Background
Selpercatinib is a first-in-class, highly selective and potent RET-inhibitor1 with CNS activity2,3.

RETCancer is identified through NGS, FISH, or IHC.

Key inclusion criteria:
- Eligible for initial systemic therapy (i.e., not definitive surgery ± adjuvant therapy)
- Measurable disease (per RECIST 1.1) at baseline
- ECOG PS 0-1
- Availability of adequate laboratory tests

TARGETED THERAPIES

Clinicalpathologic Features

- Median age: 62 years
- M:F ratio: 4:1

- Median PS: 0
- Metastatic sites (≥1): 44%
- CNS involvement: 12%

- Median duration of follow-up: 21.2 months
- 5-year OS: 69.1%
- 5-year PFS: 44.1%

- Median DoR: 20.2 months (95% CI: 18.3-23.9)
- Median PFS: 16.5 months (95% CI: 13.7-20.7)

- CNS ORR: 70.6%
- Median DoR in CNS: 9.4 months (95% CI: 7.4-15.3)

- 37% of patients had ≥1 brain metastases at baseline

- Median duration of follow-up: 21.2 months

- Median PFS: 16.5 months (95% CI: 13.7-20.7)

- CNS ORR: 70.6%

- Median DoR in CNS: 9.4 months (95% CI: 7.4-15.3)

- 37% of patients had ≥1 brain metastases at baseline

Efficacy

- Median PFS: 16.5 months (95% CI: 13.7-20.7)
- Objective response rate: 70.6%
- Median duration of follow-up: 21.2 months

- CNS ORR: 70.6%
- Median DoR in CNS: 9.4 months (95% CI: 7.4-15.3)

- 37% of patients had ≥1 brain metastases at baseline

Adverse Events

- Grade 3-4 events: 29% (N=356)
- Grade 5 events: 0 (N=356)

- Most common TEAEs: AR, D3

- Notable TEAEs: hypertension, Pneumonia, Cerebrovascular accident

Conclusions

- Selpercatinib demonstrated robust and durable efficacy in patients with RET fusion-positive NSCLC.
- Safety profile was consistent with previous reports.
- Study findings support the potential role of selpercatinib for patients with CNS metastases and/or RET fusion-positive NSCLC.