Phase III trial of afatinib versus erlotinib in patients with squamous cell carcinoma of the lung (LUX-Lung 8): EGFR molecular aberrations and survival outcomes

INTRODUCTION

- Squamous cell carcinoma (SCC) of the lung has a high burden of genetic abnormalities.
- Intensive research over the last decade has allowed the development of targeted therapies for patients whose tumors have specific genetic abnormalities.
- The LUX-Lung 8 trial investigated second-line afatinib, an irreversible ErbB family blocker, versus erlotinib, a reversible EGFR small molecule tyrosine kinase inhibitor (TKI), in patients with SCC of the lung.
- Primary analysis of LUX-Lung 8 showed significantly better progression-free survival (PFS) with afatinib versus erlotinib.
- Here we report primary analysis of overall survival (OS) after 632 deaths, updated PFS at time of OS analysis, and exploratory tumor genetic analysis using FoundationOne™ NGS platform analysis on archival tumor tissue.

METHODS

- LUX-Lung 8 was a global, 1:1 randomized, open-label, Phase III study (Figure 1).
- Key efficacy outcomes are shown in Figure 2.
- Key safety outcomes are shown in Figure 3.
- Molecular analyses were conducted on archival tumor tissue.

RESULTS

- The LUX-Lung 8 trial investigated second-line afatinib, an irreversible ErbB family blocker, versus erlotinib, a reversible EGFR small molecule tyrosine kinase inhibitor (TKI), in patients with SCC of the lung.
- The prevalences of molecular aberrations in LUX-Lung 8 were consistent with data from TCGA.
- Afatinib significantly improved OS and PFS versus erlotinib in the second-line setting.

CONCLUSIONS

- Afatinib significantly improved OS and PFS versus erlotinib in the second-line treatment of patients with SCC of the lung.
- There was an observed predictive association between genetic aberrations and OS.

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