DISCHARGE SUMMARY

DATE: April 15, 2025

PATIENT IDENTIFIERS:

- **NAME:** Richard Martinez
- **MEDICAL RECORD #:** SYN087
- **DATE OF BIRTH:** December 23, 1958 (male)

DIAGNOSES

PRIMARY DIAGNOSIS: Stage IV non-small cell lung adenocarcinoma (EGFR L858R mutation positive) with pleural metastasis

SECONDARY DIAGNOSES:

1. Osimertinib-associated pneumonitis (Grade 2)
2. Coronary artery disease with previous stent placement (2018)
3. Essential hypertension
4. Hyperlipidemia
5. Type 2 diabetes mellitus
6. Gout
7. Benign prostatic hyperplasia

HISTORY OF PRESENT ILLNESS

Mr. Martinez is a 66-year-old male with EGFR L858R-positive metastatic NSCLC diagnosed in August 2021, who has been on osimertinib since September 2, 2021 (approximately 43 months) with excellent and sustained response. He presented to the oncology clinic with a 2-week history of progressive dry cough, low-grade fever, and exertional dyspnea. He denied hemoptysis, chest pain, or recent illness exposures.

Due to concern for possible drug-induced pneumonitis versus infectious process, he was admitted for further evaluation and management. The patient was afebrile at admission but demonstrated an oxygen saturation of 91% on room air, decreased from his baseline of 96-98%. Chest CT revealed bilateral ground-glass opacities and interstitial infiltrates suggestive of pneumonitis.

ONCOLOGY HISTORY

Date of Diagnosis: August 11, 2021

Initial Presentation: Persistent cough, dyspnea on exertion, and right-sided pleuritic chest pain

Diagnostic Studies at Diagnosis:

- Chest CT (08/05/2021): 3.4 cm right upper lobe mass with right pleural effusion and pleural thickening
- PET/CT (08/08/2021): Hypermetabolic right upper lobe mass (SUVmax 12.4) with pleural involvement (SUVmax 8.2)
- Pleural fluid cytology (08/10/2021): Positive for malignant cells consistent with adenocarcinoma
- Brain MRI (08/10/2021): Negative for intracranial metastases

Molecular Testing:

- EGFR: L858R mutation positive (exon 21)
- ALK, ROS1, BRAF, RET, MET, NTRK, KRAS: All negative
- PD-L1 Expression: TPS <1% (0%), CPS <1% (0%), IC <1% (0%)
- Next-Generation Sequencing: EGFR L858R, TP53 R273H, CDKN2A loss

Initial Staging: cT3N0M1a - Stage IVA with malignant pleural effusion

Treatment History:

- First and only line of therapy: Osimertinib 80mg daily
- Start date: September 2, 2021
- Current status: Ongoing treatment with excellent response
- Best response: Near complete response with >90% reduction in primary tumor and resolution of pleural effusion
- Previous adverse events:
    - Grade 1 paronychia (ongoing, managed with local care)
    - Grade 1 diarrhea (resolved)
    - Grade 1 rash (resolved)

Previous Imaging:

- Most recent CT Chest (01/15/2025): Stable 0.3 cm right upper lobe nodule (residual disease, decreased from 3.4 cm at diagnosis). No evidence of pleural effusion. No adenopathy.
- Most recent Brain MRI (01/15/2025): No evidence of intracranial metastases.

Prior Procedures:

- Therapeutic thoracentesis (08/10/2021): 1.2 L of pleural fluid removed
- No prior thoracic surgeries or radiation therapy

PHYSICAL EXAMINATION AT ADMISSION

Vital Signs:

- Temperature: 37.2°C
- Blood Pressure: 138/84 mmHg
- Heart Rate: 92 bpm
- Respiratory Rate: 22/min
- Oxygen Saturation: 91% on room air, 96% on 2L nasal cannula

General: Alert, oriented, in mild respiratory distress

HEENT: Normocephalic, atraumatic. Moist mucous membranes.

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

Respiratory: Bilateral fine crackles at bases. No wheezes or rhonchi.

Abdominal: Soft, non-tender, non-distended. Normal bowel sounds.

Extremities: No edema, cyanosis, or clubbing.

Skin: Mild paronychia affecting several fingernails. No rash.

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

DIAGNOSTIC STUDIES

Laboratory Data:

Complete Blood Count (04/10/2025):

- WBC: 8.6 × 10^9/L (normal)
- Hemoglobin: 13.2 g/dL (normal)
- Platelets: 254 × 10^9/L (normal)
- Differential: 72% neutrophils, 18% lymphocytes, 8% monocytes, 2% eosinophils

Comprehensive Metabolic Panel (04/10/2025):

- Sodium: 139 mmol/L
- Potassium: 4.3 mmol/L
- Chloride: 104 mmol/L
- CO_2: 24 mmol/L
- BUN: 18 mg/dL
- Creatinine: 1.1 mg/dL
- Glucose: 138 mg/dL
- Calcium: 9.2 mg/dL

- Total protein: 6.8 g/dL
- Albumin: 3.9 g/dL
- Total bilirubin: 0.6 mg/dL
- AST: 32 U/L
- ALT: 28 U/L
- Alkaline phosphatase: 86 U/L

Inflammatory Markers:

- C-reactive protein: 3.8 mg/dL (elevated)
- Procalcitonin: 0.14 ng/mL (normal)

Arterial Blood Gas (04/10/2025):

- pH: 7.44
- pCO_2: 37 mmHg
- pO_2: 68 mmHg on room air
- HCO_3: 24 mEq/L
- SaO_2: 91%

Infectious Disease Workup:

- Blood cultures (x2): No growth after 5 days
- Sputum culture: Normal respiratory flora
- Respiratory viral panel (including SARS-CoV-2): Negative
- Legionella urinary antigen: Negative
- Pneumococcal urinary antigen: Negative
- Mycoplasma pneumoniae PCR: Negative
- Chlamydia pneumoniae PCR: Negative

Imaging Studies:

Chest X-ray (04/10/2025): Bilateral interstitial and reticular opacities predominantly in the lower lung fields. No consolidation or pleural effusion.

High-resolution CT Chest (04/11/2025): Bilateral ground-glass opacities with interlobular septal thickening and subpleural reticulation predominantly in the lower lobes. No pleural effusion. Stable 0.3 cm right upper lobe nodule (known residual disease). Findings most consistent with drug-induced pneumonitis.

Echocardiogram (04/12/2025): Normal left ventricular ejection fraction (60%). No wall motion abnormalities. Normal valvular function. No pericardial effusion.

Pulmonary Function Tests (04/12/2025):

- FVC: 70% of predicted (decreased from 85% in January 2025)
- FEV_1: 72% of predicted (decreased from 87% in January 2025)
- FEV_1/FVC ratio: 0.82
- DLCO: 60% of predicted (decreased from 80% in January 2025)
- Interpretation: Restrictive pattern with reduced diffusion capacity

Bronchoscopy with Bronchoalveolar Lavage (04/13/2025):

- Visual inspection: No endobronchial lesions
- Cell count: 420 cells/μL with lymphocytic predominance (65%)
- CD4/CD8 ratio: 0.4 (decreased, consistent with drug-induced pneumonitis)
- Cultures: Negative for bacteria, fungi, and mycobacteria
- Cytology: No malignant cells identified
- PCR testing for Pneumocystis jirovecii: Negative

HOSPITAL COURSE

Mr. Martinez was admitted with clinical and radiographic findings consistent with drug-induced pneumonitis related to osimertinib therapy. Infectious etiologies were ruled out through extensive testing. Bronchoscopy with bronchoalveolar lavage demonstrated lymphocytic predominance with decreased CD4/CD8 ratio, supporting the diagnosis of drug-induced pneumonitis.

Osimertinib was temporarily discontinued on admission. The patient was started on prednisone 1 mg/kg/day (60 mg daily) with significant improvement in symptoms within 48 hours. Supplemental oxygen requirements decreased from 2L to room air by hospital day 3. Repeat chest x-ray on day 4 showed improvement in bilateral infiltrates.

Pulmonology was consulted and classified the pneumonitis as Grade 2 (symptomatic, requiring medical intervention, limiting instrumental ADLs). They recommended continuing corticosteroid therapy with gradual taper over 4-6 weeks with close monitoring.

After multidisciplinary discussion involving medical oncology, pulmonology, and thoracic radiology, the decision was made to resume osimertinib at a reduced dose (40mg daily) upon completion of steroid taper, given the patient's excellent and durable response to therapy (43 months). The risks of recurrent pneumonitis versus the risks of discontinuing effective targeted therapy were discussed extensively with the patient, who expressed a preference to continue osimertinib if possible.

The patient's comorbidities remained stable throughout hospitalization. Blood glucose was temporarily elevated due to steroid therapy, requiring adjustment of his diabetic medications.

PROCEDURES

Bronchoscopy with bronchoalveolar lavage (04/13/2025)

- Performing physician: Dr. Michael Chen, Interventional Pulmonology
- Indication: Evaluation of diffuse lung infiltrates
- Findings: As noted in diagnostic studies
- Complications: None

CONSULTATIONS

1. Pulmonology (Dr. Michael Chen): Assessment: Grade 2 osimertinib-induced pneumonitis Recommendations: Corticosteroid therapy with slow taper, pulmonary rehabilitation, consideration of osimertinib dose reduction rather than discontinuation given excellent oncologic response
2. Cardiology (Dr. Emily Roberts): Assessment: Stable coronary artery disease, no acute cardiac issues Recommendations: Continue current cardiac medications, routine follow-up
3. Endocrinology (Dr. David Wong): Assessment: Steroid-induced hyperglycemia Recommendations: Temporary adjustment of diabetes medications during steroid therapy

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DISCHARGE MEDICATIONS

1. Prednisone 60mg PO daily for 7 days, then:
    - 50mg daily for 7 days
    - 40mg daily for 7 days
    - 30mg daily for 7 days
    - 20mg daily for 7 days
    - 10mg daily for 7 days
    - 5mg daily for 7 days, then discontinue
2. Pantoprazole 40mg PO daily (while on corticosteroids)
3. Osimertinib HOLD until completion of steroid taper, then resume at 40mg PO daily
4. Metformin 1000mg PO BID (increased from 500mg BID)
5. Glipizide 10mg PO daily (added during hospitalization)
6. Aspirin 81mg PO daily
7. Atorvastatin 40mg PO daily
8. Lisinopril 20mg PO daily
9. Allopurinol 300mg PO daily
10. Tamsulosin 0.4mg PO daily
11. Calcium carbonate 600mg + Vitamin D 400 IU PO daily
12. Fluticasone/vilanterol 100/25mcg inhaled daily (added during hospitalization)
13. Albuterol inhaler 2 puffs q4-6h PRN shortness of breath

DISCHARGE INSTRUCTIONS

1. Take all medications as prescribed, particularly following the prednisone taper schedule exactly
2. Monitor blood glucose 2-3 times daily while on prednisone
3. Continue to hold osimertinib until completion of steroid taper and follow-up with oncology
4. Follow up with appointments as listed below
5. Report any worsening shortness of breath, chest pain, fever, or other concerning symptoms immediately

6. Avoid exposure to respiratory irritants and illnesses
7. Gradually increase physical activity as tolerated
8. No driving while on high-dose prednisone (>20mg daily)

FOLLOW-UP PLAN

1. Medical Oncology: Dr. Jonathan Phillips - May 1, 2025 (completion of steroid taper)
2. Pulmonology: Dr. Michael Chen - April 29, 2025 (2 weeks)
3. Chest X-ray - April 29, 2025 (with pulmonology appointment)
4. Primary Care: Dr. Robert Taylor - May 15, 2025 (previously scheduled)
5. Pulmonary Function Tests - May 15, 2025
6. Pulmonary Rehabilitation - Initial evaluation scheduled for April 22, 2025

ONCOLOGIC ASSESSMENT

Mr. Martinez has EGFR L858R-positive metastatic NSCLC diagnosed in August 2021. He has been treated with first-line osimertinib with exceptional response for approximately 43 months. His PD-L1 expression is negative (TPS <1%).

The patient has demonstrated a significant and durable response to osimertinib therapy, with near-complete resolution of his primary tumor (>90% reduction) and resolution of pleural effusion. This response duration substantially exceeds the median progression-free survival reported in clinical trials for EGFR-mutated NSCLC treated with osimertinib (18-19 months).

Current hospitalization was for management of Grade 2 osimertinib-induced pneumonitis, which has improved with temporary drug discontinuation and corticosteroid therapy. Given the patient's exceptional and ongoing response to targeted therapy, the plan is to resume osimertinib at a reduced dose (40mg daily) after completion of the steroid taper.

Literature suggests that approximately 50-60% of patients who develop drug-induced pneumonitis can successfully resume the drug at a reduced dose without recurrence of pneumonitis. If pneumonitis recurs with the reduced dose, alternative EGFR-targeted therapy (afatinib, gefitinib, or erlotinib) could be considered, although these are generally less effective against EGFR L858R than osimertinib and do not penetrate the CNS as effectively.

The patient's excellent and prolonged response to therapy suggests a favorable tumor biology. In the event that osimertinib cannot be resumed or loses efficacy, molecular testing for resistance mechanisms (particularly EGFR C797S, MET amplification, or small cell transformation) would guide subsequent therapy.

Overall prognosis remains favorable given the patient's extended response to targeted therapy, absence of central nervous system involvement, and good performance status (ECOG 1 prior to current illness).

Electronically signed by:

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April 15, 2025 16:45