

Patient Name: Paul Johanson **Patient ID:** SYN127 **DOB:** June 14, 1957

Date of Diagnosis: June 15, 2021

Primary Diagnosis: Metastatic Lung Adenocarcinoma with RET fusion

Site of Metastasis: Liver, Bone

PD-L1 Status: TPS 22%, CPS 35, IC 2+

Driver Mutation: RET fusion

First-line Therapy: Selpercatinib 160 mg PO BID

Start Date: July 7, 2021

1. Clinical Course

Mr. Johanson, a 67-year-old male with a smoking history of 15 pack-years (quit 1998), was found to have a right lower lobe mass with multifocal liver and skeletal metastases in mid-2021. Biopsy of a liver lesion confirmed metastatic lung adenocarcinoma. Histopathology showed gland-forming features; IHC profile: TTF-1+, CK7+, CK20-, Napsin A+.

Comprehensive NGS demonstrated a KIF5B-RET fusion. PD-L1 expression was moderate (TPS 22%). Based on these findings, he was initiated on Selpercatinib, a RET-selective TKI.

2. Treatment Response and Imaging Timeline

- **Initial response:** Marked improvement within first 8 weeks with >60% tumor burden reduction
- **6-month scans:** Near complete hepatic response, resolution of skeletal pain
- **12-month scans:** Stable disease
- **Most recent CT (March 2025):** Stable subcentimeter lung nodules, no new metastases
- **Bone Scan (2024):** Sclerosis of previously lytic L3 and pelvic lesions, consistent with healing

3. Toxicity and TKI Adjustments

He developed intermittent Grade 2 hypertension and Grade 1 diarrhea, managed with:

- Lisinopril 10 mg PO daily
- Loperamide PRN
- Occasional dose interruptions for transaminitis (peak ALT 185 U/L in March 2023, normalized after 2-week hold)

No QT prolongation, edema, or hemorrhagic events noted. Ophthalmology cleared him annually.

4. Comorbidities

- Hypertension (controlled)
- Benign prostatic hyperplasia

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- Osteoarthritis (knees)
 - Hyperlipidemia
 - Gout (rare flares)
 - No known allergies
 - Smoker, ex – 15 pack-years (quit 1998)
 - Vaccinations: Up to date, including COVID and pneumococcal
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5. Lab Monitoring

Routine q8wk labs:

- Hb: 12.8–13.4 g/dL
 - ALT/AST: occasional spikes, mostly WNL
 - Creatinine: stable 1.0 mg/dL
 - Lipids: LDL 118 mg/dL, on atorvastatin 20 mg
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6. Follow-up and Future Planning

Continued monitoring under Dr. Kaushik Jain (Thoracic Oncology). PET-CT scheduled for July 2025. Anticipated long-term durable response given >3.5 years on therapy without progression.

Will remain on Selpercatinib unless evidence of progression or intolerable toxicity. Patient is aware of the potential for acquired resistance; contingency plan includes:

- Enrollment in a RET resistance trial (LOXO-260 or TPX-0046)
 - Tissue rebiopsy if progression detected
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Patient Counseling:

- Drug adherence critical
 - Avoid CYP3A inhibitors
 - Continue low-sodium diet
 - Report headaches or visual symptoms (hypertensive urgency monitoring)
 - Advised periodic bone density check (due to prior bone mets)
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Signed Electronically,
Dr. Kaushik Jain, MD, PhD – Thoracic Oncology
April 14, 2025