**Patient:** Alexander Chen (DOB 1992-01-07)  
**Medical Record Number:** 472951  
**Date of Admission:** 2024-03-20  
**Date of Discharge:** 2024-03-27  
**Admitting Physician:** Dr. K. Mitchell (Hematology/Oncology)  
**Consulting Physicians:** Dr. L. Ramirez (Infectious Disease), Dr. P. Wong (Pulmonology)

**Discharge Diagnosis: Metastatic Testicular Seminoma with Febrile Neutropenia after PEB Cycle 3**

**1. Detailed Oncological Diagnosis:**

Primary Diagnosis: Pure Testicular Seminoma, Right Testis, Stage IIIC.  
Date of Initial Diagnosis: January 10, 2024.

Histology: Right Radical Inguinal Orchiectomy (January 8, 2024): Pure seminoma, 4.2 cm in greatest dimension. Positive for lymphovascular invasion. Negative for syncytiotrophoblastic elements. Negative for non-seminomatous components. Surgical margins negative.

TNM (8th AJCC): pT2N3M1b, Stage IIIC.

Risk Classification (IGCCCG Update 2021): Intermediate Prognosis Group based on

Imaging:

* Initial CT Chest/Abdomen/Pelvis (January 12, 2024): Multiple retroperitoneal lymph nodes with largest conglomerate measuring 6.8 x 4.5 cm in para-aortic region. Multiple bilateral pulmonary nodules measuring 0.6-1.2 cm. Liver metastasis section VII 1.2 cm. No brain or bone metastases.

Tumor Markers:

* At Diagnosis (January 10, 2024):
  + AFP: 5.2 ng/mL (Normal, reference range: <9 ng/mL)
  + β-hCG: 35 mIU/mL (Slightly elevated, reference range: <5 mIU/mL)
  + LDH: 525 U/L (Elevated, <2.5x ULN, reference range: 135-225 U/L)

**2. Current Treatment:**

Neutropenic Fever

* Blood cultures from Hickmann catheter: Staphylococcus epidermidis (MRSE)
* Removal of Hickmann catheter on 2024-03-21
* CT chest on 2024-03-22: no pneumonia
* Antibiotic treatment with piperacillin-tazobactam and vancomycin

**3. History of Oncological Treatment:**

Surgical:

* Right Radical Inguinal Orchiectomy: January 8, 2024.
* Sperm banking: Completed prior to chemotherapy initiation.

Systemic Therapy:

* PEB Cycle 1 (January 22-26, 2024):
  + Complications: Grade 2 nausea/vomiting, Grade 1 peripheral neuropathy.
* PEB Cycle 2 (February 19-23, 2024):
  + Complications: Grade 2 nausea/vomiting, Grade 1-2 peripheral neuropathy, Grade 1 tinnitus.
* PEB Cycle 3 (March 13-17, 2024):
  + Complications: Developed fever (38.9°C) and neutropenia (ANC 0.2 x 10^9/L) on Day 7 (March 20), leading to current admission.

Response Assessment:

* Mid-treatment CT (after Cycle 2): Partial response by RECIST 1.1 criteria (approximately 55% reduction in target lesions).
* Tumor markers pre-Cycle 3 (March 12, 2024):
  + AFP: 3.8 ng/mL (Normal)
  + β-hCG: <2 mIU/mL (Normal)
  + LDH: 245 U/L (Nearly normalized

**4. Comorbidities:**

* Mild asthma (diagnosed in childhood, well-controlled).
* Generalized anxiety disorder (diagnosed 2020).
* Hyperlipidemia (diagnosed 2022).
* History of kidney stones (2021).
* Seasonal allergies.
* No known genetic predisposition to cancer.

**5. Physical Exam at Admission:**

General: 32-year-old male in mild distress due to fever and chills.

Vitals: BP 110/72 mmHg, HR 112 bpm, RR 20/min, Temp 38.9°C, SpO2 98% on room air.

HEENT: Normocephalic, atraumatic. Mucous membranes moist with mild oral mucositis (Grade 1). No oral thrush. Tympanic membranes clear bilaterally.

Cardiovascular: Tachycardic but regular rhythm. No murmurs, rubs, or gallops.

Respiratory: Clear to auscultation bilaterally. No crackles, wheezes, or rhonchi.

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

Genitourinary: Status post right orchiectomy, healed surgical scar. Left testis normal, no masses.

Extremities: No edema. Hickman catheter in right chest wall, insertion site erythematous with mild tenderness, no frank purulence.

Skin: No rashes or lesions. Mild palmar erythema (Grade 1).

Neurological: Alert and oriented x3. Cranial nerves intact. Motor strength 5/5 in all extremities. Mild decrease in vibration sensation in fingertips and toes bilaterally (Grade 1 peripheral neuropathy). Deep tendon reflexes 2+ throughout.

ECOG Performance Status: 1 (Restricted in physically strenuous activity but ambulatory and able to carry out light work).

**6. Epicrisis:**

Mr. Chen is a 32-year-old male with IGCCCG intermediate-risk metastatic pure seminoma who was admitted with febrile neutropenia 7 days after start of cycle 3 PEB.

Upon admission, the patient presented with fever (38.9°C), tachycardia, and an ANC of 0.2 x 10^9/L. Blood cultures were obtained from both peripheral sites and the Hickman catheter, along with urine culture and chest X-ray. He was initiated on empiric broad-spectrum antibiotics with piperacillin-tazobactam 4.5g IV q6h. Bleomycin scheduled for Day 8 and Day 15 was held due to fever and neutropenia.

Blood cultures from the Hickman catheter returned positive for coagulase-negative Staphylococcus (preliminary report at 24 hours), with peripheral cultures remaining negative, consistent with catheter-related bloodstream infection. Infectious Disease was consulted, and vancomycin 15 mg/kg IV q12h for 7 days was added to the antibiotic regimen. Final culture results confirmed methicillin-resistant Staphylococcus epidermidis (MRSE) sensitive to vancomycin.

Due to the documented line infection, the decision was made to remove the Hickman catheter on hospital day 2, with cultures of the catheter tip also growing MRSE. The patient remained febrile for 48 hours after catheter removal and antibiotic initiation but defervesced on hospital day 3.

The patient's neutropenia persisted, with ANC nadir of 0.1 x 10^9/L on hospital day 3 (Day 10 post-chemotherapy). Filgrastim (G-CSF) 5 mcg/kg SC daily was initiated on hospital day 2 to accelerate neutrophil recovery. By discharge, the patient's ANC had recovered to 2.8 x 10^9/L.

A CT chest was obtained on hospital day 3 due to mild cough, which showed no evidence of pneumonia, pulmonary embolism, or bleomycin-induced pneumonitis. The pulmonary nodules remained stable to slightly decreased compared to the mid-treatment CT.

The patient developed Grade 2 mucositis during hospitalization, requiring enhanced oral care and pain management. Nutritional support was provided with a high-calorie, soft diet, and IV fluids were administered for hydration.

Renal function was closely monitored due to the recent cisplatin therapy and showed mild, reversible elevation in creatinine (peak 1.3 mg/dL, baseline 0.9 mg/dL) which improved with hydration. Electrolyte abnormalities (hypomagnesemia, hypokalemia) were corrected with IV and oral supplementation.

The multidisciplinary team, including Hematology/Oncology, Infectious Disease, and Pulmonology, reviewed the patient's case. The decision was made to proceed with PEB Cycle 4 with the following modifications:

1. Prophylactic G-CSF starting on Day 6 of next cycle.
2. Consideration of 25% dose reduction for etoposide depending on count recovery.

The patient was discharged in stable condition after completing a 7-day hospitalization with plans to follow up in one week for clinical reassessment and laboratory evaluation, with PEB Cycle 4 tentatively scheduled to begin April 10-14, 2024, pending adequate recovery.

**7. Medication at Discharge:**

* Vancomycin 15 mg/kg bw IV BID for 9 more days (total of 14 days) via home infusions and serum level measurements every 2 days
* Montelukast 10 mg PO daily (for asthma).
* Fluticasone/salmeterol 250/50 mcg inhaled BID (for asthma).
* Loratadine 10 mg PO daily (for seasonal allergies).
* Atorvastatin 20 mg PO daily at bedtime (for hyperlipidemia).
* Escitalopram 10 mg PO daily (for anxiety).
* Ondansetron 8 mg PO q8h PRN nausea (dispense #15).
* Oxycodone 5 mg PO q6h PRN moderate pain (dispense #20).
* Magic mouthwash (lidocaine/diphenhydramine/antacid) 5-10 mL swish and spit QID PRN oral pain.
* Potassium chloride 20 mEq PO daily for 5 days.

**8. Further Procedure / Follow-up:**

Oncology Follow-up:

* Follow up with Dr. K. Mitchell in 1 week (April 3, 2024) for clinical assessment and laboratory evaluation.
* CBC, CMP, Mg, K+ twice weekly until complete recovery.
* Tumor markers (AFP, β-hCG, LDH) prior to Cycle 4.
* PEB Cycle 4 tentatively scheduled for April 10-14, 2024, pending adequate recovery (bleomycin conditional upon PFT results)
* PICC line placement planned for April 9, 2024 (prior to Cycle 4).

Infectious Disease Follow-up:

* Follow up with Dr. L. Ramirez on April 3, 2024 (to coincide with oncology visit) to assess response to antibiotic therapy.

Pulmonology Follow-up:

* Follow up with Dr. P. Wong before PEB Cycle 4 for pulmonary function testing.
* Perform PFTs with DLCO to assess for subclinical bleomycin toxicity before continuation of therapy.

Imaging:

* Restaging CT Chest/Abdomen/Pelvis after completion of all therapy (approximately May 2024).
* Consider PET/CT if residual masses >3 cm remain after completion of therapy.

Laboratory Monitoring:

* CBC with differential and CMP twice weekly until recovery from neutropenia, then weekly until next cycle.
* Serial cultures (blood, urine) if recurrent fever develops.

Patient Education:

* Detailed instructions provided regarding:
  + Signs/symptoms requiring immediate medical attention (fever ≥38.0°C, bleeding, shortness of breath).
  + Importance of medication adherence, especially antibiotics.
  + Hydration requirements (minimum 2-3 liters daily).
  + Nutritional recommendations during mucositis.

**9. Lab Values (Excerpt):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameter** | **Admission (3/20/2024)** | **Nadir/Peak** | **Discharge (3/27/2024)** | **Units** | **Reference Range** |
| WBC | 1.2 | 0.6 (3/22) | 3.8 | x10^9/L | 4.0-11.0 |
| ANC | 0.2 | 0.1 (3/22) | 2.8 | x10^9/L | 2.0-7.0 |
| Hemoglobin | 10.8 | 9.5 (3/24) | 10.2 | g/dL | 13.5-17.5 (M) |
| Platelets | 105 | 58 (3/23) | 98 | x10^9/L | 150-400 |
| Creatinine | 1.1 | 1.3 (3/21) | 0.9 | mg/dL | 0.7-1.3 |
| BUN | 18 | 22 (3/21) | 14 | mg/dL | 7-20 |
| Potassium | 3.4 | 3.2 (3/21) | 3.8 | mEq/L | 3.5-5.0 |
| Magnesium | 1.5 | 1.4 (3/21) | 1.1 | mg/dL | 1.7-2.2 |
| Total Bilirubin | 0.8 | - | 0.7 | mg/dL | 0.3-1.2 |
| AST | 28 | - | 25 | U/L | 10-35 |
| ALT | 32 | - | 30 | U/L | 10-35 |
| LDH | 235 | - | 228 | U/L | 135-225 |
| CRP | 85 | 120 (3/21) | 22 | mg/L | < 5 |
| Procalcitonin | 2.8 | - | 0.4 | ng/mL | < 0.5 |
| Blood Culture (Hickman) | Positive MRSE | - | No growth | - | No growth |
| Blood Culture (Peripheral) | No growth | - | No growth | - | No growth |
| Urine Culture | No growth | - | - | - | No growth |

Electronically Signed By:  
Dr. K. Mitchell (Hematology/Oncology)  
Date/Time: 2024-03-27 14:15

Dr. L. Ramirez (Infectious Disease)  
Date/Time: 2024-03-27 13:30

Dr. P. Wong (Pulmonology)  
Date/Time: 2024-03-27 12:45