REAL-WORLD ASSESSMENT OF CURRENT TREATMENT PATTERNS AND CLINICAL OUTCOMES AMONG PATIENTS WITH EGFR AND ALK WILD TYPE NON-SMALL CELL LUNG CANCER (NSCLC) IN THE US

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Background Treatment for advanced non-small cell lung cancer (NSCLC) has dramatically advanced in the past 5 years with the advent of immunotherapy (IO). This study sought to describe treatment patterns and clinical outcomes in a representative sample of NSCLC patients.

Methods Patients were identified by physicians from a voluntary sample of community practices across the US. Stage IIIB/IV NSCLC patients with EGFR/ALK wild-type initiating any first-line (1L) systemic therapy between 01/01/2016 and 12/31/2019 with at least 2 months of follow-up (unless deceased) were included, and were followed until November 2020. Sampling quotas included 250 patients who initiated 1L in 2016/2017 and 250 patients who did so in 2018/2019. Best tumor response was collected from patient charts during each line of therapy (LOT). Progression-free survival (PFS) and overall survival (OS) were calculated from initiation of 1L by Kaplan-Meier method. Baseline characteristics and clinical outcomes are described and presented by treatment regimen received.

Results Of 500 submitted patients, 497 were included post QA/QC. Across all patients, mean age at 1L initiation was 65 years, 57.3% were male, 92.9% had stage IV disease, and 68.6% were ECOG-OS 0/1 (Table 1). Overall, 60.2% (n=299), 33.2% (n=165), and 6.6% (n=33) received 1, 2, or ≥3 LOTs during the study period. Most common 1L regimens (%) were platinum-doublet chemotherapy plus IO (PDC+IO) (40.6%), PDC (29.4%), IO monotherapy (20.7%), PDC+bevacizumab (6.2%); while most common 2L regimens were IO monotherapy (42.4%), single-agent chemotherapy (SAC) (18.2%), SAC+VEGF inhibitor (15.7%), PDC (8.1%), and PDC+bevacizumab (5.6%). Over 90% of pts who received IO monotherapy had PD-L1 >50%. Moving from 2016/2017 to 2018/2019, utilization of 1L PDC declined from 45.0% to 13.7% while utilization of 1L PDC+IO increased from 27.3% to 54.0%. Among those who received only one LOT (n=299), 44.5% were still on 1L, 14.0% stopped receiving 1L, and 41.5% were deceased. Overall response rates were 67.3%, 35.6%, 60.2%, and 61.3% for 1L PDC+IO, PDC, IO monotherapy, and PDC+bevacizumab, respectively (Table 1). First-line median PFS/OS (months) was 15.6/26.5, 5.3/13.7, 17.8/NR, and 10.8/18.6, respectively for PDC+IO, PDC, IO monotherapy, and PDC+bevacizumab (table 1).

Conclusions Data from 2016 to 2020 was used provide a contemporary assessment of treatment patterns among EGFR/ALK wild-type NSCLC patients. Although 1L treatment utilization shifted to IO-based regimens in recent years, 41.5% of patients did not survive to receive second-line therapy, 1L PFS did not exceed 1.5 years, and median OS remained limited across all 1L treatment groups.

Ethics Approval On August 20, 2020, Western Institutional Review Board (WIRB) approved a request for a waiver of authorization for use and disclosure of protected health information (PHI) for this research. The study is exempt under 45 CFR § 46.104(d)(4).

http://dx.doi.org/10.1136/jitc-2021-SITC2021.562