Vancouver general hospital thoracic oncology program

Patient: Eliza Mochiso (MRN SYN111) **DOB**: 04/06/1966

Admission date: 04/02/2025 **discharge date**: 04/14/2025

Attending physician: dr. Richard wong **consulting services**: pulmonology, interventional radiology, palliative care

Diagnoses

Non-small cell lung cancer (nsclc), adenocarcinoma, stage iv with malignant pleural effusion

Comorbidities

1. Iatrogenic pneumothorax (post-pleural catheter placement)
2. Moderate anemia
3. Hypoalbuminemia
4. Malnutrition
5. Anxiety disorder

Brief history

Ms. Mochiso is a 59-year-old female with stage iv nsclc, diagnosed in may 2022 following workup for progressive dyspnea and right-sided chest pain. Initial staging showed a 3.8 cm right middle lobe mass with malignant pleural effusion but no distant metastatic disease. Pleural fluid cytology was positive for adenocarcinoma. Molecular testing was negative for targetable mutations (egfr, alk, ros1, braf wild-type). Pd-l1 testing showed tps <1%, cps 3, ic 1%. She was treated with first-line carboplatin/pemetrexed/pembrolizumab starting june 2022, completed 4 cycles, then continued on maintenance pemetrexed/pembrolizumab for a total of 11 months before progression was noted in may 2023.

She subsequently received second-line docetaxel with ramucirumab for 6 cycles (may-november 2023), followed by third-line gemcitabine (december 2023-march 2025). Recent restaging scans showed progression with increasing pleural disease and new pericardial effusion.

Patient was admitted with worsening dyspnea, right-sided chest pain, and decreased exercise tolerance.

Allergies

- Ciprofloxacin (rash)
- Contrast dye (mild itching)

Social history

Former smoker (25 pack-years, quit 2019). Works as an elementary school teacher (currently on medical leave). Lives with husband and adult daughter. No alcohol or illicit drug use.

Home medications

1. Gemcitabine 1000mg/m2 iv days 1, 8, 15 of 28-day cycle (discontinued)
2. Dexamethasone 4mg po daily
3. Hydromorphone 2mg po q4h prn pain
4. Lorazepam 0.5mg po daily prn anxiety
5. Pantoprazole 40mg po daily
6. Ondansetron 8mg po q8h prn nausea
7. Sennosides 8.6mg po bid
8. Docusate sodium 100mg po bid
9. Multivitamin 1 tablet po daily
10. Zolpidem 5mg po qhs prn insomnia

Review of systems

- **Constitutional**: fatigue, unintentional weight loss (4kg over 2 months), night sweats
- **Heent**: no headaches, visual changes, or hearing impairment
- **Respiratory**: progressive dyspnea on exertion, right-sided pleuritic chest pain, non-productive cough
- **Cardiovascular**: no palpitations, syncope, or peripheral edema
- **Gastrointestinal**: poor appetite, occasional nausea, no vomiting or change in bowel habits
- **Genitourinary**: no dysuria or hematuria
- **Musculoskeletal**: generalized weakness, no focal bone pain
- **Neurological**: no focal deficits, no seizures
- **Psychiatric**: anxiety, insomnia

Physical examination on admission

Vitals: bp 118/72, hr 96, rr 24, temp 37.1°c, spo2 88% on room air, 94% on 2l nc **general**: chronically ill-appearing woman, moderate distress due to dyspnea **heent**: normocephalic, atraumatic, mucous membranes dry **neck**: supple, no lymphadenopathy, jvp not elevated **cardiovascular**: tachycardic, regular rhythm, no murmurs, rubs, or gallops **respiratory**: decreased breath sounds right hemithorax, dullness to percussion right base, no wheezes **abdomen**: soft, non-tender, non-distended, normal bowel sounds **extremities**: no edema, cyanosis, or clubbing **neurological**: alert and oriented x3, cranial nerves intact, strength 5/5 all extremities **skin**: pale, no rashes or lesions

Laboratory data

On admission (04/02/2025):

Cbc:

- Wbc: 6.2 x 10^9/l (4.0-11.0)
- Hgb: 9.8 g/dl (12.0-16.0) - decreased
- Hct: 29.4% (37.0-47.0) - decreased
- Platelets: 278 x 10^9/l (150-450)

Chemistry:

- Na: 134 mmol/l (135-145) - slightly decreased

- K: 4.3 mmol/l (3.5-5.0)
- Cl: 99 mmol/l (98-107)
- Co2: 26 mmol/l (22-30)
- Bun: 18 mg/dl (7-20)
- Cr: 0.74 mg/dl (0.6-1.2)
- Glucose: 112 mg/dl (70-100) - elevated
- Ca: 8.9 mg/dl (8.5-10.5)
- Albumin: 2.9 g/dl (3.5-5.0) - decreased
- Total protein: 6.1 g/dl (6.4-8.2) - decreased
- Ast: 28 u/l (8-48)
- Alt: 32 u/l (7-55)
- Alk phos: 128 u/l (45-115) - elevated
- Total bilirubin: 0.5 mg/dl (0.1-1.2)
- Ldh: 310 u/l (125-220) - elevated

Abg (on 2l nc):

- Ph: 7.43 (7.35-7.45)
- Pco2: 38 mmhg (35-45)
- Po2: 68 mmhg (80-100) - decreased
- Hco3: 25 mmol/l (22-26)
- O2 sat: 93%

Prior to discharge (04/13/2025):

Cbc:

- Wbc: 7.1 x 10^9/l (4.0-11.0)
- Hgb: 10.2 g/dl (12.0-16.0) - decreased
- Hct: 30.6% (37.0-47.0) - decreased
- Platelets: 265 x 10^9/l (150-450)

Chemistry:

- Na: 136 mmol/l (135-145)
- K: 4.1 mmol/l (3.5-5.0)
- Cl: 100 mmol/l (98-107)
- Co2: 27 mmol/l (22-30)
- Bun: 16 mg/dl (7-20)
- Cr: 0.70 mg/dl (0.6-1.2)
- Glucose: 104 mg/dl (70-100) - slightly elevated
- Albumin: 3.1 g/dl (3.5-5.0) - decreased

Imaging studies

Chest x-ray (04/02/2025): large right pleural effusion with compressive atelectasis of the right middle and lower lobes. Right middle lobe mass (3.8 x 4.2 cm). No pneumothorax.

Chest ct with contrast (04/03/2025):

- Right middle lobe mass increased from 3.8 cm to 4.2 cm since previous ct (02/15/2025)
- Large right pleural effusion with pleural thickening and nodularity

- New small pericardial effusion
- No mediastinal or hilar lymphadenopathy
- No pulmonary embolism

Chest x-ray (04/05/2025, post-pleural catheter placement): small right apical pneumothorax measuring approximately 1.5 cm. Pleural catheter in good position. Decreased right pleural effusion.

Chest x-ray (04/07/2025): resolution of right apical pneumothorax. Pleural catheter in good position. Stable decreased right pleural effusion.

Echocardiogram (04/04/2025):

- Lvef 65% (normal)
- Small pericardial effusion without evidence of tamponade
- Normal valvular function
- Normal chamber sizes

Pathology

Original diagnosis (05/26/2022):

- Specimen: pleural fluid cytology and pleural biopsy
- Diagnosis: metastatic adenocarcinoma consistent with lung primary
- Immunohistochemistry: ttf-1 positive, napsin a positive, gata3 negative, pax8 negative

- Molecular testing:
    - Egfr: wild-type
    - Alk: negative for rearrangement
    - Ros1: negative for rearrangement
    - Braf: wild-type
    - Kras: wild-type
    - Ntrk: negative for fusion
    - Ret: negative for rearrangement
    - Met: no amplification or exon 14 skipping
    - Pd-l1 (22c3): tps <1%, cps 3, ic 1%
    - Tmb: low (4 mutations/megabase)
    - Msi: stable

Pleural fluid analysis (04/03/2025):

- Appearance: serosanguineous
- Rbc: 12,500/mm³
- Wbc: 1,850/mm³
    - Neutrophils: 15%
    - Lymphocytes: 75%
    - Macrophages: 10%
- Protein: 4.2 g/dl
- Ldh: 425 u/l
- Glucose: 52 mg/dl
- Ph: 7.28
- Cytology: positive for malignant cells consistent with adenocarcinoma

- Culture: no growth

Hospital course

Ms. Mochiso was admitted for management of progressive dyspnea secondary to a large right pleural effusion. On admission, she required 2l oxygen via nasal cannula to maintain adequate oxygenation.

Interventions:

- **Pleural catheter placement**: on 04/04/2025, interventional radiology placed a tunneled pleural catheter in the right pleural space. During the procedure, 1,200 ml of serosanguineous fluid was removed with symptomatic improvement. A small pneumothorax was noted on post-procedure imaging.
- **Pneumothorax management**: patient was placed on 2l oxygen with close monitoring. Serial chest x-rays showed gradual resolution of the pneumothorax without need for chest tube placement. Complete resolution was documented by 04/07/2025.
- **Pleural drainage**: daily drainage via the pleural catheter yielded 300-450 ml of pleural fluid for the first 3 days, decreasing to 150-200 ml daily thereafter. Patient and family members were educated on home drainage protocol.
- **Symptom management**: dyspnea improved with pleural fluid drainage and oxygen supplementation. Pain was initially controlled with iv hydromorphone, later transitioned to oral formulation. Anxiety was addressed with lorazepam and supportive care.
- **Nutritional support**: dietitian consultation obtained for malnutrition. Patient given nutritional supplements and education on high-protein, high-calorie diet.
- **Treatment planning**: given progressive disease on third-line therapy and worsening performance status (ecog 2-3), the oncology team recommended transition to fourth-line therapy with vinorelbine. Treatment options were discussed extensively with the patient and family.
- **Palliative care consultation**: palliative care team was consulted for symptom management and goals of care discussion. The patient expressed a desire to continue disease-directed therapy while maintaining quality of life.

Complications:

- Small iatrogenic pneumothorax following pleural catheter placement, which resolved spontaneously
- Transient hypoxemia requiring increased oxygen supplementation on days 1-3

Consultations

Pulmonology (dr. Anita patel): recommended pleural catheter for management of recurrent pleural effusion. Advised on pneumothorax management and home oxygen requirements.

Interventional radiology (dr. Michael chen): performed tunneled pleural catheter placement without major complications. Recommends home drainage protocol of 500-1000 ml every other day or prn symptoms.

Palliative care (dr. Sophia rahman): performed comprehensive symptom assessment and goals of care discussion. Optimized pain management regimen. Recommended outpatient palliative care follow-up.

Nutrition (lisa wong, rd): assessment revealed moderate protein-calorie malnutrition. Recommended high-protein, high-calorie diet with oral supplements. Provided educational materials.

Condition on discharge

Patient is stable for discharge. Dyspnea significantly improved with oxygen requirement decreased to 1l nc at rest and 2l nc with exertion. Pain well-controlled on oral regimen. Ecog performance status 2. Patient and family have demonstrated competence with pleural catheter drainage procedure.

Discharge instructions

Activity: as tolerated. No heavy lifting (>10 lbs) with right arm for 2 weeks post-catheter placement.

Diet: high-protein, high-calorie diet as tolerated. Nutritional supplements twice daily.

Wound care: keep pleural catheter insertion site clean and dry. Dressing change weekly or if soiled/wet.

Pleural drainage: drain 500-1000 ml every other day or prn increased dyspnea. If drainage consistently <50 ml for three consecutive drainage attempts, contact oncology office.

Special instructions:

- Call immediately for fever >38.0°c, increased pain/redness at catheter site, drainage of >1000 ml in 24 hours, or sudden onset of severe dyspnea
- Avoid submerging catheter site in water (showers permitted with waterproof dressing)
- Monitor weight twice weekly and report loss of >2 kg in one week

Discharge medications

1. **Vinorelbine** 25mg/m² iv weekly (days 1, 8, 15 of 21-day cycle)
    - First dose scheduled for 04/17/2025
2. **Dexamethasone** 4mg po daily
    - Take with food
3. **Hydromorphone** 2mg po q4h prn moderate pain
    - #60 tablets, 1 refill
4. **Hydromorphone** 4mg po q4h prn severe pain
    - #30 tablets, 1 refill
5. **Lorazepam** 0.5mg po tid prn anxiety
    - #45 tablets, 1 refill
6. **Pantoprazole** 40mg po daily
    - #30 tablets, 3 refills
7. **Ondansetron** 8mg po q8h prn nausea
    - #30 tablets, 2 refills
8. **Sennosides** 8.6mg po bid
    - #60 tablets, 3 refills
9. **Docusate sodium** 100mg po bid
    - #60 capsules, 3 refills
10. **Multivitamin** 1 tablet po daily

    - #30 tablets, 3 refills
11. **Zolpidem** 5mg po qhs prn insomnia
    - #30 tablets, 1 refill
12. **Polyethylene glycol** 17g po daily prn constipation
    - #30 packets, 2 refills

Follow-up appointments

1. **Medical oncology**: dr. Richard wong, 04/17/2025 at 10:00 am (for first vinorelbine treatment)
2. **Interventional radiology**: dr. Michael chen, 04/28/2025 at 2:30 pm (for pleural catheter evaluation)
3. **Palliative care**: dr. Sophia rahman, 04/21/2025 at 1:00 pm
4. **Pulmonology**: dr. Anita patel, 05/05/2025 at 11:30 am
5. **Imaging**: ct chest/abdomen/pelvis, 05/12/2025 at 9:00 am (to assess response after 2 cycles)

Ongoing care plan

1. **Disease management**:
    - Fourth-line vinorelbine 25mg/m² weekly (days 1, 8, 15 of 21-day cycle)
    - Response assessment after 2 cycles (ct imaging)
    - Consider hospice referral if disease progression or further decline in performance status
2. **Symptom management**:
    - Continued pleural catheter drainage for effusion control
    - Optimization of pain control regimen
    - Home oxygen at 1-2l per nasal cannula as needed
3. **Supportive care**:
    - Home health nurse visits twice weekly for first two weeks
    - Nutritional support and monitoring
    - Psychosocial support for patient and family

Prognosis

Ms. Mochiso has metastatic nsclc with progressive disease after three lines of therapy. Her prognosis is guarded, with an estimated survival of 6-12 months. This has been discussed with the patient and her family. Despite this prognosis, she wishes to continue with disease-directed therapy while maintaining quality of life.

Documentation

Advance directives have been reviewed and are on file. The patient has designated her husband, carlos Mochiso, as her healthcare proxy. She has expressed a preference for full treatment measures at this time but wishes to revisit goals of care if her condition deteriorates significantly.

Dr. Richard wong, md thoracic oncology vancouver general hospital

Dictated: 04/14/2025 transcribed: 04/14/2025