Competing central nervous system or systemic progression analysis for patients with EGFR mutation-positive NSCLC receiving afatinib in LUX-Lung 3, 6, and 7

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Background
- Central nervous system (CNS) metastases are a known complication of advanced EGFR mutation-positive NSCLC, with approximately 25–40% of patients with NSCLC developing brain metastases.
- The efficacy and optimal integration of EGFR TKIs in the treatment concept of brain metastases is less defined; therefore, LUX-Lung trials investigating the use of afatinib in this context are of interest.

Methods
- In a single-centre retrospective analysis in Korea (n=165), ORR was similar for patients receiving afatinib monotherapy (88%; n=17) compared to those receiving afatinib plus surgery or whole-brain radiotherapy (WBRT) (76%, n=148).
- In a combined analysis of patients in LUX-Lung 3 and 6, PFS was significantly better for patients receiving afatinib monotherapy, or afatinib plus surgery or WBRT (Figure 2).
- In all three studies, the magnitude of PFS improvement with afatinib versus chemotherapy or gefitinib in patients with brain metastases was similar to that observed in patients without brain metastases.
- HR, hazard ratio; PFS, progression-free survival; TKI, tyrosine kinase inhibitor

Objective
To investigate whether afatinib can prevent CNS progression or metastasis, we performed competing risk analyses for the progression and metastasis pattern in the CNS or non-CNS region in patients with and without brain metastases in LUX-Lung 3, 6, and 7.

Results
- In a combined analysis of patients in LUX-Lung 3 and 6, PFS was significantly improved with afatinib versus chemotherapy in patients with asymptomatic brain metastases (Figure 1).
- In another retrospective review, ORR was similar for patients receiving afatinib monotherapy, or afatinib plus surgery or WBRT.
- In a single-centre retrospective analysis in Korea (n=165), ORR for afatinib monotherapy was 76%, with 21% CR. PFS data were not significantly different between patients receiving afatinib monotherapy, or afatinib plus surgery or WBRT (Figure 2).
- In a randomised Phase IIb study, first-line afatinib versus chemotherapy or gefitinib in patients with brain metastases was similar to that observed in patients without brain metastases – HR 0.54, 0.47, and 0.76 in patients with brain metastases versus 0.48, 0.22, and 0.52 in patients without brain metastases in LUX-Lung 3, 6, and 7, respectively.
- In a combined analysis of patients in LUX-Lung 3 and 6, PFS was significantly improved with afatinib versus chemotherapy in patients with asymptomatic brain metastases.

Conclusions
- These results add to the existing evidence supporting afatinib use in patients with EGFR mutation-positive NSCLC and CNS metastases.
- Taken together, these results suggest afatinib delays the onset/progression of brain metastases.

References

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