**Patient**: Elaine Berkowitz  
**MRN**: 893746  
**Admission**: 2025-03-18 | **Discharge**: 2025-03-23  
**Physicians**: Dr. R. Thompson (Internal Medicine), Dr. K. Patel (Gastroenterology), Dr. L. Martinez (Hematology)

**Discharge diagnosis: pernicious anemia with severe vitamin 12 deficiency**

**1. Diagnostic Findings**

* **Laboratory** (3/19/25):
  + Hemoglobin: 7.2 g/dL
  + MCV: 112 fL
  + Vitamin B12: <50 pg/mL
  + Methylmalonic acid: 3.85 μmol/L
  + Homocysteine: 89 μmol/L
  + Reticulocyte index: 0.4
* **Immunology**:
  + Anti-intrinsic factor antibodies: Positive
  + Anti-parietal cell antibodies: Positive
* **Peripheral Smear**: Macrocytosis, oval macrocytes, hypersegmented neutrophils
* **Bone Marrow** (3/19/25):
  + Hypercellular (70-80%)
  + Megaloblastic changes in erythroid precursors
  + No evidence of malignancy
* **EGD with Biopsy** (3/20/25):
  + Atrophic gastritis in body/fundus
  + H. pylori negative
  + Histopathology: Chronic atrophic gastritis with intestinal metaplasia

**2. Clinical Manifestations**

* **Hematologic**: Severe macrocytic anemia, mild thrombocytopenia
* **Neurologic**: Peripheral neuropathy, decreased proprioception, diminished reflexes, positive Romberg, mild ataxia
* **Gastrointestinal**: Glossitis, anorexia, unintentional weight loss
* **Constitutional**: Fatigue, weakness, shortness of breath with exertion

**3. Treatment**

* **Vitamin B12 Replacement**:
  + Cyanocobalamin 1000 mcg IM daily × 7 days
  + Then weekly × 4 weeks
  + Then monthly indefinitely
* **Response**:
  + Hemoglobin increased from 7.2 to 8.9 g/dL
  + Appropriate reticulocytosis observed
  + Early improvement in fatigue, lightheadedness, paresthesias

**4. Prior Treatment**

* 2 units PRBCs 2 weeks before admission (outside ED)
* No prior documented diagnosis of pernicious anemia

**5. Comorbidities**

* Breast cancer (2018, status post lumpectomy/radiation, on anastrozole)
* Hypothyroidism (2018)
* Vitiligo (2010)
* Osteoporosis
* Hypertension
* Hyperlipidemia
* GERD

**6. Discharge Medications**

* Cyanocobalamin 1000 mcg IM daily (for 2 more days, then weekly × 4 weeks, then monthly)
* Folate 1 mg PO daily (for 28 days)
* Anastrozole 1 mg PO daily
* Levothyroxine 112 mcg PO daily
* Amlodipine 5 mg PO daily
* Rosuvastatin 10 mg PO daily
* Omeprazole 20 mg PO daily
* Calcium carbonate 600 mg/Vitamin D 400 IU PO BID
* Alendronate 70 mg PO weekly

**7. Follow-up Plan**

* **Hematology**: Dr. L. Martinez
  + In 3 days (3/26/25) and 2 weeks (4/6/25)
  + Labs: Electrolytes, CBC, reticulocyte count, B12 level at 2 weeks, 3 months, then every 6-12 months
* **Gastroenterology**: Dr. K. Patel
  + In 4 weeks (4/20/25)
  + Discuss gastric cancer surveillance (increased risk with atrophic gastritis)
  + Consider follow-up endoscopy in 1 year
* **Primary Care**: Dr. R. Thompson
  + In 4 weeks (4/22/25)
  + Monitor for other autoimmune conditions
  + Annual mammogram due 6/2025
  + Bone density scan due 9/2025

**Patient Education**

* B12 self-injection technique (demonstrated and verified)
* Report worsening neurological symptoms, anemia signs, gastritis symptoms
* Dietary counseling (B12 supplementation required despite diet)

**8. Lab Values (Admission → Discharge)**

* WBC: 4.1 → 4.3 × 10^9/L
* Hemoglobin: 7.2 → 8.9 g/dL
* Hematocrit: 20.5 → 26.2%
* MCV: 112 → 108 fL
* Platelets: 112 → 128 × 10^9/L
* Reticulocyte count: 0.8 → 4.6%
* Reticulocyte index: 0.4 → 3.5
* Potassium: 4.1 → 3.1 mmol/l
* Vitamin B12: <50 → 1,850 pg/mL
* Methylmalonic acid: 3.85 → 2.12 μmol/L
* Homocysteine: 89 → 42 μmol/L
* LDH: 985 → 280 U/L

**Electronically Signed By**:  
Dr. R. Thompson (Internal Medicine) - 2025-03-23 15:30  
Dr. L. Martinez (Hematology) - 2025-03-23 14:45  
Dr. K. Patel (Gastroenterology) - 2025-03-23 13:30