**Patient**: S.W. (DOB 1963-03-03)  
**MRN**: 583617  
**Admission**: 2025-03-18 | **Discharge**: 2025-03-25  
**Physicians**: Dr. K. Murray (Medical Oncology), Dr. P. Gupta (Infectious Disease), Dr. V. Rodriguez (Gastroenterology)

**DISCHARGE DIAGNOSIS**

Neutropenic Fever with Gram-Negative Bacteremia in a Patient with Metastatic Colorectal Adenocarcinoma

**ONCOLOGICAL DIAGNOSIS**

* **Primary**: Adenocarcinoma of the Sigmoid Colon with Liver and Peritoneal Metastases
* **Diagnosed**: October 2024
* **Histology**:
  + Colonoscopy biopsy: Moderately differentiated adenocarcinoma
  + Liver biopsy: Metastatic adenocarcinoma consistent with colorectal primary
* **Molecular Profile**:
  + KRAS mutation (G12D), BRAF wild-type, MSS
  + NGS: KRAS G12D, TP53 R175H, PIK3CA E545K mutations
* **Staging**: cT4aN2aM1c (Stage IVC)
  + Primary: 5.2 cm sigmoid mass with serosal involvement
  + Regional nodes: 4/15 positive
  + Metastases: Multiple bilobar liver lesions (largest 4.3 cm), peritoneal implants
* **Imaging**:
  + CT/MRI: Multiple liver metastases, peritoneal nodularity
  + PET/CT: FDG-avid primary tumor (SUV 15.2), liver metastases (SUV 10.5-13.8), peritoneal implants (SUV 6.8-9.2)

**CURRENT TREATMENT**

* Broad-spectrum antibiotics: Initially piperacillin-tazobactam, escalated to meropenem + azithromycin + vancomycin
* Filgrastim 5 mcg/kg SC daily for neutropenia
* IV fluids, antipyretics

**TREATMENT HISTORY**

**Surgical**:

* No primary tumor resection (unresectable due to metastatic disease)
* Diverting loop colostomy (December 2024) for partial bowel obstruction

**Systemic**:

* 5 cycles FOLFIRI + bevacizumab initiated December 2024
* Cycle 3: Grade 2 diarrhea requiring irinotecan dose reduction (180 mg/m² to 150 mg/m²)
* After 4 cycles (February 2025):
  + CT: Partial response with ~30% reduction in liver metastases, stable peritoneal disease
  + CEA decreased from 245 ng/mL to 86 ng/mL

**COMORBIDITIES**

* Type 2 Diabetes Mellitus (2015, HbA1c 7.4%)
* Hypertension (2013, controlled)
* Hyperlipidemia
* Gout (last flare 2023)
* Former smoker (30 pack-years, quit 2020)
* Colostomy (since December 2024)

**HOSPITAL COURSE**

62-year-old male presented on day 10 of cycle 5 of FOLFIRI+bevacizumab with fever (39.2°C), hypotension (92/58 mmHg), tachycardia, and fatigue. Labs showed severe neutropenia (ANC 0.08 x 10^9/L), thrombocytopenia (platelets 58 x 10^9/L), and elevated inflammatory markers (CRP 198 mg/L).

Admitted for febrile neutropenia with empiric piperacillin-tazobactam after blood cultures. Initial fluid resuscitation (2L normal saline) improved blood pressure. Chest X-ray showed no infiltrates. CT abdomen/pelvis revealed stable metastatic disease with moderate colitis in descending and sigmoid colon.

Blood cultures from admission grew E. coli (susceptible to piperacillin-tazobactam and ciprofloxacin) from both peripheral and port samples. Infectious Disease recommended continuing piperacillin-tazobactam with 14-day total course. Port-a-cath was maintained given same organism from peripheral blood and clinical improvement on appropriate antibiotics.

Patient remained febrile for 48 hours. Repeat CT chest showed right lower lobe infiltrate, prompting escalation to meropenem, azithromycin, and vancomycin. Initially, there was consideration of septic emboli given the port infection, but the pattern on imaging was more consistent with aspiration or bacterial pneumonia. MRSA nares swab was negative. Sputum cultures were attempted but yielded inadequate specimens. The patient had no clinical signs of endocarditis, and a transthoracic echocardiogram showed no vegetations.

Filgrastim continued throughout hospitalization, administered daily with good response. The patient was monitored closely for capillary leak syndrome and other G-CSF related complications, but none occurred.

Neutrophil count began recovering on day 4 (ANC 0.54 x 10^9/L), improving to 1.8 x 10^9/L by discharge. Patient became afebrile on hospital day 4 and remained afebrile for 48 hours prior to discharge. Repeat blood cultures (days 3 and 5) showed no growth.

C. difficile testing was negative; colitis attributed to combination of chemotherapy effect and infection.

Decision was made to continue chemotherapy with further 20% dose reduction of irinotecan and 5-FU and add prophylactic pegfilgrastim for future cycles. Final diagnosis: neutropenic fever with E. coli bacteremia, likely from bacterial translocation secondary to chemotherapy-induced colitis.

**DISCHARGE MEDICATIONS**

**Antimicrobials**:

* Ciprofloxacin 500 mg PO BID for 7 days (to complete 14-day course)

**Chronic Medications**:

* Metformin 500 mg PO BID
* Lisinopril 10 mg PO daily
* Atorvastatin 20 mg PO daily
* Allopurinol 100 mg PO daily

**Supportive Medications**:

* Loperamide 2 mg PO PRN after loose stool (max 8/day)
* Ondansetron 8 mg PO Q8H PRN nausea
* Acetaminophen 650 mg PO Q6H PRN pain/fever

**FOLLOW-UP PLAN**

**Oncology**:

* Dr. K. Murray in 1 week (April 1, 2025)
* CBC with differential and CMP in 3 days
* Continue FOLFIRI+bevacizumab (additional 20% dose reduction) scheduled for April 8, 2025
* Pegfilgrastim 24h after completion of cytotoxic chemotherapy for all future cycles
* Reassessment of response after 8 cycles

**Infectious Disease**:

* Dr. P. Gupta in 2 weeks
* Complete 14-day antibiotic course

**Patient Education**:

* Routine colostomy care; monitor for output changes
* Report fever, chills, worsening abdominal pain, changes in ostomy output
* Monitor for ciprofloxacin side effects (tendonitis, C. diff risk, QTc prolongation)
* Monitor port site for infection signs
* Report signs of bleeding

**KEY LAB VALUES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Admission** | **Nadir/Peak** | **Discharge** | **Reference** |
| WBC | 0.6 | 0.5 (3/19) | 3.2 | 4.0-11.0 x10^9/L |
| ANC | 0.08 | 0.05 (3/19) | 1.8 | 1.8-7.5 x10^9/L |
| Hemoglobin | 9.8 | 8.5 (3/20) | 9.2 | 13.5-17.5 g/dL |
| Platelets | 58 | 42 (3/20) | 86 | 150-400 x10^9/L |
| Creatinine | 1.3 | 1.4 (3/19) | 1.0 | 0.7-1.3 mg/dL |
| CRP | 198 | 245 (3/19) | 42 | <10 mg/L |
| Procalcitonin | 3.8 | 4.2 (3/19) | 0.6 | <0.5 ng/mL |
| Lactate | 2.8 | 3.2 (3/18) | 1.1 | 0.5-2.2 mmol/L |
| Blood Culture | Positive E. coli | - | No growth | No growth |
| CEA | - | - | 82 | <5.0 ng/mL |

**Electronically Signed**:  
Dr. K. Murray (Medical Oncology)  
Dr. P. Gupta (Infectious Disease)  
Date: 2025-03-25