy x 1 fraction vs. 20 Gy in 5 fractions vs. 30 Gy in 10 fractions). Plan is for outpatient treatment, likely 8 Gy x 1 or 20 Gy x 5, decision pending simulation and further discussion with patient. Appointment scheduled.
    - **Oncology (Dr. Reed / Inpatient Team):** Osimertinib was discontinued upon confirmation of systemic progression. Plans for second-line therapy were initiated. Given EGFR+ status post-Osimertinib without known resistance mutation (plasma ctDNA sent, pending), standard of care is platinum-doublet chemotherapy. Plan for Carboplatin + Pemetrexed upon discharge clearance and stabilization. Pre-medication plan reviewed. Need for Pemetrexed pre-meds (Folic Acid, B12) discussed.
    - **Physical Therapy:** Evaluated 03/07. Instructed on safe TTWB ambulation with rolling walker, transfers, and precautions. Patient demonstrated good technique but endurance limited by pain and deconditioning. Outpatient PT recommended.
    - **DVT Prophylaxis:** Initiated Enoxaparin 40 mg SC daily due to malignancy, fracture, and reduced mobility. Transition to outpatient prescription planned.
    - **Chronic Medications:** Continued Lisinopril 10 mg daily, Atorvastatin 40 mg daily, Tamsulosin 0.4 mg daily. Blood pressure and lipids adequately controlled.

DISCHARGE CONDITION:
Vital signs stable. Afebrile. Pain controlled on scheduled MS Contin 30mg BID and PRN oxycodone. Ambulating safely with walker, TTWB right lower extremity. Tolerating oral diet. Bowel regimen effective. Understanding of discharge plan confirmed with patient.

DISCHARGE MEDICATIONS:

1. MS Contin (Morphine Sulfate ER) 30 mg tablet, Take 1 tablet by mouth two times daily (q12h).
2. Oxycodone 5 mg tablet, Take 1-2 tablets by mouth every 4 hours as needed for breakthrough pain (Dispense #80, Eighty).
3. Senna-S (Docusate Sodium/Sennosides) 8.6/50 mg tablet, Take 1 tablet by mouth two times daily.
4. Polyethylene Glycol 3350 (Miralax) 17 grams powder, Mix 1 capful in 8 oz liquid and drink once daily as needed for constipation.
5. Lisinopril 10 mg tablet, Take 1 tablet by mouth once daily.
6. Atorvastatin 40 mg tablet, Take 1 tablet by mouth once daily at bedtime.
7. Tamsulosin 0.4 mg capsule, Take 1 capsule by mouth once daily.
8. Enoxaparin (Lovenox) 40 mg/0.4mL prefilled syringe, Inject 40 mg subcutaneously once daily for 28 days (Dispense #28 syringes).
9. **DISCONTINUED:** Osimertinib 80 mg daily.

DISCHARGE INSTRUCTIONS:

1. **Activity:** Strict Toe-Touch Weight Bearing (TTWB) on the right leg AT ALL TIMES using a rolling walker. Do NOT place full weight on the right leg. Arrange for walker/assistive devices at home. Avoid stairs if possible initially.
2. **Pain Management:** Take MS Contin regularly as scheduled. Use oxycodone only for pain not covered by MS Contin. Call clinic if pain worsens significantly or if you experience excessive drowsiness, confusion, or severe constipation. Maintain regular use of bowel regimen (Senna-S, Miralax) while taking opioids.
3. **DVT Prophylaxis:** Continue Enoxaparin injections daily for 4 weeks. Instructions on self-injection reviewed (or arrange VNA if needed). Report immediately any signs of bleeding (nosebleeds, blood in urine/stool, easy bruising) or signs of new clot (calf swelling, pain, redness, warmth, shortness of breath, chest pain).
4. **Diet:** Regular diet as tolerated. Ensure adequate fluid intake to prevent constipation.
5. **Follow-up Appointments:**
    - **Medical Oncology:** Dr. Reed's clinic in 5 days (Scheduled: 2023-03-15 @ 10:00 AM). Need CBC, CMP drawn 1-2 days prior. Discuss initiation of Carboplatin/Pemetrexed chemotherapy. Start Folic Acid 1mg daily now. B12 injection to be given at clinic visit.
    - **Radiation Oncology:** Dr. Chen's clinic for consultation/simulation (Scheduled: 2023-03-14 @ 1:00 PM).
    - **Orthopedic Surgery:** Dr. Finch's clinic in 4 weeks (Scheduled: 2023-04-07 @ 9:00 AM). May require repeat x-rays. Call sooner for increased pain, inability to bear weight, deformity, or mechanical symptoms.
    - **Physical Therapy (Outpatient):** Referral placed. Patient to schedule evaluation ASAP.
6. **Urgent Concerns:** Return to the Emergency Department or call 911 for sudden severe pain, fall, inability to move the right leg, sudden shortness of breath, chest pain, fever > 100.4°F (38°C), neurological changes (weakness, numbness, confusion), or signs of DVT.

PROGNOSIS: Guarded, given disease progression requiring second-line systemic therapy and complication of pathologic fracture. Discussed prognosis with patient and family.

_____ M.D./D.O.
Evelyn Reed, MD (Electronically Signed)
Attending Oncologist, Internal Medicine