Oncology Treatment Summary

Patient: Per Brunson (ID SYN167)
Date of Birth: 03-Sep-1949

Primary Diagnosis: Stage IV Non-Small Cell Lung Cancer (Adenocarcinoma) with brain metastases
Initial Diagnosis Date: 30-September-2020
Initial Targetable Alteration: *EML4–ALK fusion, variant 1*
PD-L1 Expression: TPS 40%, CPS 42, IC 1+

🔍 Initial Diagnostic and Clinical Presentation

In September 2020, the male patient presented with episodic diplopia and right-sided visual field loss. MRI brain revealed two enhancing occipital lesions with subtle edema. Chest CT identified a 2.6 cm spiculated lesion in the RUL with mediastinal lymphadenopathy. Biopsy via EBUS confirmed lung adenocarcinoma, ALK rearranged (EML4-ALK V1), with high rearrangement ratio on FISH (88%).

No extracranial metastases beyond the CNS were noted. CSF cytology was negative. ECOG performance status was 1 at the time of diagnosis.

💊 First-Line Treatment: Alectinib

Start Date: 22 October 2020
Clinical Course:

- Excellent systemic and intracranial control
- MRI brain showed near complete resolution by month 4
- Lung mass shrank to 0.9 cm by March 2021
- Patient maintained ECOG 0–1 throughout therapy

Adverse Effects:

- Grade 1 constipation
- Transient ALT elevation (resolved without dose adjustment)
- No significant CNS toxicity, preserved cognition

⚠️ Disease Progression

Findings:

- MRI brain (March 29 2023): New 1.1 cm lesion in left temporal lobe with perilesional edema
- CT chest: Small increase in RUL mass (from 0.9 cm to 1.8 cm)
- CSF negative for malignant cells
- Repeat NGS on ctDNA: Emergence of *ALK G1202R mutation*, no other resistance drivers

Management:

- Alectinib discontinued
- Whole brain radiotherapy avoided due to small volume disease; patient underwent **stereotactic radiosurgery (SRS)** to temporal lesion (21 Gy in 3 fractions)
- Transitioned to **lorlatinib 100 mg PO daily** in May 2023

💊 Second-Line Therapy: Lorlatinib

Initiation Date: 5 May 2023
Current Duration: 11+ months (as of April 2025)
Response Assessment:

- **MRI brain (July 2023)**: Resolution of post-SRS enhancement
- **CT (Dec 2023)**: RUL mass reduced to 0.8 cm, no new lesions
- **PET (March 2024)**: No FDG-avid disease

Tolerability:

- Mild hyperlipidemia managed with atorvastatin 10 mg
- No cognitive or psychiatric symptoms reported
- Lipid panel monitored monthly
- Creatinine mildly elevated (1.4 mg/dL, stable)

🧬 Molecular Summary

Target	Status
ALK	Rearranged (EML4-ALK v1)
Resistance Mutation (ctDNA)	ALK G1202R
EGFR, KRAS, BRAF	Wild-Type
PD-L1	TPS 40%, CPS 42

🩺 Other Health Concerns

- Controlled hypertension (amlodipine 5 mg)
- BPH (tamsulosin)
- Mild age-related hearing loss (uses hearing aids)

- No diabetes or prior cardiac disease
- Lives independently, active lifestyle

🗒️ Current Plan

- Continue lorlatinib with regular monitoring
- MRI brain every 3–4 months
- Lipid panel and liver function monthly
- Neurocognitive screen at next visit
- ctDNA reassessment if progression occurs
- Will consider next-generation ALK inhibitors (e.g. TPX-0131) or trial enrollment if resistance develops

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Summary:
This patient represents a **prolonged disease control trajectory** in ALK+ NSCLC, with >2.5 years of intracranial and systemic stability on alectinib, followed by continued benefit from second-line lorlatinib post-progression. The presence of an ALK G1202R mutation guided the switch to lorlatinib, with excellent CNS response and minimal side effects to date.

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