**Patient:** Olivia Martinez (DOB 1988-11-10)  
**Medical Record Number:** 492385  
**Date of Admission:** 2025-03-22  
**Date of Discharge:** 2025-04-05  
**Admitting Physician:** Dr. A. Patel (Hematology)  
**Consulting Physicians:** Dr. J. Walker (Nephrology), Dr. S. Chen (Neurology), Dr. T. Robinson (Critical Care)

**Discharge Diagnosis: Acquired Thrombotic Thrombocytopenic Purpura (TTP)**

**1. Detailed Diagnosis:**

Primary Diagnosis: Acquired Thrombotic Thrombocytopenic Purpura (TTP)  
Date of Diagnosis: March 22, 2025 (current admission)

Diagnostic Criteria:

* Severe thrombocytopenia (platelets 9 × 10^9/L)
* Microangiopathic hemolytic anemia with schistocytes on peripheral smear
* Neurological symptoms (confusion, headache)
* Renal involvement (elevated creatinine, microscopic hematuria)
* Severely reduced ADAMTS13 activity (<5%, normal >70%)
* Positive ADAMTS13 inhibitor (4.2 Bethesda Units)

Potential Triggers/Associations:

* Recent upper respiratory infection (2 weeks prior)
* No prior history of TTP
* No known autoimmune conditions
* No recent medication changes or exposures

**2. Current Treatment:**

PLASMIC Score: 7/7 points (High Risk) [Platelet count <30 × 10^9/L: Yes (1 point), Hemolysis (elevated indirect bilirubin, reticulocytosis): Yes (1 point), Active cancer: No (1 point), Stem cell or solid organ transplant: No (1 point), MCV <90 fL: Yes (1 point) - MCV was 84 fL, INR <1.5: Yes (1 point) - INR was 1.1, Creatinine <2.0 mg/dL: Yes (1 point) - Creatinine was 1.8 mg/dL]

Therapeutic Plasma Exchange (TPE):

* Started urgently on day of admission
* Daily TPE for 10 consecutive days
* First 5 days: 1.5 plasma volume exchanges
* Subsequent 5 days: 1.0 plasma volume exchanges
* Replacement fluid: 100% fresh frozen plasma

Immunosuppressive Therapy:

* Methylprednisolone 1,000 mg IV daily for 3 days, followed by
* Prednisone 1 mg/kg/day PO (80 mg daily), started on day 4

Rituximab:

* 375 mg/m² IV weekly (started on day 3)
* Completed first 2 doses during hospitalization
* Plan to complete 4 total doses as outpatient

Caplacizumab:

* 1 mg IV loading dose given after first TPE
* 1 mg SC daily maintenance throughout hospitalization
* To continue for at least 30 days after TPE discontinuation

Supportive Care:

* Packed red blood cell transfusions (2 units on admission, 1 unit on day 4)
* Platelet transfusions withheld except for severe bleeding
* Prophylactic folic acid and vitamin B12
* DVT prophylaxis (held initially, started on day 8 when platelets >50,000/μL)

**3. Past hematological treatment:**

none

**4. Comorbidities:**

* Hypertension (diagnosed 2019, well-controlled)
* Hypothyroidism (diagnosed 2020, on levothyroxine)
* Migraines with aura (infrequent)
* No prior history of bleeding disorders, thrombosis, or autoimmune disease
* G2P2 (2 uncomplicated pregnancies)

**5. Physical exam at admission**

General: 36-year-old female, appears acutely ill, fatigued, and mildly confused.

Vitals: BP 158/94 mmHg, HR 112 bpm, RR 22/min, Temp 37.1°C, SpO2 98% on room air

HEENT: Scleral icterus noted bilaterally. Conjunctivae are pale. Oropharynx shows scattered petechiae on the hard palate. Mucous membranes appear slightly dry.

Cardiovascular: Tachycardic with regular rhythm. Grade II/VI systolic flow murmur heard best at the left sternal border. No rubs or gallops. Peripheral pulses palpable.

Respiratory: Respirations mildly tachypneic but unlabored. Lungs clear to auscultation bilaterally. No wheezes, rales, or rhonchi.

Abdomen: Soft, non-distended, non-tender. Bowel sounds normoactive. No hepatosplenomegaly palpated.

Extremities: Warm and well-perfused. No peripheral edema. Scattered petechiae noted on bilateral lower extremities.

Skin: Skin appears pale with mild jaundice. Petechiae present on the hard palate and lower extremities as described above. No significant bruising or active bleeding noted.

Neurological: Alert but confused and disoriented (e.g., Oriented x1-2, specify domains like person, place, time). Mild dysmetria noted on finger-to-nose testing. Gait is slightly unsteady. No gross focal motor or sensory deficits identified beyond cerebellar findings. Cranial nerves II-XII grossly intact.

**6. Hospital Course:**

Ms. Martinez presented to the emergency department with a 3-day history of worsening fatigue, persistent headache, confusion, and scattered petechiae on her extremities. Initial laboratory studies revealed severe thrombocytopenia and evidence of hemolytic anemia. Peripheral blood smear showed numerous schistocytes, suggesting a microangiopathic process.

The patient was immediately admitted to the ICU with high suspicion for TTP, and urgent therapeutic plasma exchange (TPE) was initiated within 6 hours of presentation (after ADAMTS13 sample was collected but before results were available).

Her initial hospital course was complicated by:

* Worsening neurological symptoms on day 2 with brief seizure activity requiring neurology consultation
* Intermittent epistaxis requiring nasal packing
* Acute kidney injury requiring nephrology consultation
* Hypertension requiring IV medication for control (likely secondary to renal involvement)

After initiation of TPE and immunosuppressive therapy, the patient began to show clinical improvement by day 4. Neurological symptoms resolved, platelet count began to increase gradually, and markers of hemolysis (LDH, bilirubin) started to decrease.

Caplacizumab was added to the treatment regimen on day 1 (after first TPE), and rituximab was initiated on day 3 to reduce risk of relapse. The patient was transferred from the ICU to the regular medical floor on day 6.

By day 10, her platelet count had increased to 132 × 10^9/L, and her hemoglobin had stabilized at 9.8 g/dL without further transfusions. Daily plasma exchange was discontinued after 10 consecutive treatments, with evidence of sustained hematological response.

ADAMTS13 activity testing confirmed the diagnosis of acquired TTP with activity <5% and presence of an inhibitor. Appropriate antimicrobial prophylaxis with trimethoprim-sulfamethoxazole and valacyclovir was initiated given the immunosuppressive regimen with both high-dose corticosteroids and rituximab.

Subsequent infectious and autoimmune workup was negative for associated conditions.

The patient was discharged on day 15 with normalization of platelet count (178 × 10^9/L), improving hemoglobin (10.2 g/dL), normalized LDH, and improved renal function (creatinine 1.1 mg/dL). She will continue caplacizumab injections, oral prednisone taper, and complete her rituximab course as an outpatient.

**7. Medication at Discharge:**

TTP-Related:

* Caplacizumab 1 mg SC daily (continue through May 5, 2025)
* Prednisone 80 mg PO daily for 7 days, then taper by 10 mg weekly
* Folic acid 1 mg PO daily
* Vitamin B12 1,000 mcg PO daily
* Trimethoprim-sulfamethoxazole 800/160 mg PO three times weekly (PCP prophylaxis)
* Valacyclovir 500 mg PO daily (HSV/VZV prophylaxis)
* Calcium carbonate 600 mg PO BID (elemental calcium 1,200 mg daily)
* Vitamin D3 2,000 IU PO daily
* Pantoprazol 40 mg PO daily

Chronic Medications:

* Levothyroxine 112 mcg PO daily
* Amlodipine 5 mg PO daily

PRN Medications:

* Acetaminophen 650 mg PO Q6H PRN pain/fever
* Ondansetron 4 mg PO Q8H PRN nausea

**8. Follow-up Plan:**

Hematology Follow-up:

* Appointment with Dr. A. Patel in 3 days (April 8, 2025) for clinical assessment and CBC
* Weekly CBC, LDH, reticulocyte count, and comprehensive metabolic panel for at least 4 weeks
* Twice weekly CBC during the first week post-discharge
* ADAMTS13 activity to be checked 1 week after completion of rituximab course

TTP Monitoring:

* Close monitoring for signs of relapse (petechiae, neurological symptoms, fatigue)
* Patient educated on need for urgent evaluation if symptoms recur
* Monitor for steroid-related complications during taper
* Long-term ADAMTS13 monitoring plan: Monthly for 3 months, then every 3 months for 1 year

Infusion Center:

* Scheduled for rituximab infusions on April 12 and 19, 2025
* Teaching for home administration of caplacizumab completed

Nephrology:

* Follow-up with Dr. J. Walker in 2 weeks (April 19, 2025) for kidney function assessment

Bone Health Monitoring:

* Baseline DEXA scan scheduled for April 15, 2025
* Vitamin D level to be rechecked in 8 weeks
* Serum calcium to be monitored with weekly labs

**9. Lab Values:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameter** | **Admission (3/22/2025)** | **Nadir/Peak** | **Discharge (4/5/2025)** | **Units** | **Reference Range** |
| Hemoglobin | 7.2 | 6.8 (3/23) | 10.2 | g/dL | 12.0-16.0 (F) |
| Platelets | 9 | 7 (3/23) | 178 | x10^9/L | 150-400 |
| WBC | 12.8 | - | 9.6 | x10^9/L | 4.0-11.0 |
| Reticulocytes | 8.2 | - | 3.5 | % | 0.5-2.5 |
| LDH | 1,250 | 1,450 (3/23) | 220 | U/L | 135-225 |
| Haptoglobin | <8 | <8 (3/22-3/26) | 45 | mg/dL | 30-200 |
| Total Bilirubin | 3.2 | 3.6 (3/23) | 1.1 | mg/dL | 0.1-1.2 |
| Direct Bilirubin | 0.6 | - | 0.3 | mg/dL | 0.0-0.3 |
| Creatinine | 1.8 | 2.1 (3/24) | 1.1 | mg/dL | 0.5-1.1 (F) |
| BUN | 32 | 38 (3/24) | 16 | mg/dL | 7-20 |
| AST | 68 | - | 28 | U/L | 10-35 |
| ALT | 52 | - | 32 | U/L | 7-56 |
| Calcium | 8.9 | - | 9.1 | mg/dL | 8.5-10.5 |
| Vitamin D, 25-OH | 22 | - | 24 | ng/mL | 30-80 |
| MCV | 84 | - | 86 | fL | 80-100 |
| INR | 1.1 | - | 1.0 | - | 0.8-1.2 |
| ADAMTS13 Activity | <5 | - | - | % | >70 |
| ADAMTS13 Inhibitor | 4.2 | - | - | BU | Negative |
| Troponin I | 0.08 | - | <0.01 | ng/mL | <0.04 |

Electronically Signed By:  
Dr. A. Patel, MD  
Hematology  
Date/Time: 2025-04-05 15:30

Dr. J. Walker, MD  
Nephrology  
Date/Time: 2025-04-05 14:45