**Patient:** Michael Bennett (DOB 1965-05-15)  
**Medical Record Number:** 795314  
**Date of Admission:** 2025-03-10  
**Date of Discharge:** 2025-04-02  
**Admitting Physician:** Dr. K. Watanabe (Hematology/BMT)  
**Consulting Physicians:** Dr. F. Nouri (Infectious Disease), Dr. S. Thompson (Gastroenterology)

**Discharge Diagnosis: Mantle Cell Lymphoma, Stage IV (Status Post BEAM Conditioning and Autologous Stem Cell Transplantation)**

**1. Detailed Oncological Diagnosis:**

Primary Diagnosis: Mantle Cell Lymphoma (MCL)  
Date of Initial Diagnosis: September 2024

Histology:

* Right inguinal lymph node excisional biopsy (September 2024) revealed diffuse architectural effacement by a monotonous proliferation of small to medium-sized lymphoid cells with irregular nuclear contours and scant cytoplasm.
* IHC: Positive for CD20, CD5, cyclin D1, SOX11. Negative for CD10, CD23, and BCL6. Ki-67 proliferation index: 25%.
* Flow cytometry: CD19+, CD20+, CD5+, CD43+, FMC7+, CD23-, lambda light chain restriction.
* FISH: Positive for t(11;14)(q13;q32) translocation.
* Next-generation sequencing: TP53 wild-type, NOTCH1 mutation detected, ATM mutation detected.
* Molecular studies: Mutated IGHV.

Staging/Risk Stratification:

* MCL International Prognostic Index (MIPI): 6.2 (High Risk) [Age: 59 years at diagnosis, ECOG Performance Status: 1, LDH: >1.5 × ULN, WBC: 15.2 × 10^9/L, Ki-67: 25%]
* MIPI-c (including Ki-67): 6.7 (High Risk)
* Ann Arbor Stage at diagnosis: Stage IV with bone marrow and gastrointestinal involvement

Further studies

* Initial PET/CT (September 2024): Extensive FDG-avid lymphadenopathy above and below the diaphragm with maximum SUV of 11.8 (right inguinal). Splenomegaly (16 cm) with diffuse increased uptake (SUV 6.5). Bone marrow with patchy increased uptake.
* Bone Marrow Biopsy (Initial diagnosis, September 2024): 30% involvement by MCL, nodular and interstitial pattern.
* Upper and Lower GI Endoscopy (September 2024): Multiple lymphomatous polypoid lesions throughout colon and terminal ileum. Gastric antral nodularity with biopsy confirming MCL involvement.
* CSF analysis (September 2024): Negative for lymphoma involvement.

**2. Previous Oncological Treatment:**

Induction Therapy:

* R-CHOP+Ibrutinib and R-DHAP regimens (alternating 3 cycles each, September 2024 – February 2025)

Stem Cell Collection:

* Mobilization with G-CSF (filgrastim) 10 μg/kg/day for 5 days
* Apheresis performed on February 25-26, 2025
* Total CD34+ cells collected: 6.2 × 10^6/kg

Imaging Studies:

* Interim PET/CT (December 2024): Partial response with >50% reduction in size and SUV of all nodal masses. Spleen normalized in size with minimal residual uptake.
* Pre-transplant PET/CT (February 2025): Complete metabolic response with no areas of abnormal FDG uptake.
* Bone Marrow Biopsy (Post-induction, February 2025): No morphologic evidence of lymphoma. Minimal residual disease detected by flow cytometry (0.01%).
* Upper and Lower GI Endoscopy (February 2025): Complete resolution of all visible lesions with random biopsies negative for lymphoma.

**3. Current Treatment (ASCT Conditioning and Transplant):**

High-Dose Chemotherapy (BEAM) Conditioning:

* Autologous Stem Cell Transplantation: Stem cell infusion: 4.8 × 10^6 CD34+ cells/kg on day 0 (March 18, 2025) (Remaining cells cryopreserved: 1.4 × 10^6 CD34+ cells/kg)

Supportive Care:

* G-CSF (filgrastim) 5 μg/kg SC daily starting day +5 (March 23, 2025) until neutrophil engraftment
* Antimicrobial prophylaxis:
  + Fluconazole 400 mg PO daily until neutrophil engraftment
  + Acyclovir 400 mg PO BID
* Aggressive hydration during conditioning
* Antiemetic regimen including ondansetron, aprepitant, and dexamethasone

Engraftment Data:

* Neutrophil engraftment: Day +11 (March 29, 2025)
* Platelet engraftment: Day +14 (April 1, 2025)

Blood Product Support:

* RBC transfusions: 2 units (March 24 and March 27, 2025)
* Platelet transfusions: 4 units (March 22, March 25, March 28, and March 31, 2025)

**4. Comorbidities:**

* Ulcerative colitis (diagnosed 2012, in remission on maintenance therapy)
* Psoriasis (diagnosed 2016, well-controlled with topical therapy)
* Adult-onset asthma (diagnosed 2019, mild, intermittent)
* Hereditary hemochromatosis (diagnosed 2017, managed with periodic phlebotomy)
* History of kidney stones (calcium oxalate, recurrent since 2015)
* History of traumatic brain injury (2010, motor vehicle accident, no residual deficits)
* History of appendectomy (1995)
* Moderate hearing loss (bilateral, noise-induced)
* Allergies: Contrast dye (anaphylaxis), Amoxicillin (urticaria), Shellfish (angioedema)

Check before autoPBSCT

* Echocardiogram (February 2025): LVEF 62%, no significant abnormalities.
* Pulmonary Function Tests (February 2025): FEV1 85% predicted, DLCO 80% predicted.

**5. Physical Exam at Admission:**

General: 59-year-old male appearing tired but in no acute distress.

Vitals: BP 118/72 mmHg, HR 84 bpm, RR 18/min, Temp 36.9°C, SpO2 97% on room air.

HEENT: Normocephalic, atraumatic. PERRLA. EOMI. Mucous membranes showing resolving mucositis, no active ulcerations. Mild xerostomia. Hearing aids in place bilaterally.

Neck: Supple. No lymphadenopathy.

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

Respiratory: Lungs clear to auscultation bilaterally. No wheezes, rales, or rhonchi.

Abdomen: Soft, mildly tender in epigastrium, not distended. No hepatosplenomegaly. Normal bowel sounds. No guarding or rebound tenderness. Old appendectomy scar in right lower quadrant.

Extremities: Mild bilateral lower extremity edema. No calf tenderness. 2+ peripheral pulses throughout.

Skin: Patches of psoriasis on extensor surfaces of elbows (improved from admission). Complete alopecia. No evidence of GVHD (as expected with autologous transplant).

Neurological: Alert and oriented x3. Cranial nerves II-XII intact. Motor strength 5/5 throughout except 4+/5 bilateral lower extremities (fatigue/deconditioning). Sensation intact throughout. DTRs 2+ and symmetric.

ECOG Performance Status: 2 (Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours).

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

Mr. Bennett is a 59-year-old male with Stage IV Mantle Cell Lymphoma who was admitted for high-dose chemotherapy conditioning with BEAM followed by autologous stem cell transplantation. His disease had shown excellent response to induction therapy with 3 cycles of R-CHOP+I alternated by 3 cycles of R-DHAP, achieving a complete metabolic response by PET/CT prior to transplant.

The patient was admitted on March 10, 2025, for pre-transplant evaluation and central line placement. After confirming adequate organ function and absence of active infection, BEAM conditioning was initiated on March 12, 2025 (day -6). The conditioning regimen was completed on March 17, 2025 (day -1) without major complications.

Autologous stem cell infusion occurred on March 18, 2025 (day 0), with 4.8 × 10^6 CD34+ cells/kg infused without complications. The patient experienced expected toxicities including grade 3 mucositis requiring opioid analgesics and temporary parenteral nutrition, grade 2 nausea/vomiting, and grade 3 diarrhea.

On day +7 post-transplant (March 25, 2025), the patient developed neutropenic fever (38.7°C) with an absolute neutrophil count of 0.1 × 10^9/L. Blood and urine cultures were obtained, and empiric antibiotic therapy with Meropenem was initiated. CT scan of the chest showed fungal pneumonia. Isavuconazole was started. The patient became afebrile after 48 hours of appropriate antimicrobial therapy.

Neutrophil engraftment occurred on day +11 (March 29, 2025) with an ANC >0.5 × 10^9/L for 3 consecutive days. Platelet engraftment (>20 × 10^9/L unsupported for 2 days) was documented on day +14 (April 1, 2025).

The patient required two units of packed red blood cells and four units of platelets during the pancytopenic phase. Total parenteral nutrition was initiated on day +3 due to severe mucositis and discontinued on day +12 as oral intake improved.

By discharge, the patient's mucositis had significantly improved, allowing adequate oral intake. Central line was removed. The patient remained clinically stable with no fever for >72 hours, improving blood counts, and adequate oral intake and hydration.

**7. Medication at Discharge:**

New Medications:

* Acyclovir 400 mg PO BID (to continue for 12 months post-transplant)
* Trimethoprim-sulfamethoxazole DS 1 tablet PO three times weekly (for PCP prophylaxis)
* Isavuconazole 200 mg PO daily (for 6 weeks, then reassessment)
* Pantoprazole 40 mg PO daily
* Ondansetron 4 mg PO q8h PRN for nausea
* Paracetamol 500 mg PO q8h PRN for pain

Chronic Medications (Resumed):

* Mesalamine 2.4 g PO daily (for ulcerative colitis)
* Calcipotriene 0.005% ointment applied to affected areas BID (for psoriasis)
* Albuterol inhaler 2 puffs PRN for wheezing (for asthma)
* Potassium citrate 10 mEq PO BID (for kidney stone prevention)
* Hearing aids (bilateral, to be worn when appropriate)

Medications to Avoid:

* NSAIDs and other platelet-inhibiting agents until platelet count >75 × 10^9/L

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

Immediate Follow-up:

* BMT clinic visit with Dr. K. Watanabe in 3 days (April 5, 2025)
* CBC with differential twice weekly for 2 weeks, then weekly until day +100
* Comprehensive metabolic panel weekly until day +100

Response Assessment:

* PET/CT scan scheduled for day +100 (June 26, 2025)
* Bone marrow biopsy and MRD assessment scheduled for day +100

Maintenance Therapy Plan:

* Maintenance ibrutinib 560 mg PO daily for 2 years and rituximab 375 mg/m² IV every 2 months for 3 years (to begin day +90)

Transplant-Related Instructions:

* Temperature monitoring twice daily
* Strict hand hygiene
* Low microbial diet for 3 months
* Avoidance of crowds and sick contacts for 3 months
* No gardening, construction sites, or activities with soil exposure for 3 months
* No swimming in lakes, ponds, or public pools for 6 months
* No live pets for 3 months
* Wear mask in public places until day +100

Vaccination Schedule:

* Inactivated vaccines to begin 6 months post-transplant
* Pneumococcal vaccine at 12 months post-transplant
* Influenza vaccine seasonally
* COVID-19 vaccine series to restart at 6 months post-transplant

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

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| --- | --- | --- | --- | --- | --- |
| **Parameter** | **Pre-Conditioning (3/10/2025)** | **Nadir** | **Discharge (4/2/2025)** | **Units** | **Reference Range** |
| WBC | 4.8 | 0.2 (3/24) | 3.2 | × 10^9/L | 4.0-11.0 |
| ANC | 3.2 | 0.0 (3/22-3/28) | 2.1 | × 10^9/L | 2.0-7.0 |
| Hemoglobin | 11.8 | 7.6 (3/27) | 9.2 | g/dL | 13.5-17.5 (M) |
| Platelets | 145 | 6 (3/25) | 32 | × 10^9/L | 150-400 |
| Creatinine | 0.9 | 1.3 (3/19) | 1.0 | mg/dL | 0.7-1.3 |
| BUN | 15 | 32 (3/20) | 18 | mg/dL | 7-20 |
| Total Bilirubin | 0.8 | 2.4 (3/24) | 1.2 | mg/dL | 0.2-1.2 |
| Direct Bilirubin | 0.2 | 1.1 (3/24) | 0.4 | mg/dL | 0.0-0.3 |
| ALT | 32 | 68 (3/25) | 45 | U/L | 7-56 |
| AST | 28 | 74 (3/25) | 38 | U/L | 8-48 |
| Alkaline Phosphatase | 85 | 134 (3/24) | 98 | U/L | 40-130 |
| Albumin | 4.0 | 2.8 (3/23) | 3.2 | g/dL | 3.5-5.0 |
| Potassium | 4.0 | 3.2 (3/20) | 3.8 | mmol/L | 3.5-5.0 |
| Magnesium | 2.1 | 1.5 (3/21) | 2.0 | mg/dL | 1.7-2.2 |
| Glucose | 132 | 186 (3/19) | 124 | mg/dL | 70-100 |
| CMV PCR | Negative | - | Negative | - | Negative |

**Electronically Signed By:**  
Dr. K. Watanabe (Hematology/BMT)  
Date/Time: 2025-04-02 16:30

Dr. F. Nouri (Infectious Disease)  
Date/Time: 2025-04-02 12:15

Dr. S. Thompson (Gastroenterology)  
Date/Time: 2025-04-01 10:30