Real-World Bruton Tyrosine Kinase Inhibitor (BTKi) Treatment Patterns Among Patients With CLL/SLL in US Community Oncology Practices

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Background: BTKis are the standard of care for frontline (1L) and relapsed/refractory (2L+) CLL/SLL. The second-generation BTKis, zanubrutinib (zanu) and acalabrutinib (acala), have improved safety profiles vs ibrutinib (ibru), the first-generation BTKi. This study aimed to assess real-world treatment (tx) patterns and adverse events (AEs) in BTKi-treated patients (pts) with CLL/SLL.

Materials and Methods: In this retrospective observational study, adults with CLL/SLL who initiated tx from 1/1/2020 to 2/28/2023 were followed through 5/31/2023. Eligible pts had ≥5 CLL/SLL-related visits or more CLL/SLL-related visits than non–CLL/SLL-related visits, and ≥2 evaluation and management visits. Structured electronic health data were obtained from the Integra Connect-PrecisionQ deidentified real-world database. Descriptive analyses were performed. A Kaplan-Meier analysis was conducted for time-to-event outcomes.

Results: This study included 2650 pts who received BTKis (1L: n=2465; median age, 71 years; 2L+: n=185; median age, 74 years); most were male. Median follow-up was 19.1, 13.1, and 7.4 months in pts receiving ibru, acala, and zanu, respectively. In 1L, 53.3% (n=1314) received ibru, 43.3% (n=1068) received acala, and 3.4% (n=83) received zanu. In 2L+, 45.9% (n=85) received ibru, 42.7% (n=79) received acala, and 11.4% (n=21) received zanu. Within 3 and 6 months of BTKi initiation, respectively, cardiovascular AE rates were 10.1% (n=106/1048) and 13.4% (n=123/921) with ibru, 7.3% (n=56/767) and 9.8% (n=62/631) with acala, and 7.3% (n=5/69) and 7.5% (n=3/40) with zanu.

Over 10% of ibru-treated pts discontinued therapy and switched to a second-generation BTKi. The median time to 1L discontinuation (95% CI) was 12.7 (11.7-15.3), 15.7 (12.0-20.4), and 12.9 months (10.3-not reached [NR]) with ibru, acala, and zanu, respectively. Higher proportions of pts continued zanu at 6 and 12 months (72.3% and 61.4%, respectively) vs acala (62.6% and 53.1%) and ibru (62.3% and 51.9%). The median time to next tx (TTNT) (95% CI) was NR (12.6 months-NR) with 1L zanu, 31.3 months (26.5-35.5) with ibru, and 35.8 months (31.8-NR) with acala.

Conclusions: In this analysis, the rate of cardiovascular AEs at 6 months was higher with ibru and acala vs zanu. While this study is limited by the smaller sample size and shorter follow-up in the zanu group, higher proportions of pts remained on tx and the median TTNT was longer with zanu.