Discharge Summary

Patient ID: SYN108
Name: Sarah Cheng
DOB: 08/13/1976

Date of Admission: 04/07/2025
Date of Discharge: 04/10/2025
Attending Physician: Dr. Elena Rodriguez, MD
Primary Diagnosis: Stage IV Non-Small Cell Lung Cancer (NSCLC) with brain metastases

Comorbidities

1. Hypertension
2. Hypothyroidism
3. Migraine with aura

HISTORY OF PRESENT ILLNESS:

Ms. Cheng is a 49-year-old female with EGFR Exon 19 deletion-positive metastatic NSCLC, initially diagnosed in September 2023 following presentation with persistent headaches and dizziness. Brain MRI at diagnosis revealed 3 metastatic lesions in the right frontal and left parietal lobes, with the largest measuring 2.3 cm in diameter. Initial chest CT showed a 4.2 cm primary lesion in the right upper lobe with mediastinal lymphadenopathy. Patient has been maintained on first-line Osimertinib 80mg daily since September 27, 2023, with good radiographic response and tolerability. Current admission was precipitated by new-onset seizure activity and worsening headaches.

COMORBIDITIES:

- Essential hypertension (diagnosed 2015)
- Hypothyroidism (diagnosed 2018)
- Migraine with aura (since adolescence)
- History of cesarean section (2005)

MEDICATIONS ON ADMISSION:

1. Osimertinib 80mg oral daily
2. Levetiracetam 500mg oral twice daily (started after first seizure on 04/02/2025)
3. Lisinopril 10mg oral daily
4. Levothyroxine 88mcg oral daily
5. Sumatriptan 50mg oral as needed for migraine
6. Dexamethasone 4mg oral twice daily (recently increased due to cerebral edema)

PHYSICAL EXAMINATION:

Vital Signs: BP 138/82, HR 78, RR 18, Temp 36.7°C, O2 sat 97% on room air
General: Alert female in no acute distress
HEENT: Normocephalic, atraumatic; pupils equal and reactive; no papilledema
Cardiovascular: Regular rate and rhythm, no murmurs
Respiratory: Clear to auscultation bilaterally
Abdomen: Soft, non-tender, non-distended
Extremities: No edema or cyanosis
Neurological: Oriented to person, place, time. No focal deficits. Cranial nerves II-XII intact. Slight weakness (4+/5) in left lower extremity. Reflexes 2+ throughout.

LABORATORY DATA:

CBC (04/07/2025):

- WBC: 5.2 x 10^9/L (4.0-11.0)
- Hgb: 11.8 g/dL (12.0-16.0) - mild anemia
- Hct: 35.4% (37.0-47.0)
- Platelets: 168 x 10^9/L (150-450)

Chemistry (04/07/2025):

- Na: 138 mmol/L (135-145)
- K: 4.1 mmol/L (3.5-5.0)
- Cl: 102 mmol/L (98-107)
- CO2: 24 mmol/L (22-30)
- BUN: 14 mg/dL (7-20)
- Cr: 0.82 mg/dL (0.6-1.2)
- Glucose: 108 mg/dL (70-100)
- AST: 32 U/L (8-48)
- ALT: 36 U/L (7-55)
- Alkaline phosphatase: 118 U/L (45-115) - slightly elevated
- Total bilirubin: 0.6 mg/dL (0.1-1.2)

Thyroid Function (04/08/2025):

- TSH: 2.8 mIU/L (0.4-4.0)
- Free T4: 1.1 ng/dL (0.8-1.8)

Osimertinib Trough Level (04/08/2025):

- 200 ng/mL (therapeutic range 157-321 ng/mL)

IMAGING STUDIES:

Brain MRI with and without contrast (04/08/2025):

- Previously noted right frontal lesion decreased from 2.3 cm to 1.1 cm
- Left parietal lesions decreased from 1.8 cm and 1.2 cm to 0.7 cm and 0.4 cm respectively

- New 0.9 cm enhancing lesion in the right temporal lobe with surrounding edema
- Mild diffuse cerebral edema

Chest/Abdomen/Pelvis CT with contrast (04/09/2025):

- Primary right upper lobe mass decreased from 4.2 cm to 2.1 cm
- Mediastinal lymphadenopathy significantly improved
- No new thoracic, abdominal, or pelvic metastases

PATHOLOGY REVIEW:

Original Diagnosis (09/05/2023):

- Specimen: CT-guided biopsy of right upper lobe mass
- Diagnosis: Non-small cell lung carcinoma, adenocarcinoma subtype
- Immunohistochemistry: TTF-1 positive, p40 negative
- Molecular Testing:
    - EGFR: Exon 19 deletion positive
    - ALK: Negative for rearrangement
    - ROS1: Negative for rearrangement
    - BRAF: Negative for V600E mutation
    - MET: No amplification or exon 14 skipping
    - RET: Negative for rearrangement
    - NTRK: Negative for fusion
    - PD-L1 (22C3): TPS <1%, CPS 2, IC 1%

HOSPITAL COURSE:

Ms. Cheng was admitted following a witnessed tonic-clonic seizure at home. She had been complaining of worsening headaches for the two weeks prior to admission. Levetiracetam was initiated in the ER at 500mg BID. Brain MRI revealed a new right temporal lobe lesion with associated edema, despite good response of previous lesions to Osimertinib. Neurosurgery was consulted and recommended against surgical intervention at this time. Radiation Oncology evaluated the patient and recommended stereotactic radiosurgery (SRS) to the new lesion.

During hospitalization, dexamethasone was increased to 4mg BID with improvement in headache symptoms. No further seizures were observed. Restaging CT scans showed continued good response in the primary tumor and mediastinal lymphadenopathy with no new systemic metastases. Osimertinib was continued at the standard dose of 80mg daily. The patient underwent SRS to the right temporal lesion on 04/09/2025 without complications.

Neurology recommended continuing levetiracetam indefinitely given the presence of brain metastases. The patient was educated on seizure precautions and medication management. A dexamethasone taper was initiated with plans to decrease to 2mg BID after 5 days, then 1mg BID after 5 more days, then discontinue if symptoms allow.

DISCHARGE PLAN:

1. **Medications:**
   - Continue Osimertinib 80mg oral daily
   - Levetiracetam 500mg oral twice daily
   - Dexamethasone per taper schedule (provided to patient)
   - Continue home medications (lisinopril, levothyroxine, sumatriptan PRN)
   - Add ondansetron 4mg oral every 8 hours as needed for nausea
2. **Follow-up Appointments:**
   - Medical Oncology: Dr. Rodriguez in 2 weeks
   - Radiation Oncology: Dr. Williams in 2 weeks
   - Neurology: Dr. Patel in 3 weeks
   - Brain MRI: Scheduled for 05/12/2025
   - Chest/Abdomen/Pelvis CT: Scheduled for 05/12/2025
3. **Plan of Care:**
   - Continue Osimertinib as first-line therapy with close monitoring
   - If evidence of disease progression on follow-up imaging, consider liquid biopsy to assess for EGFR T790M or other resistance mutations
   - Potential second-line options include clinical trial participation, platinum-based chemotherapy, or investigational agents targeting specific resistance mechanisms
   - Continue seizure management and neurological monitoring
   - Gradual tapering of corticosteroids as tolerated
4. **Patient Education:**
   - Seizure precautions and management
   - Medication schedule and potential side effects
   - When to contact healthcare providers
   - Driving restrictions until cleared by neurology

Ms. Cheng demonstrates good understanding of her condition and treatment plan. She will be discharged home with her husband who will assist with care and transportation to appointments.

Discharge Diagnosis: Stage IV EGFR-mutated NSCLC with brain metastases, new seizure disorder

Dr. Elena Rodriguez, MD Medical Oncology