COASTAL MEDICAL CENTER

DEPARTMENT OF THORACIC ONCOLOGY

DISCHARGE SUMMARY

DIAGNOSES

PRIMARY:

1. Stage IV non-small cell lung cancer (adenocarcinoma), with brain and adrenal metastases

SECONDARY:

1. Status post pembrolizumab-induced pneumonitis (improved)
2. Status post whole brain radiation therapy (January 2024)
3. Status post stereotactic radiosurgery to 3 intracranial lesions (February 2021)
4. Recurrent seizures secondary to brain metastases
5. Chronic obstructive pulmonary disease
6. Hypertension
7. Coronary artery disease s/p stent placement (2018)
8. Type 2 diabetes mellitus
9. Peripheral neuropathy (chemotherapy-induced)

PATIENT INFORMATION:

- **NAME:** James Wilson (SYN052)
- **DOB:** March 3, 1953
- **ADMISSION DATE:** March 31, 2025 - April 6, 2025

REASON FOR ADMISSION

Mr. Wilson presented with new-onset mental status changes, increased somnolence, and headache. Imaging revealed progressive brain metastases with increased peritumoral edema.

BRIEF HISTORY

Mr. Wilson is a 72-year-old male with wild-type metastatic NSCLC diagnosed in January 2021 with brain and bilateral adrenal metastases. He was initiated on pembrolizumab monotherapy in February 2021 based on high PD-L1 expression (TPS ≥50%, 90%). He achieved excellent disease control for 20 months until progression was noted in October 2022.

He subsequently received docetaxel monotherapy as second-line treatment (November 2022 - April 2023), followed by gemcitabine/vinorelbine as third-line treatment (May 2023 - December 2023). After progression on third-line therapy, he received whole brain radiation therapy in January 2024 for multiple new brain lesions, followed by initiation of fourth-line etoposide in February 2024.

The patient has experienced multiple complications throughout his disease course, including pembrolizumab-induced pneumonitis (April 2021), seizures related to brain metastases (initially in February 2021, recurrent episodes in January 2024), and chemotherapy-induced peripheral neuropathy.

Current admission was prompted by increased somnolence, confusion, and headache concerning for disease progression in the brain.

COMPREHENSIVE ONCOLOGY HISTORY

Date of Diagnosis: January 14, 2021

Initial Presentation: Patient presented with persistent cough, weight loss, and a single episode of hemoptysis. Imaging revealed a 5.2 cm right upper lobe mass with mediastinal lymphadenopathy, bilateral adrenal masses, and three brain metastases.

Diagnostic Workup:

- **CT-guided biopsy of primary lung lesion (01/18/2021):** Non-small cell lung cancer, adenocarcinoma
- **MRI Brain (01/20/2021):** Three enhancing lesions consistent with metastatic disease
    - Right frontal lobe: 2.2 cm with surrounding edema
    - Left temporal lobe: 1.4 cm
    - Left cerebellar hemisphere: 0.9 cm
- **PET/CT (01/22/2021):** Hypermetabolic right upper lobe mass (SUVmax 17.2), hypermetabolic mediastinal lymphadenopathy, bilateral adrenal metastases, no other sites of distant disease
- **Molecular Testing:**
    - EGFR, ALK, ROS1, BRAF, MET, RET, NTRK, KRAS: All wild-type/negative
    - PD-L1 (22C3 assay): Tumor Proportion Score (TPS) 90%, Combined Positive Score (CPS) 95%, Immune Cell (IC) score 20%
    - Tumor Mutational Burden: 12 mutations/Mb (intermediate)
    - Next-Generation Sequencing: TP53 R273H mutation, NF1 truncating mutation

Disease Stage: cT3N2M1c, Stage IVB (8th edition AJCC)

Treatment History:

1. **First-line therapy:**
    - Pembrolizumab 200mg IV every 3 weeks
    - Start date: February 5, 2021

    - Duration: 20 months (until October 2022)
    - Best response: Partial response
    - PFS: 20 months
    - Reason for discontinuation: Progressive disease in primary tumor and new liver metastases
    - Notable toxicity: Grade 2 pneumonitis (April 2021) requiring temporary interruption and steroid therapy
2. **Second-line therapy:**
    - Docetaxel 75mg/m² IV every 3 weeks
    - Start date: November 15, 2022
    - Duration: 6 months (until April 2023)
    - Best response: Stable disease
    - PFS: 6 months
    - Reason for discontinuation: Progressive disease in liver and adrenal metastases
    - Notable toxicity: Grade 2 peripheral neuropathy, Grade 3 neutropenia requiring dose reduction
3. **Third-line therapy:**
    - Gemcitabine 1000mg/m² + Vinorelbine 25mg/m² on days 1 and 8 every 3 weeks
    - Start date: May 20, 2023
    - Duration: 7 months (until December 2023)
    - Best response: Partial response
    - PFS: 7 months
    - Reason for discontinuation: Progressive disease with multiple new brain metastases
    - Notable toxicity: Grade 2 fatigue, Grade 1 anemia
4. **Fourth-line therapy:**
    - Etoposide 100mg/m² IV days 1-3 every 3 weeks
    - Start date: February 15, 2024
    - Duration: 2 months (ongoing)
    - Best response: Assessment pending
    - Notable toxicity: Grade 2 anemia, Grade 1 thrombocytopenia

Radiation Therapy:

1. Stereotactic radiosurgery to three brain metastases (February 12-14, 2021)
    - Right frontal lesion: 20 Gy in 1 fraction
    - Left temporal lesion: 18 Gy in 1 fraction
    - Left cerebellar lesion: 18 Gy in 1 fraction
2. Whole brain radiation therapy (January 8-19, 2024)
    - 30 Gy in 10 fractions

Surgical Interventions:

- None related to malignancy

PAST MEDICAL HISTORY

1. Chronic obstructive pulmonary disease (diagnosed 2010)
2. Hypertension (diagnosed 2008)
3. Coronary artery disease s/p stent placement to LAD (2018)
4. Type 2 diabetes mellitus (diagnosed 2012)
5. Hyperlipidemia
6. Benign prostatic hyperplasia
7. Osteoarthritis (bilateral knees)
8. History of heavy smoking (60 pack-years, quit 2015)

PAST SURGICAL HISTORY

1. Coronary stent placement (2018)
2. Appendectomy (1970)
3. Left knee arthroscopy (2016)

SOCIAL HISTORY

Retired construction worker. Widowed (wife deceased 2019). Lives with adult daughter. Former heavy smoker (60 pack-years, quit 2015). Occasional alcohol use (1-2 beers weekly). No recreational drug use.

FAMILY HISTORY

Father: Lung cancer at age 67 Mother: Breast cancer at age 72 Brother: Hypertension, Type 2 diabetes Sister: No significant medical issues

HOME MEDICATIONS

1. Levetiracetam 750mg PO BID (increased to 1000mg BID during admission)
2. Dexamethasone 4mg PO BID
3. Pantoprazole 40mg PO daily
4. Lisinopril 20mg PO daily
5. Metoprolol succinate 50mg PO daily
6. Atorvastatin 40mg PO daily
7. Metformin 1000mg PO BID
8. Glipizide 5mg PO daily
9. Tamsulosin 0.4mg PO daily
10. Albuterol inhaler 2 puffs q6h PRN shortness of breath
11. Tiotropium 18mcg inhaled daily
12. Fluticasone/salmeterol 250/50mcg inhaled BID
13. Gabapentin 300mg PO TID for peripheral neuropathy
14. Acetaminophen 650mg PO q6h PRN pain

ALLERGIES

Sulfa drugs (rash) Contrast dye (requires pre-medication)

PHYSICAL EXAMINATION AT ADMISSION

Vital Signs:

- Temperature: 37.1°C
- Blood Pressure: 148/92 mmHg
- Heart Rate: 88 bpm
- Respiratory Rate: 20/min
- SpO_2: 94% on room air

General: Elderly male appearing chronically ill, somnolent but arousable.

HEENT: Normocephalic, atraumatic. Pupils equal and reactive to light. Conjunctivae pale. Mucous membranes moist.

Neck: Supple, no lymphadenopathy or thyromegaly.

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

Respiratory: Decreased breath sounds in right upper lobe. Scattered wheezes bilaterally. No crackles.

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

Extremities: No edema. Decreased sensation to light touch in bilateral feet in stocking distribution.

Neurological: Oriented to person only. Glasgow Coma Scale 14 (E4V4M6). Strength 5/5 in upper extremities, 4/5 in lower extremities. Decreased sensation in distal extremities. DTRs 2+ throughout. No focal neurological deficits.

Skin: No rashes or lesions. Mild pallor.

DIAGNOSTIC STUDIES

Laboratory Studies (03/31/2025):

Complete Blood Count:

- WBC: 8.4 × 10^9/L (normal)
- Hemoglobin: 10.2 g/dL (low)
- Hematocrit: 31.6% (low)
- Platelets: 142 × 10^9/L (low)

Comprehensive Metabolic Panel:

- Sodium: 138 mmol/L
- Potassium: 4.2 mmol/L

- Chloride: 102 mmol/L
- Bicarbonate: 24 mmol/L
- BUN: 24 mg/dL (elevated)
- Creatinine: 1.3 mg/dL (elevated, baseline 1.1-1.2)
- Glucose: 162 mg/dL (elevated)
- Calcium: 9.2 mg/dL
- Total Protein: 6.4 g/dL
- Albumin: 3.6 g/dL
- Total Bilirubin: 0.8 mg/dL
- AST: 38 U/L
- ALT: 34 U/L
- Alkaline Phosphatase: 112 U/L

Additional Studies:

- HbA1c: 7.8%
- Thyroid Function Tests: Within normal limits
- Prothrombin Time: 12.8 seconds
- INR: 1.1
- Partial Thromboplastin Time: 32 seconds

Imaging Studies:

MRI Brain with and without contrast (03/31/2025): Multiple enhancing lesions throughout the cerebral hemispheres and posterior fossa, increased in number (>15) and size compared to previous MRI (12/15/2023). Largest lesion in right parietal lobe measuring 3.1 cm with significant surrounding vasogenic edema causing 5mm midline shift. Previously treated lesions show partial response with areas of necrosis. No hydrocephalus.

CT Chest/Abdomen/Pelvis with IV contrast (04/01/2025): Right upper lobe primary mass measuring 3.2 cm (stable compared to prior study 01/10/2025). Bilateral adrenal metastases, right measuring 2.8 cm (previously 2.6 cm) and left measuring 3.4 cm (previously 3.0 cm). Multiple hepatic metastases with largest measuring1.8 cm (previously 1.6 cm). No new sites of extracranial metastatic disease.

Chest X-ray (03/31/2025): Right upper lobe opacity. No pleural effusion. No pneumothorax.

EEG (04/02/2025): Diffuse slowing consistent with encephalopathy. No epileptiform discharges or seizure activity noted during recording.

HOSPITAL COURSE

Mr. Wilson was admitted with altered mental status and somnolence. MRI brain revealed progressive brain metastases with significant peritumoral edema causing mass effect and midline shift. CT chest/abdomen/pelvis showed stable primary lung lesion with slight progression of adrenal and hepatic metastases.

The patient was started on high-dose dexamethasone (10mg IV followed by 6mg IV q6h) with gradual improvement in mental status over 48 hours. Neurosurgery was consulted and

recommended against surgical intervention due to multiple lesions and poor functional status. Radiation Oncology recommended against re-irradiation given recent whole brain radiation therapy.

Levetiracetam dose was increased from 750mg BID to 1000mg BID due to concern for subclinical seizures contributing to altered mental status. EEG showed no epileptiform activity, but the patient's neurological status continued to improve with the higher antiepileptic dose.

The patient's COPD and diabetes remained stable throughout hospitalization with adjustment of home medications. His systemic cancer therapy with etoposide was temporarily held during hospitalization and will be reassessed at outpatient follow-up.

By hospital day 5, the patient was alert and oriented to person, place, and time with significant improvement in headache symptoms. A family meeting was held to discuss prognosis and goals of care. Given the progressive brain metastases despite multiple lines of therapy and radiation, the focus of care was shifted toward symptom management and quality of life. The patient and family elected for hospice care at home.

DISCHARGE MEDICATIONS

1. Dexamethasone 4mg PO BID (to be tapered as tolerated under hospice supervision)
2. Levetiracetam 1000mg PO BID
3. Pantoprazole 40mg PO daily
4. Lisinopril 20mg PO daily
5. Metoprolol succinate 50mg PO daily
6. Atorvastatin 40mg PO daily
7. Metformin 1000mg PO BID
8. Glipizide 5mg PO daily
9. Tamsulosin 0.4mg PO daily
10. Albuterol inhaler 2 puffs q6h PRN shortness of breath
11. Tiotropium 18mcg inhaled daily
12. Fluticasone/salmeterol 250/50mcg inhaled BID
13. Gabapentin 300mg PO TID
14. Acetaminophen 650mg PO q6h PRN pain
15. Morphine sulfate immediate-release 5mg PO q4h PRN moderate pain
16. Morphine sulfate immediate-release 10mg PO q4h PRN severe pain
17. Lorazepam 0.5mg PO q6h PRN anxiety
18. Ondansetron 4mg PO q8h PRN nausea

DISCHARGE DISPOSITION

The patient was discharged home with hospice services. The daughter will be the primary caregiver with hospice support.

ONCOLOGIC ASSESSMENT

Mr. Wilson has wild-type metastatic NSCLC with high PD-L1 expression (TPS 90%, CPS 95%, IC 20%) diagnosed in January 2021. He initially presented with brain and adrenal metastases. He received first-line pembrolizumab with good response (PFS 20 months), followed by docetaxel (PFS 6 months) and gemcitabine/vinorelbine (PFS 7 months). He was on fourth-line etoposide at the time of current admission.

Despite initial response to therapy and reasonable disease control for over 4 years from diagnosis, he has developed progressive brain metastases refractory to both stereotactic radiosurgery and whole brain radiation therapy. Current imaging shows multiple new brain metastases with significant mass effect, as well as slow progression of extracranial disease in the liver and adrenal glands.

Given the progressive nature of his intracranial disease, poor performance status (ECOG 3), and limited remaining treatment options, the prognosis is poor with estimated survival of 1-3 months. After discussion with the patient and family, the decision was made to transition to hospice care focusing on symptom management and quality of life.

Throughout his disease course, Mr. Wilson demonstrated features consistent with an "immunotherapy-sensitive" phenotype, with high PD-L1 expression and durable response to first-line pembrolizumab (20 months). His overall survival from diagnosis has exceeded 50 months, which is significantly longer than historical medians for stage IV NSCLC, likely attributable to his excellent initial response to immunotherapy.

FOLLOW-UP PLAN

The patient has been enrolled in home hospice care with the following services:

1. Nursing visits 3 times weekly
2. Social work support
3. Chaplain services as requested
4. Home health aide 5 days weekly
5. Medical equipment including hospital bed, wheelchair, and oxygen concentrator

The hospice physician will assume primary medical management, with the oncology team available for consultation as needed.

ADVANCE DIRECTIVES

The patient has completed a POLST form indicating:

- DNR/DNI status
- No desire for hospitalization unless necessary for comfort
- No artificial nutrition or hydration

- Comfort-focused treatments only

A copy of the POLST form has been provided to hospice, and the daughter has a copy at home.

Electronically signed by:

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