ATTENDING OF RECORD (ONCOLOGY): Dr. Evelyn Reed **HOSPITALIST (FINAL ADMISSION):** Dr. Anya Sharma

ADMINISTRATIVE DATA:

- **DATE OF ADMISSION:** 2023-04-18
- **DATE OF DEATH (DISCHARGE):** 2023-04-25 @ 14:30

PATIENT IDENTIFICATION:

- **NAME:** Chen, David Wei
- **Patient-ID:** SYN003
- **DATE OF BIRTH:** 1949-07-28

FINAL DIAGNOSES:

1. **Primary Cause of Death:** Respiratory Failure
2. **Underlying Cause:** Metastatic Non-Small Cell Lung Cancer (Adenocarcinoma, driver mutation negative [WT]), Stage IV at diagnosis, refractory to multiple lines of therapy.
3. **Other Conditions Contributing to Death:**
    - Malignant Pleural Effusions, bilateral, large.
    - Lymphangitic Carcinomatosis.
    - Multiple Brain Metastases (s/p SRS and WBRT) with progressive neurological decline.
    - Cancer Cachexia and Severe Malnutrition.
    - Intractable Malignant Pain Syndrome.
    - Acute Deep Vein Thrombosis (DVT), Right Lower Extremity.

PERTINENT PAST MEDICAL HISTORY:

- Coronary Artery Disease: s/p 3-Vessel CABG (LIMA-LAD, SVG-OM, SVG-PDA) in 2010. Stable angina prior to terminal illness.
- Atrial Fibrillation: Chronic, persistent. Initially on Apixaban, later transitioned to Warfarin, then Enoxaparin due to interactions/bleeding concerns/DVT. Rate controlled with Metoprolol. CHADS2VASC score high.
- Hypertension: Well-controlled on Amlodipine, Lisinopril.
- Cerebrovascular Accident (CVA): Ischemic, left MCA territory, 2015. Mild residual LLE weakness.
- Hyperlipidemia: On Atorvastatin.
- History of Tobacco Use: 50 pack-years, quit ~2005.

HISTORY OF ONCOLOGIC ILLNESS:
Mr. Chen was diagnosed with Stage IV NSCLC (Adenocarcinoma) in May 2020 after presenting with a first-time generalized tonic-clonic seizure.

- **Initial Workup (May 2020):** Brain MRI showed multiple enhancing lesions, largest 2.5 cm right parietal lobe with significant vasogenic edema. CT C/A/P revealed 5 cm RUL primary mass, bulky mediastinal/hilar adenopathy, extensive bone mets (spine, ribs, pelvis). CT-guided lung biopsy confirmed Adenocarcinoma, TTF-1+.

- **Molecular Profile (May 2020):** Comprehensive NGS panel negative for targetable driver mutations (EGFR, ALK, ROS1, BRAF V600E, KRAS, MET, RET all wild-type).
- **PD-L1 (IHC 22C3):** TPS 70%, CPS 75, IC Score 3/+ (robust staining).
- **Treatment Trajectory:**
    - *May 2020:* Stereotactic Radiosurgery (SRS) to symptomatic brain metastases. Started Levetiracetam for seizure prophylaxis.
    - *June 2020 - August 2021:* Pembrolizumab 200mg IV q3wks. Achieved initial partial response (lung/nodes), stable bone disease. Developed Grade 2 immune-related hypothyroidism (managed with Levothyroxine). Tolerated relatively well otherwise.
    - *August 2021:* Systemic progression noted on surveillance CT (growth of primary RUL mass, new/progressive bone lesions). Brain MRI stable post-SRS. Pembrolizumab discontinued.
    - *September 2021 - February 2022 (approx. 5 months duration):* Second-line Docetaxel 75 mg/m2 IV q3wks. Complicated by Grade 3 febrile neutropenia (required hospitalization, G-CSF support thereafter), significant fatigue, Grade 1-2 peripheral neuropathy. Achieved stable disease.
    - *February 2022:* Further systemic progression (lung, bone) and development of symptomatic right pleural effusion requiring thoracentesis.
    - *March 2022 - June 2022 (approx. 3 months duration):* Third-line Gemcitabine 1000 mg/m2 IV Days 1, 8 q3wks. Tolerability slightly better but still significant fatigue, cytopenias. Brief stable disease.
    - *June 2022:* Worsening bilateral pleural effusions requiring repeated thoracenteses. Progression of known lung/bone disease. Repeat Brain MRI showed progression of treated lesions + new small metastases. Underwent palliative Whole Brain Radiation Therapy (WBRT), 30 Gy in 10 fractions. Performance status declined to ECOG 2-3.
    - *July 2022 onwards:* Extensive goals of care discussions with patient (while he retained capacity) and family. Decision made to transition focus primarily to palliative care and symptom management. Enrolled with outpatient hospice support for nursing, social work, spiritual care, but continued under Oncology oversight for specific interventions (e.g., thoracentesis coordination). No further anti-neoplastic therapy pursued. Patient expressed wish to avoid hospitalization if possible and focus on comfort at home.

FINAL HOSPITALIZATION COURSE (April 18 - April 25, 2023):
Mr. Chen was brought to the ED by family due to rapidly worsening shortness of breath, increased confusion/lethargy, and intractable pain over the preceding 24-48 hours. Hospice nurse had visited earlier that day and recommended ED evaluation due to severity of respiratory distress.

- **Presentation:** Markedly cachectic, tachypneic (RR 30-35), using accessory muscles, speaking in 1-2 word sentences. O2 saturation 85% on home O2 at 4L NC. Confused, only oriented to self intermittently. Family reported pain poorly controlled despite scheduled long-acting morphine (MS Contin 60mg BID) and frequent PRN hydromorphone liquid at home. Exam notable for diminished breath sounds bilaterally (nearly absent left base), crackles halfway up on right, tachycardia (AFib ~110-120 bpm), cool extremities, +2 LE edema, marked tenderness/swelling of right calf.
- **Significant Findings:**

    - *ABG (on 6L NC):* pH 7.32, pCO2 55, pO2 60, HCO3 26 (Acute-on-chronic hypercapnic respiratory failure).
    - *CXR/CT Chest:* Large bilateral pleural effusions (L>R), extensive reticulonodular opacities consistent with lymphangitic spread, progression of masses/nodes.
    - *CT Head:* No acute bleed. Diffuse atrophy. Stable post-radiation changes. No finding to solely explain acute neurological decline.
    - *Labs:* Hgb 9.5, WBC 11.2, Plt 150k. Cr 1.4 (baseline 1.1), BUN 45, Albumin 2.1. Troponin neg. BNP elevated. D-Dimer >10,000.
    - *RLE Venous Doppler:* Acute occlusive DVT involving femoral, popliteal, and posterior tibial veins.
- **Management & Clinical Trajectory:**
    - **Goals of Care Reaffirmed:** Confirmed existing DNR/DNI orders and goals focused solely on comfort and symptom relief with patient's wife and son (patient lacked capacity). Hospice team involved inpatient.
    - **Respiratory Support:** Placed on High-Flow Nasal Cannula (HFNC) titrated up to 50L/70% FiO2 for comfort/WOB reduction. BiPAP discussed but declined by family consistent with prior wishes. Therapeutic thoracentesis performed (1.2L drained from left pleural space) providing transient subjective improvement in WOB for ~12 hours. Aggressive secretion management with suctioning, positioning, and Scopolamine patch.
    - **Pain Control:** Pain scores remained high (7-10/10) despite significant opioid use. Palliative Care directed transition to IV Hydromorphone PCA with basal rate and demand doses, requiring multiple upward titrations. Adjuvant Ketamine infusion considered but not initiated before patient became minimally responsive.
    - **Neurological Status:** Started Dexamethasone 4mg IV Q6H empirically for potential cerebral edema contribution, with minimal change. Confusion/lethargy progressed, likely multifactorial (hypoxia, hypercapnia, metabolic derangement, opioid effect, CNS progression). Lorazepam used PRN agitation.
    - **DVT Management:** Started therapeutic Enoxaparin 1 mg/kg SC q12h.
    - **Atrial Fibrillation:** Rate controlled with IV Metoprolol initially, then PO.
    - **Nutrition/Hydration:** Minimal PO intake. IV fluids run at KVO rate for comfort/medication delivery only, per GOC.
    - **Family Support:** Extensive support provided to family at bedside by nursing, physicians, social work, chaplaincy, and hospice team.
- **Decline:** Despite maximal comfort-focused interventions, Mr. Chen's respiratory status continued to deteriorate. He became progressively less responsive over the final 24-48 hours. Pain appeared controlled based on vital signs and lack of agitated behaviors in final day. Family remained constantly at bedside.

CIRCUMSTANCES OF DEATH:
On April 25, 2023, at approximately 14:30, Mr. Chen experienced worsening respiratory distress followed by apnea and bradycardia. He passed away peacefully without signs of distress, surrounded by his wife and son. No resuscitative efforts were performed per established DNR status.

DISPOSITION: Body released to funeral home as per family arrangements. Bereavement support offered to family.

_____ M.D./D.O.
Anya Sharma, MD (Hospitalist) / Evelyn Reed, MD (Oncology)
Dictated: 2023-04-25 / Electronically Signed: 2023-04-26