Objectives

To compare the duration of therapy, as well as health care resource utilization (HCRU) and costs associated with first-line treatment of non-small cell lung cancer (NSCLC).

Methods

NSCLC patients aged ≥18 years initiating first-line treatment with afatinib or erlotinib from 2014-2017 were identified in a pooled dataset using three large US claims databases – Truven MarketScan, Optum Clinformatics Data Mart, and IQVIA PharMetrics Plus. Data from each database was linked using a unique patient identifier. Frailty data from IQVIA PharMetrics Plus was obtained. Frailty scores and individual comorbidities were used to compare the median duration of therapy. All-cause HCRU and costs were assessed in the follow-up period and compared using t-tests and Chi-square tests.

Propensity score matching was used to adjust for baseline sociodemographic and clinical characteristics (age, sex, geographic region, Deyo-modified Charlson Comorbidity Index scores, and individual comorbidities), and Kaplan-Meier survival analysis was used to compare the duration of therapy. All-cause HCRU and costs were assessed in the follow-up period and compared using t-tests and Chi-square tests.

Results

- There were 525 matched patients in each treatment cohort. Patients prescribed afatinib had significantly longer median treatment duration compared to those prescribed erlotinib (12.1 vs 9.9 months, p=0.0352).
- Significantly fewer afatinib patients experienced at least one inpatient (40.4% vs 52.2%, p=0.0001) or outpatient visit (45.7% vs 54.1%, p=0.0066). However, the proportion of patients with at least one office visit or other outpatient visit was comparable in both cohorts. (Figure 2).
- Afatinib patients experienced significantly fewer inpatient visits (0.1 PPPM vs 0.2 PPPM, p=0.0152) and other outpatient visits (2.6 PPPM vs 3.0 PPPM, p=0.022), but significantly more outpatient office visits (2.0 PPPM vs 1.7 PPPM, p=0.059). (Figure 3)
- Total costs per month were similar between the two cohorts ($14,972 vs $14,412; p=0.4415). (Figure 4)

Conclusion

This study shows that NSCLC patients treated with afatinib have significantly longer first-line treatment duration while accruing similar total costs compared to those patients treated with erlotinib.

Study Limitations

- As with any retrospective database analysis, this study may be subject to information biases, such as missing/insufficient information and coding errors.
- Study findings may be limited to commercially-insured NSCLC adult patients with continuous enrollment.
- Due to its observational nature, there may be residual confounding in this study.