Real-world bruton tyrosine kinase inhibitor use and clinical outcomes among patients with chronic lymphocytic leukemia/small lymphocytic lymphoma

Authors: Jing-Zhou Hou,[1] Gregory A. Maglinte,[2] Xiaoliang Wang,[2] Anupama Vasudevan,[3] Anna Rui,[3] Brandon Wang,[3] Ann Lasn,[2] Lisa Morere,[3] Rhys Williams,[2] Rushir Choksi[1]

Affiliations:

1. University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA, USA
2. BeOne Medicines Ltd., San Carlos, CA, USA
3. Integra Connect PrecisionQ, West Palm Beach, FL, USA

ABSTRACT

Context: Bruton tyrosine kinase inhibitors (BTKi) are standard of care for chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) in first-line (1L) and relapsed/refractory (R-R) settings. Next-generation BTKi zanubrutinib demonstrated superiority over first-generation BTKi ibrutinib in R-R CLL; second-generation BTKi acalabrutinib only showed noninferiority to ibrutinib.

Objective: We previously reported that 138 patients treated with zanubrutinib were more likely to remain on treatment and less likely to require subsequent treatment versus acalabrutinib in 1L CLL in community oncology practices (ASH 2024). Here, we provide updates on the full cohort.

Design: Matched cohort study.

Patients: US adult patients with CLL/SLL initiating 1L treatment January 1, 2020-November 30, 2023, were identified using Integra Connect PrecisionQ de-identified real-world database. Patients were followed until July 3, 2024. Patients initiating zanubrutinib were matched 1:2 based on age and sex with patients initiating acalabrutinib.

Outcomes: Probabilities of ongoing treatment and not advancing to next line of therapy (LOT) from zanubrutinib or acalabrutinib initiation and overall survival (OS) were estimated using Kaplan–Meier methods. Hazard ratios (HRs) were estimated using Cox proportional hazard models, adjusted for matching set.

Results: Six hundred patients were analyzed (n=200 zanubrutinib; n=400 acalabrutinib). Median (range) duration of follow-up was 13.4 (0.9-53.3) months: 15.9 (0.9-53.3) months for acalabrutinib and 11 (2.3-32.2) months for zanubrutinib. Median age was 75 (interquartile range 67-81) years and 36.5% were female in both groups. Approximately 88% of patients had ECOG status 0/1 in both groups. Ongoing treatment probability and the probability of not advancing to next LOT at 6, 12, 18, and 24 months were higher for zanubrutinib than acalabrutinib. Adjusted HRs (95% CI) with acalabrutinib as reference for ongoing treatment probability at 6 and 12 months were 0.51 (0.32-0.80) and 0.51 (0.33-0.74), respectively. Adjusted HRs (95% CI) for the probability of not advancing to next LOT at 6 and 12 months were 0.75 (0.40-1.35) and 0.75 (0.43-1.23), respectively. Median OS was not reached in either group.

Conclusions: In this real-world comparative effectiveness analysis in 1L CLL/SLL, patients receiving zanubrutinib were significantly more likely to remain on treatment and less likely to require next LOT versus acalabrutinib.