Discharge Diagnosis: Immune-Related Type 1 Diabetes Mellitus and Acute Kidney Injury Secondary to Nivolumab Therapy

Date of Admission: 2025-04-03
Date of Discharge: 2025-04-14
Admitting Physician: Dr. E. Collins (Medical Oncology)
Consulting Physicians: Dr. B. Wilson (Endocrinology), Dr. A. Martinez (Nephrology)

1. Detailed Oncological Diagnosis:

Primary Diagnosis: Non-Small Cell Lung Cancer (NSCLC), Adenocarcinoma, Stage IVB
Date of Initial Diagnosis: February 15, 2022

Histology:

- Core needle biopsy of left upper lobe mass revealed poorly differentiated adenocarcinoma
- Molecular testing negative for actionable mutations (EGFR, ALK, ROS1, BRAF, KRAS, RET, MET, NTRK all wild-type)
- PD-L1 expression: 80% Tumor Proportion Score (TPS), CPS 85, IC 20%

Metastatic Sites:

- Right adrenal gland (3.5 cm at diagnosis)
- Multiple bone metastases (T8, L2, left iliac crest)

2. Treatment History:

First-line Therapy:

- Pembrolizumab 200 mg IV every 3 weeks
- Initiated March 9, 2022
- Initial partial response, followed by disease progression July 12, 2023

Second-line Therapy:

- Carboplatin AUC 5 + Pemetrexed 500 mg/m² IV every 3 weeks
- Initiated August 2023
- Completed 6 cycles with partial response
- Progress November 2024 on pemetrexed maintenance

Third-line therapy:

- Nivolumab 240 mg every 2 weeks

Previous Immune-Related Adverse Events:

- Grade 2 hypothyroidism (diagnosed September 2022, requiring levothyroxine)
- Grade 1 vitiligo (noted January 2023, no treatment required)

3. Hospital Course:

Patient presented with polydipsia, polyuria, nausea, fatigue, and confusion. Laboratory evaluation revealed severe hyperglycemia (glucose 685 mg/dL), high anion gap metabolic acidosis (pH 7.21), positive serum ketones, and elevated creatinine (2.3 mg/dL). Diagnosis of diabetic ketoacidosis was established.

Endocrinology consultant confirmed new-onset type 1 diabetes mellitus as an immune-related adverse event from nivolumab therapy. Workup revealed undetectable C-peptide, elevated HbA1c (10.2%), and positive glutamic acid decarboxylase (GAD) antibodies. Nephrology was consulted for AKI, attributed to volume depletion and contrast-induced nephropathy from recent CT imaging.

Patient was treated with IV fluids, insulin drip, and electrolyte replacement with resolution of DKA within 48 hours. Renal function improved with hydration. She was transitioned to basal-bolus insulin regimen with excellent glycemic control prior to discharge. Comprehensive diabetes education was provided.

Plan: Stop nivolumab, return to Pemetrexed maintenance therapy.

4. Discharge Medications:

Diabetes Management:

- Insulin glargine 28 units SC at bedtime
- Insulin lispro 6 units SC with meals
- Insulin lispro correction scale

Cancer Therapy:

- Pemetrexed 500 mg/m² IV every 3 weeks (next cycle due April 28, 2025)

Chronic Medications:

- Levothyroxine 112 mcg PO daily
- Denosumab 120 mg SC every 4 weeks
- Calcium carbonate 600 mg + Vitamin D 400 IU PO BID
- Pantoprazole 40 mg PO daily
- Zolpidem 5 mg PO qHS PRN insomnia

5. Follow-up Plan:

Oncology: Dr. E. Collins in 1 week (April 21, 2025)

Endocrinology: Dr. B. Wilson in 2 weeks (April 28, 2025)

Nephrology: Dr. A. Martinez in 2 weeks (April 28, 2025)

Diabetes Education: Follow-up session scheduled for April 16, 2025

Labs: Fasting glucose daily, renal function in 1 week

6. Lab Values:

Parameter	Admission (4/3/2025)	Discharge (4/14/2025)	Units	Reference Range
Glucose	685	145	mg/dL	70-100
HbA1c	10.2	-	%	4.0-5.6
Creatinine	2.3	1.2	mg/dL	0.5-1.1
BUN	38	18	mg/dL	7-20
pH (VBG)	7.21	7.38	-	7.35-7.45
Bicarbonate	12	24	mmol/L	22-29
Anion Gap	22	12	mmol/L	8-16
C-peptide	<0.1	-	ng/mL	1.1-4.4
GAD Antibodies	Positive (124)	-	IU/mL	<5

Electronically Signed By:
Dr. E. Collins (Medical Oncology)
Date/Time: 2025-04-14 15:45

Dr. B. Wilson (Endocrinology)
Date/Time: 2025-04-14 14:10

Dr. A. Martinez (Nephrology)
Date/Time: 2025-04-13 16:30

Patient: Sandra Miller (DOB 1960-12-01)
Medical Record Number: SYN135