Real-world treatment patterns and clinical outcomes in patients from Central Eastern Europe with EGFR-mutated Non-Small Cell Lung Cancer - results from a large retrospective study (REFLECT)

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Background

- Epidemiological growth factor (EGFR) tyrosine kinase inhibitors (TKIs) have proven efficacy for the treatment of non-small cell lung cancer (NSCLC) harboring EGFR-mutated (EGFRm) NSCLC.
- Despite an initial response to first-line or second-generation (1/2/EGFR TKIs, the disease develops resistance and requires treatment change. In half of cases, the resistance is due to the secondary mutation EGFR T790M.
- Information on treatment patterns and clinical outcomes in patients with advanced EGFRm NSCLC in Eastern Europe countries is scarce.

Study objectives

- This study was primarily aimed to describe the real-world progression free survival (rwPFS) in patients with advanced EGFRm NSCLC receiving 1G/2G EGFR TKIs in first-line (1L) treatment.
- Patients progressing on 1L treatment, further testing and treatment patterns, as well as attrition rates, and real-world outcomes, and clinical outcomes were assessed.

Results

- This CEE included 389 medical records of eligible patients. The median age of patients was 68 years (range: 33-90), 69% were female, 20% had brain metastases at the time of initial NSCLC diagnosis. Other clinical characteristics at the time of initial NSCLC diagnosis are shown in Table 2.
- The most frequent EGFR mutations were exon 19 deletion (45%) and exon 21 L858R point mutation (34%). Uncommon EGFR variants (14%) included G719X, L861Q, S768I and T790M
- In patients progressing on 1L treatment, further testing was performed in 291 (75%) patients, and 286 (91%) of progression events were recorded: 251 (88%) clinical or radiological progression, 29 (10%) deaths and 8 (2%) start of new line of therapy without progression.
- Kaplan-Meier methods were applied for the estimation of the median rwPFS and median rWOS with 95% confidence intervals (CI).
- Real-world progression was defined as radiological progression, start of a new therapy line, death, or clinical progression evaluated by clinician.

Methods

Study design

- The REFLECT study ("Real-world treatment patterns, clinical outcomes, and EGFR/T790M testing practices in EGFR-mutated advanced NON-SMALL CELL LUNG CANCER patients receiving First-Line EGFR TKI Therapy", clinicaltrials.gov ID NCT03431989) was a physiopathological medical chart review.
- In total, 49 sites from Austria, Bulgaria, Greece, Israel, Poland, Romania, Slovenia, and Switzerland collected data between May 2015 and Dec 2019. Half of sites were from CEE region.
- The study was approved by Ethics Committees in all countries with a waiver of informed consent.

Patient inclusion

- Consecutive patients with locally advanced or metastatic EGFR-mutated NSCLC who initiated 1G/2G EGFR TKIs (afatinib, erlotinib or gefitinib) as 1L therapy between Jan 2015 and Jun 2019 were eligible for this study, irrespective of the vital status at the end of the study.

Table 1. Patient distribution per country at CEE level

Table 2. Clinical characteristics at the time of the initial NSCLC diagnosis

Table 3. Treatment patterns across 1L, 2L and 3L

Table 4. Reasons to discontinue 1L, 2L and 3L and attrition rates

Conclusions

- The REFLECT study provided a comprehensive overview of treatment patterns and clinical outcomes with EGFRm NSCLC receiving 1G/2G EGFR TKIs in 1L therapy in CEE countries.
- Only 1 in 5 patients was continuing 1L treatment, 1G/2G EGFR TKIs treatment at the time of data collection, while 1 in 3 patients discontinued 1L treatment.
- At data cutoff time of this study, it remains an unmet need to delay progression in first line.
- Leveraging currently available 1L treatment options in EGFRm NSCLC is needed to improve patient outcomes.

References: