**Patient:** Noah Reiter (DOB 2005-12-21)  
**Medical Record Number:** 357802  
**Date of Admission:** 2025-03-18  
**Date of Discharge:** 2025-03-25  
**Admitting Physician:** Dr. E. Morgan (Pediatric Oncology)  
**Consulting Physician:** Dr. J. Harrington (Orthopedic Oncology)

**Discharge Diagnosis: Ewing Sarcoma of the Right Proximal Femur, high-risk, receiving cycle 6 (IE) of planned 9 cycles of neoadjuvant chemotherapy**

**1. Detailed Oncological Diagnosis:**

Primary Diagnosis: Ewing Sarcoma  
Date of Initial Diagnosis: 2024-12-23

Histology:

* Incisional biopsy of right proximal femur mass (2024-12-20)
* Small round blue cell tumor with extensive necrosis
* Immunohistochemistry: CD99 (MIC2) strongly positive with membranous pattern, FLI1 positive
* Negative for desmin, myogenin, cytokeratin, and LCA

Molecular/Genetic:

* FISH: EWSR1 gene rearrangement positive (22q12)
* RT-PCR: EWSR1-FLI1 fusion transcript identified (type 1 fusion, exon 7 of EWSR1 to exon 6 of FLI1)
* Next-generation sequencing: No additional actionable mutations identified

Staging:

* Tumor size: 9.3 × 7.2 × 6.5 cm involving right proximal femur with soft tissue extension
* TNM Classification (AJCC 8th Ed.): cT2bN0M0, Stage IIB
* Metastatic workup:
  + Chest CT: No evidence of pulmonary metastases
  + Technetium-99m bone scan: Isolated uptake in right proximal femur, no distant bone involvement
  + PET/CT: Hypermetabolic primary lesion (SUVmax 12.8), multiple small lung metastases

Risk Classification: High-risk based on:

* Large tumor volume (> 200 mL)
* Extraosseous extension
* Elevated LDH at presentation (525 U/L, 2.1× ULN)

**2. Current Oncological Treatment:**

Regimen: Alternating IE/VDC protocol (Cycle 6 - IE)

Current Cycle: IE (Ifosfamide/Etoposide) - Cycle 6 of planned 9 neoadjuvant cycles

* Ifosfamide 1800 mg/m² IV over 1 hour daily × 5 days (Days 1-5: 2025-03-18 to 2025-03-22)
* Etoposide 100 mg/m² IV over 1 hour daily × 5 days (Days 1-5: 2025-03-18 to 2025-03-22)
* MESNA 360 mg/m² IV with ifosfamide, then 360 mg/m² IV at 4 and 8 hours after each ifosfamide dose

**3. History of Oncological Treatment:**

* Cycle 1 - VDC (2025-01-05 to 2025-01-07):
* Cycle 2 - IE (2025-01-19 to 2025-01-25):
  + Toxicities: Grade 4 neutropenia with febrile neutropenia (hospitalized), Grade 1 transaminitis
* Cycle 3 - VDC (2025-02-03 to 2025-02-05)
  + Dose reduction: Cyclophosphamide reduced to 1000 mg/m² due to prior febrile neutropenia
  + Toxicities: Grade 2 neutropenia, Grade 2 anemia (required transfusion), Grade 2 peripheral neuropathy
* Cycle 4 - IE (2025-02-17 to 2025-02-22):
  + Toxicities: Grade 3 neutropenia, Grade 1 hemorrhagic cystitis, Grade 2 anemia, Grade 1 transient encephalopathy
  + 7.9 x 106 kg/KG CD34+ stem cells collected
* Cycle 5 - VDC (2025-03-04 to 2025-03-06)
  + Dose reduction: Cyclophosphamide reduced to 1000 mg/m² due to prior febrile neutropenia
  + Toxicities: Grade 2 neutropenia, Grade 2 anemia (required transfusion), Grade 2 peripheral neuropathy

Response Assessment (2025-02-28):

* MRI right femur: 35% reduction in tumor volume (9.3 × 7.2 × 6.5 cm → 6.8 × 5.1 × 5.3 cm)
* PET/CT: Decreased metabolic activity (SUVmax 12.8 → 6.3)
* Chest CT: No pulmonary metastases

Interventions:

* Tunneled central venous catheter placement: 2024-12-30
* No surgical intervention yet; planned for definitive surgery after Cycle 9

**4. Comorbidities:**

* Mild asthma (well-controlled)
* History of anxiety disorder
* Vitamin D deficiency
* History of recurrent otitis media in childhood

**5. Physical Exam at Admission:**

General: 19-year-old male, alert and oriented, in no acute distress.

Vitals: BP 112/68 mmHg, HR 84 bpm, RR 16/min, Temp 36.9°C, SpO2 99% on room air, Weight 65 kg, Height 175 cm.

HEENT: Normocephalic, atraumatic. No pallor or jaundice. Mucous membranes moist. No oral lesions.

Neck: Supple, no lymphadenopathy.

Cardiovascular: Regular rate and rhythm, normal S1/S2, no murmurs, rubs, or gallops.

Respiratory: Clear to auscultation bilaterally, no wheezes, rhonchi, or rales.

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

Musculoskeletal: Visible swelling of right proximal thigh anterolaterally. Mild tenderness to palpation. Range of motion in right hip limited to 90° flexion and 20° abduction due to pain. Strength 4/5 in right hip flexion and extension, otherwise 5/5 throughout.

Neurological: Alert and oriented x3. Cranial nerves II-XII intact. Motor strength as noted above. Sensory intact except for mild decreased sensation in right lateral thigh. Deep tendon reflexes 2+ throughout. Gait with antalgic pattern, using crutches.

Skin: Warm, dry, mild pallor. No rashes. Hickman catheter in place in right upper chest with clean insertion site.

Lymphatics: No palpable cervical, axillary, or inguinal lymphadenopathy.

**6. Epicrisis (Hospital Course Summary):**

Noah Reiter is a 19-year-old male with high-risk, non-metastatic Ewing Sarcoma of the right proximal femur diagnosed in December 2024. He was admitted for his sixth cycle of chemotherapy (IE regimen) as part of neoadjuvant therapy prior to planned surgical resection.

The patient was admitted on 2025-03-18 with stable disease. Pre-chemotherapy laboratory studies showed mild anemia (Hgb 10.2 g/dL) but adequate neutrophil count (ANC 1.8 × 10^9/L) and platelet count (145 × 10^9/L). Renal and hepatic function were within normal limits.

Chemotherapy with ifosfamide and etoposide was initiated on 2025-03-18 and completed on 2025-03-22. Aggressive hydration and MESNA were administered per protocol to prevent hemorrhagic cystitis. Antiemetic therapy included ondansetron, dexamethasone, and aprepitant. Urinalysis was monitored daily, showing trace hematuria on day 3 that resolved with increased hydration.

On day 3 of chemotherapy (2025-03-20), the patient developed mild confusion and disorientation, consistent with ifosfamide-induced encephalopathy. Ifosfamide was temporarily held, and methylene blue 50 mg IV was administered, with resolution of symptoms within 8 hours. The remaining ifosfamide doses were administered with methylene blue prophylaxis, and no further neurotoxicity was observed.

The patient experienced expected myelosuppression with nadir ANC of 0.8 × 10^9/L on day 7 and platelet count of 92 × 10^9/L. Pegfilgrastim was administered on day 6 (2025-03-23) for neutrophil recovery. No febrile episodes occurred during this admission.

Pain management of the primary tumor site was achieved with scheduled acetaminophen and as-needed oxycodone, with good control (pain scores consistently ≤3/10). Physical therapy was consulted for gait training and strengthening exercises, which the patient tolerated well.

Psychosocial support was provided throughout the admission by child life specialists and psychology. The patient engaged in age-appropriate activities and maintained good communication with the healthcare team.

Discharge planning began early in the admission, with coordination between the oncology team, home health nursing, and the family. The patient and family received comprehensive education regarding monitoring for neutropenic fever, signs of infection, and management of chemotherapy side effects.

At discharge, the patient is clinically stable with improving blood counts, adequate pain control, and no active infections. He understands the plan for close outpatient monitoring and the upcoming final cycle of neoadjuvant chemotherapy, followed by surgical resection.

**7. Medication at Discharge:**

* Enoxaparin 40 mg SubQ daily (prophylaxis for VTE while mobility restricted)
* Ondansetron 8 mg PO TID PRN nausea
* Oxycodone 5 mg PO Q6H PRN moderate-severe pain (pain score >4)
* Acetaminophen 650 mg PO Q6H PRN mild pain or fever (for example bone pain from Pegfilgrastim)
* Albuterol inhaler 2 puffs Q6H PRN wheezing (for asthma)
* Vitamin D3 2000 IU PO daily
* Sennosides 8.6 mg PO nightly PRN constipation
* Docusate sodium 100 mg PO BID PRN constipation

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

Pediatric Oncology Follow-up:

* Clinic visit with Dr. E. Morgan on 2025-03-28 for laboratory assessment
* Weekly clinic visits until neutrophil recovery

Laboratory Monitoring:

* CBC with differential, CMP twice weekly until count recovery
* Urinalysis weekly to monitor for hematuria

Imaging:

* PET/CT and MRI scheduled for 2025-06-30 (after completion of 9 cycles of neoadjuvant therapy, prior to surgery)

Treatment Plan:

* Cycle 7 (VDC) scheduled to begin 2025-04-06, pending adequate count recovery
* Continuation of alternating IE/VDC protocol through cycle 9
* Orthopedic oncology consultation with Dr. J. Harrington on 2025-06-15 to plan surgical approach
* Definitive surgical resection planned for approximately 2025-07-10 (after cycle 9)
* Post-operative radiation therapy to be determined based on surgical margins and histologic response
* Adjuvant chemotherapy to complete a total of 14 cycles planned post-surgery

Supportive Care:

* Physical therapy twice weekly for strengthening and gait training
* Psychology follow-up appointment on 2025-04-05
* Nutritional assessment and counseling on 2025-04-05

Patient Education:

* Instructions to contact oncology clinic immediately for:
  + Fever ≥38.3°C or ≥38.0°C for >1 hour
  + Signs of infection (redness, swelling, drainage)
  + Bleeding or unusual bruising
  + Persistent nausea/vomiting
  + Changes in mental status
  + Blood in urine
  + Severe pain uncontrolled with prescribed medications

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Admission (2025-03-18)** | **Discharge (2025-03-25)** | **Units** | **Reference Range** |
| WBC | 3.5 | 2.4 | x10^9/L | 4.0-10.5 |
| ANC | 1.8 | 1.4 | x10^9/L | 1.8-7.5 |
| Lymphocytes | 1.1 | 0.9 | x10^9/L | 1.0-4.8 |
| Hemoglobin | 10.2 | 9.5 | g/dL | 13.0-16.0 |
| Platelets | 145 | 105 | x10^9/L | 150-450 |
| Creatinine | 0.7 | 0.8 | mg/dL | 0.5-1.1 |
| BUN | 12 | 14 | mg/dL | 7-18 |
| AST | 28 | 35 | U/L | 10-40 |
| ALT | 32 | 42 | U/L | 7-56 |
| Alk Phos | 210 | 195 | U/L | 115-350 |
| Total Bilirubin | 0.6 | 0.7 | mg/dL | 0.1-1.0 |
| Albumin | 3.8 | 3.6 | g/dL | 3.5-5.2 |
| LDH | 325 | 310 | U/L | 120-250 |
| Calcium | 9.1 | 8.9 | mg/dL | 8.6-10.2 |
| Phosphorus | 3.6 | 3.4 | mg/dL | 3.0-4.5 |
| Magnesium | 2.0 | 1.9 | mg/dL | 1.8-2.4 |
| Sodium | 138 | 140 | mmol/L | 135-145 |
| Potassium | 4.0 | 3.8 | mmol/L | 3.5-5.0 |
| Chloride | 102 | 104 | mmol/L | 98-107 |
| HCO3 | 24 | 23 | mmol/L | 22-29 |

Electronically Signed By:  
Dr. E. Morgan (Pediatric Oncology)  
Date/Time: 2025-03-25 14:30

Dr. J. Harrington (Orthopedic Oncology)  
Date/Time: 2025-03-25 13:45