**Patient**: Peter Mitchell  
**MRN**: 629384  
**DOB**: 1955-11-13 (69 years)  
**Admission**: 2025-03-15 | **Discharge**: 2025-03-22  
**Physicians**: Dr. A. Sharma (Hematology/Oncology), Dr. L. Washington (Gastroenterology), Dr. C. Rodriguez (Neurology)

**DISCHARGE DIAGNOSIS**

Primary Myelofibrosis (PMF) Transitioning from Fedratinib to Momelotinib due to Thiamine Deficiency and Encephalopathy

**DETAILED DIAGNOSIS**

* **Primary**: Primary Myelofibrosis (PMF)
* **Diagnosed**: 2023-08-15
* **Current Status**: Active disease, DIPSS-Plus low risk
* **Laboratory Findings at Diagnosis**:
  + Hemoglobin: 9.2 g/dL (Reference: 13.5-17.5)
  + White Blood Cell Count: 18.2 × 10^9/L (Reference: 4.0-11.0)
  + Platelets: 85 × 10^9/L (Reference: 150-400)
  + Peripheral blood leukoerythroblastosis, peripheral blasts 1%
  + Tear-drop shaped red blood cells (dacrocytes)
  + LDH: 458 U/L (Reference: 135-225)
* **Bone Marrow Findings** (2023-08-12):
  + Hypercellular marrow (80%) with marked megakaryocytic proliferation and atypia
  + Reticulin fibrosis: Grade 3 (scale 0-3), Collagen fibrosis present
  + Increased osteosclerosis
* **Molecular Studies**:
  + JAK2 V617F mutation: Positive (VAF 42%)
  + CALR and MPL mutations: Negative
  + Additional mutations: ASXL1, EZH2
* **Cytogenetic Analysis**:
  + Karyotype: 46,XY,del(13)(q12q22)[15]/46,XY[5]
  + FISH: Deletion of 13q confirmed
* **Risk Stratification**:
  + DIPSS score: 5 points (low risk)
  + DIPSS-Plus score: 5 points (low risk)
* **Clinical Manifestations**:
  + Anemia requiring intermittent transfusions, moderate thrombocytopenia, leukocytosis
  + Marked splenomegaly (22 cm craniocaudal dimension)
  + Constitutional symptoms: Night sweats, weight loss (10 kg/6 months), fatigue
  + Early satiety and left upper quadrant discomfort

**CURRENT TREATMENT**

**Management of Thiamine Deficiency/Encephalopathy**:

* Thiamine deficiency (level 45 nmol/L at admission)
* High-dose thiamine replacement (500 mg IV TID for 3 days, then 250 mg IV daily for 5 days)
* Fedratinib discontinued permanently

**New Treatment Plan**:

* Momelotinib 200 mg PO daily (started on discharge)
* Selected for potential benefits for anemia and lower risk of thiamine-related complications

**PREVIOUS TREATMENT HISTORY**

**Ruxolitinib Trial** (2023-09-15 to 2024-10-20):

* Initial dose: 20 mg PO BID
* Dose reductions due to thrombocytopenia to 5 mg BID
* Best response: Minimal spleen reduction (~10%), modest symptom improvement
* Discontinued due to disease progression with worsening splenomegaly and symptoms

**Fedratinib Therapy** (2024-11-10 to 2025-03-14):

* Dose at discontinuation: 400 mg PO daily
* Response:
  + Spleen reduction: ~30% (22 cm → 15 cm)
  + Improvement in constitutional symptoms
  + Hematologic response: Hgb 8.6 → 10.0 g/dL, WBC 22.4 → 12.6 × 10^9/L, Platelets 70 → 98 × 10^9/L

**COMORBIDITIES**

* Hypertension (controlled)
* Type 2 diabetes mellitus (diet-controlled, HbA1c 6.8%)
* Coronary artery disease (NSTEMI 2018, medical management)
* Dyslipidemia
* Chronic kidney disease
* Gout (last flare 2024-12)
* Benign prostatic hyperplasia

**HOSPITAL COURSE**

69-year-old male with PMF admitted with persistent nausea, vomiting, diarrhea, and progressive confusion, concerning for Wernicke's encephalopathy due to fedratinib-induced thiamine depletion. On admission, patient was disoriented to place and time with mild horizontal nystagmus, moderate dehydration, and acute kidney injury (creatinine 1.8 mg/dL from baseline 1.2 mg/dL).

Thiamine level confirmed deficiency (45 nmol/L, reference 70-180 nmol/L). Review of records revealed that recent low thiamine level from 3 weeks prior had not been followed up due to system error.

Treatment included IV thiamine replacement, fluid resuscitation, and permanent discontinuation of fedratinib. Neurology confirmed encephalopathy consistent with early Wernicke's. MRI brain showed mild non-specific periventricular white matter changes but no acute abnormalities.

Upper endoscopy revealed mild gastritis. GI symptoms attributed to fedratinib side effects, exacerbated by thiamine deficiency. With treatment, mental status returned to baseline by hospital day 5 and renal function improved.

After discussion of risk-benefit considerations, decision made to transition to momelotinib for its favorable anemia profile and no reported association with thiamine deficiency.

**DISCHARGE MEDICATIONS**

* Momelotinib 200 mg PO daily
* Thiamine 100 mg PO TID
* Ondansetron 8 mg PO q8h PRN nausea/vomiting
* Loperamide 2 mg PO after each loose stool (max 16 mg/day)
* Famotidine 20 mg PO twice daily
* Amlodipine 5 mg PO daily
* Lisinopril 10 mg PO daily
* Atorvastatin 40 mg PO daily
* Aspirin 81 mg PO daily
* Allopurinol 100 mg PO daily
* Tamsulosin 0.4 mg PO daily at bedtime
* Acetaminophen 650 mg PO q6h PRN pain/fever

**FOLLOW-UP PLAN**

**Hematology/Oncology**:

* Dr. A. Sharma in 1 week (2025-03-29)
* Weekly visits for first month, then biweekly for 2 months, then monthly
* CBC weekly for 4 weeks, then biweekly for 8 weeks, then monthly
* CMP, LDH, uric acid weekly for 4 weeks, then monthly
* Thiamine level weekly for 4 weeks, then monthly
* Monitor for momelotinib side effects: headache, dizziness, increased transaminases

**Spleen Monitoring**:

* Abdominal ultrasound in 3 months to assess response
* Physical examination at each visit

**Neurology Follow-up**:

* Dr. C. Rodriguez in 2 weeks (2025-04-05)
* Comprehensive cognitive and neurological assessment

**Gastroenterology Follow-up**:

* Dr. L. Washington in 1 month (2025-04-22)
* Assessment of GI symptoms and medication adjustment as needed

**Patient Education**:

* New medication regimen and potential side effects
* Importance of continued thiamine supplementation
* Reporting neurological symptoms immediately
* Signs of disease progression
* When to seek immediate medical attention

**KEY LAB VALUES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Admission** | **Discharge** | **Reference** |
| WBC | 12.6 | 11.8 | 4.0-11.0 ×10^9/L |
| Hemoglobin | 10.0 | 9.8 | 13.5-17.5 g/dL |
| Platelets | 98 | 105 | 150-400 ×10^9/L |
| Creatinine | 1.8 | 1.3 | 0.7-1.2 mg/dL |
| eGFR | 38 | 56 | >60 mL/min/1.73m² |
| LDH | 386 | 370 | 135-225 U/L |
| Thiamine | 45 | 120 | 70-180 nmol/L |
| CRP | 2.2 | 0.8 | <0.5 mg/dL |

**Electronically Signed**:  
Dr. A. Sharma (Hematology/Oncology)  
Dr. L. Washington (Gastroenterology)  
Dr. C. Rodriguez (Neurology)  
Date: 2025-03-22