Discharge Summary

Patient ID: SYN138
Name: Gabriela Fontana
DOB: February 17, 1973
Date of Diagnosis: July 25, 2023
Primary Diagnosis: Non-Small Cell Lung Cancer, Adenocarcinoma, Stage IVB
Sites of Metastasis: Brain, Bone
Molecular Testing: KRAS G12C mutation positive
PD-L1 Expression: TPS 75%, CPS 80, IC 2+
First-Line Treatment: Pembrolizumab 200 mg IV q3wks
Start Date: August 16, 2023

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1. Oncologic Presentation and Molecular Profile

The patient initially presented with persistent headaches, cognitive slowing, and lower back discomfort. MRI brain (July 2023) revealed three small enhancing lesions in the frontal and parietal lobes (largest 0.9 cm), without surrounding edema or midline shift. A concurrent PET-CT revealed a 4.2 cm right upper lobe mass and multiple FDG-avid thoracic spine lesions (T8, T10, L1). A CT-guided biopsy of the primary lung lesion confirmed moderately differentiated adenocarcinoma, TTF-1+, Napsin A+, CK7+.

Molecular panel returned KRAS G12C mutation positive, with no other targetable alterations. PD-L1 expression was high (TPS 75%) via 22C3 assay, favoring a checkpoint inhibitor approach. CSF cytology was negative, and lumbar puncture ruled out leptomeningeal disease.

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2. Treatment and Response

The patient began monotherapy with pembrolizumab due to her high PD-L1 status and absence of significant visceral disease. At 8 weeks, PET-CT showed partial metabolic response. MRI at 12 weeks post-treatment showed reduction in brain lesions; the largest lesion decreased from 0.9 cm to 0.4 cm. At week 16, stereotactic radiosurgery (SRS) was delivered to residual lesions (total of 3 × 21 Gy fractions).

Bone-directed care was initiated:
• Denosumab 120 mg SC monthly
• Vitamin D3 and calcium supplementation
• Orthopedic consultation ruled out instability

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3. Toxicity and Comorbidities

The patient has tolerated treatment remarkably well, with no immune-related adverse events to date. Close glucose monitoring is ongoing due to mild hyperglycemia (FBS ~115-130 mg/dL), with concern for developing checkpoint-induced endocrinopathy.

Other Conditions:

- Chronic migraine (topiramate)
- Generalized anxiety disorder (sertraline)
- Vitamin D deficiency
- Family history: Breast cancer (mother), melanoma (brother)

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4. Lab and Imaging

Most Recent Labs (March 2025):

- Hb: 12.1 g/dL
- WBC: 5.6 K/μL
- ALT/AST: Normal
- Calcium: 9.3 mg/dL
- TSH: Normal
- CEA: 2.2 ng/mL

Imaging (February 2025):

- Stable right upper lobe mass at 1.7 cm (initial 4.2 cm)
- Brain MRI: Post-SRS changes, no active enhancement
- Bone scan: Sclerosis in T10/L1 with no new lesions

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5. Next Steps and Surveillance

• Pembrolizumab to continue until 2 years or toxicity/progression
• Brain MRI every 3 months for first year, then Q6 months
• PET-CT Q3-4 months
• Ongoing neuro-oncology surveillance

Prognostic Note: The patient's course has been exceptionally favorable. With CNS control and deep systemic response, long-term disease control is plausible.

Signed,
Dr. Meredith Olsen, MD
Thoracic Oncology
April 14, 2025