Discharge Diagnosis: Symptomatic Spinal Cord Compression (T7-T8) Due to Metastatic NSCLC, Successfully Treated With Radiation Therapy

Patient: Jennifer Lawson (DOB 1969-07-21)
Medical Record Number: SYN116
Date of Admission: 2025-04-01
Date of Discharge: 2025-04-14
Admitting Physician: Dr. C. Thompson (Medical Oncology)
Consulting Physicians: Dr. N. Patel (Radiation Oncology), Dr. E. Wilson (Neurology)

1. Detailed Oncological Diagnosis:

Primary Diagnosis: Non-Small Cell Lung Cancer (NSCLC), Adenocarcinoma, Stage IVB
Date of Initial Diagnosis: October 25, 2023

Histology:

- CT-guided biopsy of right lower lobe lung mass (October 2023) revealed moderately differentiated adenocarcinoma.
- Immunohistochemistry: Positive for TTF-1, CK7, Napsin A. Negative for p40, CK20, and CDX2.
- Molecular testing: EGFR: L858R mutation positive, ALK: No rearrangement, ROS1: No rearrangement, BRAF: Wild-type, KRAS: Wild-type, MET: No exon 14 skipping mutation, NTRK: No fusion detected
- PD-L1 expression: 65% Tumor Proportion Score (TPS), CPS 70, IC 15%

Staging:

- TNM (8th edition): cT2bN2M1c (Stage IVB)
- Imaging Studies:
    - Chest CT (October 2023): 3.8 cm solid mass in right lower lobe with ipsilateral hilar and mediastinal lymphadenopathy.
    - PET/CT (October 2023): FDG-avid primary mass (SUVmax 12.3), mediastinal lymphadenopathy (stations 4R, 7), multiple bone metastases involving thoracic spine (T7, T8, T10), lumbar spine (L3), left iliac bone, and right bilateral adrenal metastases.
    - Brain MRI (October 2023): No evidence of brain metastases.
    - Whole body bone scan (October 2023): Confirmed metastatic involvement of T7, T8, T10, L3 vertebrae and left iliac crest.

2. History of Oncological Treatment:

Targeted Therapy:

- Osimertinib 80 mg PO daily initiated November 16, 2023
- Ongoing with excellent radiographic response and clinical benefit

Palliative Radiotherapy:

- External beam radiation therapy to T6-T9 vertebral metastases (Current admission, April 2025)
- Total dose: 30 Gy in 10 fractions
- Initiated due to progressive pain and early signs of cord compression despite disease response elsewhere

Supportive Therapy:

- Denosumab 120 mg SC every 4 weeks (initiated December 2023 for bone metastases)
    - Most recent administration on March 18, 2025
    - Next administration scheduled for April 15, 2025

3. Imaging

- CT Chest/Abdomen/Pelvis (March 2025, after 4 months of osimertinib): Significant response with 70% reduction in size of primary lesion and lymphadenopathy; stable bone metastases; reduced size of bilateral adrenal metastases.
- MRI Thoracic Spine (April 1, 2025 on admission): Progression of T7-T8 vertebral metastases with pathologic compression fracture, epidural extension, and moderate spinal cord compression causing mild cord edema.

4. Comorbidities:

- Hypertension (diagnosed 2015, well-controlled)
- Hypercholesterolemia (diagnosed 2017)
- Migraine with aura (diagnosed 2010)
- Gastroesophageal reflux disease (GERD)
- Non-insulin dependent diabetes mellitus (diagnosed 2020)
- Anxiety disorder
- Former smoker (15 pack-year history, quit 2010)

5. Physical Exam at Admission:

General: 55-year-old female in moderate distress due to back pain.

Vitals: BP 145/85 mmHg, HR 88 bpm, RR 18/min, Temp 36.8°C, SpO2 96% on room air.

HEENT: Normocephalic, atraumatic. No scleral icterus. No oral lesions.

Neck: Supple. No cervical or supraclavicular lymphadenopathy.

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

Respiratory: Clear breath sounds bilaterally. No wheezes or crackles.

Abdomen: Soft, non-tender, non-distended. No hepatosplenomegaly. Normal bowel sounds.

Extremities: No edema, clubbing, or cyanosis.

Skin: No rashes or lesions.

Neurological: Alert and oriented x3. Cranial nerves II-XII intact. Motor strength 5/5 in upper extremities, 4/5 in bilateral lower extremities with mild hyperreflexia below T8 level. Decreased sensation to light touch and temperature in bilateral lower extremities. Positive Babinski sign bilaterally.

ECOG Performance Status: 2 (increased from baseline 1 due to neurological symptoms)

6. Hospital Course Summary:

Ms. Lawson was admitted for evaluation and management of progressive thoracic back pain and new onset bilateral lower extremity weakness. MRI of the thoracic spine revealed pathologic compression fracture of T7-T8 with epidural extension causing moderate spinal cord compression, despite good systemic response to osimertinib therapy elsewhere.

Dexamethasone 10 mg IV was administered immediately, followed by 4 mg IV every 6 hours to reduce spinal cord edema. Neurosurgical evaluation determined that the patient was not an optimal surgical candidate given the extent of metastatic disease, radiographic evidence of response to osimertinib in other disease sites, and absence of spinal instability.

Radiation oncology was consulted, and the patient underwent emergency palliative radiation therapy to T6-T9, receiving 30 Gy in 10 fractions. Pain management was optimized with around-the-clock long-acting opioids and breakthrough medication. Physical therapy and occupational therapy were consulted for mobility assessment and rehabilitation.

Throughout hospitalization, the patient continued osimertinib 80 mg daily without interruption. By day 8 of admission, significant improvement in neurological symptoms was noted, with improved strength (4+/5) in lower extremities and decreased pain (2/10 from initial 8/10). Dexamethasone was tapered to 4 mg BID with plan for further outpatient taper.

A multidisciplinary tumor board discussion concluded that the isolated progression at T7-T8 vertebrae despite excellent systemic response represented progressive disease with localized breakthrough disease. Yet, no global resistance to osimertinib. The recommendation was to continue osimertinib as the primary systemic therapy, with consideration for biopsy of progressive sites if additional areas of progression develop in the future.

By discharge, the patient demonstrated further neurological improvement with 4+/5 strength in bilateral lower extremities, normalized reflexes, and significantly reduced pain (1-2/10 with oral analgesics). She was able to ambulate with minimal assistance.

7. Medication at Discharge:

Continued/Current Cancer Therapy:

- Osimertinib 80 mg PO daily (continue without interruption)
- Denosumab 120 mg SC every 4 weeks (next dose scheduled April 15, 2025)

Pain Management:

- Oxycodone ER 10 mg PO q12h (28-day supply)
- Oxycodone IR 5 mg PO q4h PRN breakthrough pain (60-day supply)
- Acetaminophen 650 mg PO q6h PRN mild pain (30-day supply)

Steroid Taper:

- Dexamethasone 4 mg PO BID for 5 days
- Then 4 mg PO daily for 5 days
- Then 2 mg PO daily for 5 days
- Then discontinue

GI Prophylaxis:

- Pantoprazole 40 mg PO daily (while on dexamethasone)

Pre-existing Chronic Medications:

- Amlodipine 5 mg PO daily (hypertension)
- Metformin 500 mg PO BID (diabetes)
- Atorvastatin 20 mg PO at bedtime (hypercholesterolemia)
- Sumatriptan 50 mg PO PRN migraine (9 tablets, 2 refills)
- Escitalopram 10 mg PO daily (anxiety)

8. Further Procedure / Follow-up:

Oncology Follow-up:

- Follow up with Dr. C. Thompson in 2 weeks (April 28, 2025)
- Continue osimertinib without interruption
- Monitor for signs of systemic disease progression or additional sites of breakthrough disease

Radiation Oncology Follow-up:

- Follow up with Dr. N. Patel in 3 weeks (May 5, 2025) for assessment of radiation response

Neurology Follow-up:

- Follow up with Dr. E. Wilson in 4 weeks (May 12, 2025) for neurological assessment

Physical/Occupational Therapy:

- Outpatient physical therapy 2-3 times weekly for 4 weeks
- Home exercise program detailed in discharge paperwork

Laboratory Monitoring:

- CBC, CMP including LFTs, and Mg/Ca/Phos prior to next oncology visit
- HbA1c in 3 months given steroid use with pre-existing diabetes
- Lipid panel in 3 months

Imaging:

- MRI Thoracic Spine in 6 weeks (May 26, 2025) to assess radiation response

- CT Chest/Abdomen/Pelvis scheduled for May 15, 2025 for routine monitoring

Patient Education Provided:

- Detailed explanation of isolated progression at thoracic spine despite good systemic response
- Importance of continuing osimertinib without interruption
- Steroid taper schedule and importance of adherence
- Signs and symptoms of neurological deterioration requiring immediate medical attention
- Pain management plan and safe opioid use
- Fall prevention strategies
- Appropriate use of mobility aids (provided walker at discharge)
- Importance of physical therapy compliance and home exercise program
- Contact information for oncology nurse navigator and on-call physician

9. Lab Values (Excerpt):

Parameter	Baseline (11/2023)	Pre-admission (3/2025)	Admission (4/1/2025)	Discharge (4/14/2025)	Units	Reference Range
WBC	7.2	6.8	9.3	8.5	× 10^9/L	4.0-11.0
Hemoglobin	12.8	11.6	11.2	11.4	g/dL	12.0-16.0 (F)
Platelets	245	238	256	242	× 10^9/L	150-400
Creatinine	0.78	0.82	0.85	0.80	mg/dL	0.5-1.1
ALT	28	32	36	30	U/L	7-56
AST	25	28	34	26	U/L	8-48
Alk Phos	86	118	132	124	U/L	45-115
Total Bilirubin	0.6	0.7	0.6	0.5	mg/dL	0.2-1.2
Albumin	4.0	3.8	3.6	3.7	g/dL	3.5-5.0
Calcium	9.2	9.0	8.8	9.1	mg/dL	8.6-10.2
Glucose	136	142	165	152	mg/dL	70-100
HbA1c	6.8	7.1	-	-	%	<5.7

Electronically Signed By:
Dr. C. Thompson (Medical Oncology)
Date/Time: 2025-04-14 14:45

Dr. N. Patel (Radiation Oncology)
Date/Time: 2025-04-14 12:30

Dr. E. Wilson (Neurology)
Date/Time: 2025-04-13 16:20