Evaluating uptake of targeted agents by race/ethnicity in patients receiving first-line treatment for chronic lymphocytic leukemia

Authors: Adam S. Kittai[1], Paul J. Hampel[2], Joanna M. Rhodes[3], Xiaoliang Wang[4], Qianhong Fu[4], Shaohui Sun[4], Derrick van Beuge[4], Gregory A. Maglinte[4], Erlene K. Seymour[4], Jacqueline C. Barrientos[5]

Affiliations: [1]Icahn School of Medicine at Mount Sinai, New York, NY, USA; [2] Department of Medicine, Mayo Clinic, Rochester, MN, USA; [3] Rutgers Cancer Institute, New Brunswick, NJ, USA; [4] BeiGene, San Mateo, CA, USA; [5] Mount Sinai Comprehensive Cancer Center, Miami Beach, FL, USA

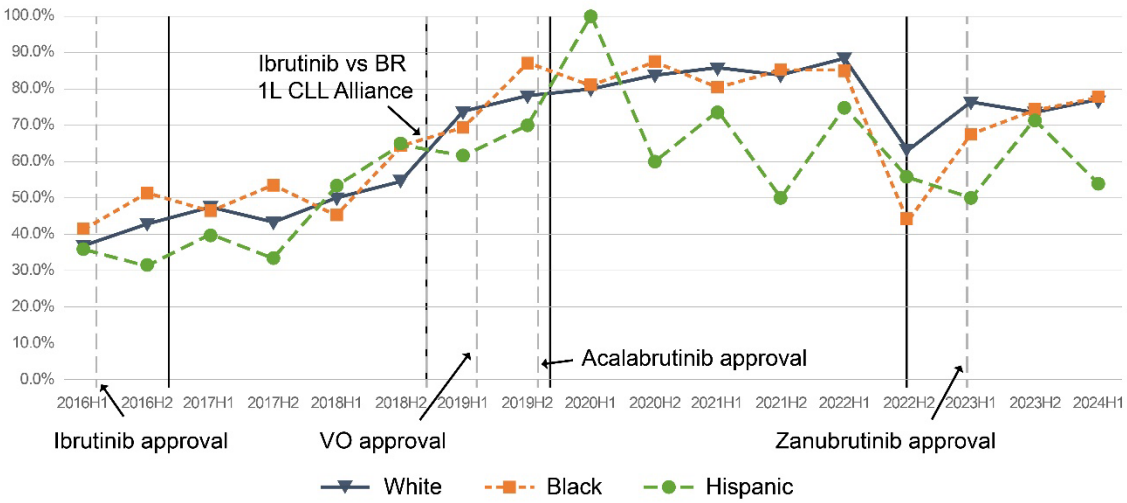
ABSTRACT

Introduction: NCCN guidelines for first-line (1L) regimens in chronic lymphocytic leukemia (CLL) have evolved from ibrutinib (ibr) and chemoimmunotherapy (CIT) to second-generation Bruton tyrosine kinase inhibitor and venetoclax (ven) combinations. We evaluated real-world use of preferred 1L treatment (tx) since 2016 in CLL patients (pts) in routine care to identify prescribing differences based on race/ethnicity and practice type.

Methods: This retrospective observational study used the US nationwide Flatiron Health electronic health record-derived de-identified database. Eligible pts had confirmed CLL and initiated 1L tx between 01/01/16 and 07/31/24. Primary outcome was initiation of preferred 1L tx per NCCN guidelines in 4 time periods, by race/ethnicity (Hispanic, White, Black, Asian/other). Odds ratios (ORs) were adjusted for age, sex, ECOG performance status, immunoglobulin heavy chain variable region (IGHV), del17p/*TP53* mutation status, time period, and practice type.

Results: Overall, 7528 pts were included. Compared with White pts (n=5472), Black pts (n=640) were younger (median age at 1L: 68 vs 71 years). More Black and Hispanic (n=290) pts were treated at community practices vs academic centers (86% vs 80% White). Of pts tested, more Black pts had unmutated IGHV than White (77% vs 56%). Presence of del17p/*TP53* mutation was similar across races/ethnicities (11% overall). Only 19% of pts were young and fit (age ≤65 years, ECOG 0-2) and without del17p/*TP53* mutation. Pts with ven and obinutuzumab combination were more likely to be younger (median age at 1L: 68.5 vs 71 years overall), and fitter (ECOG 0-1: 84% vs 68% overall) than the overall population and without del17p/*TP53* mutation (86%). The proportion of pts receiving preferred 1L tx based on NCCN guidelines significantly differed by race/ethnicity (*P*=0.0021). Hispanic pts had the lowest proportion receiving preferred 1L tx across the 4 time periods, and the gap widened in more recent 6-month periods (Figure). The proportion of Hispanic pts treated with preferred 1L tx was significantly lower than White pts (OR, 0.61; 95% CI: 0.47, 0.79), and Black pts were similar to White pts (OR, 1.07; 95% CI: 0.89, 1.30). From 2016 to 2018, 44% of community practices and 55% of academic centers adopted targeted therapies (TTs); in 2019, ibr use increased in both practices (77% vs 68%, respectively). Adherence to preferred tx improved across practices in 2020 but decreased with the prioritization of second-generation therapies. After the approval of zanubrutinib, use of TTs was 71% in community practices vs 74% in academic centers. Updates to NCCN guidelines were significantly associated with receipt of preferred 1L tx by practice type (*P*=0.0005).

Conclusions: Inequities in pts with CLL receiving preferred 1L tx suggests disproportionate use of CIT and ibr by race/ethnicity. Use of preferred TTs also differed by practice type and time period, with increased adoption after pivotal trials.



	Time period (NCCN guideline version: change date) [preferred treatment]			
Race/ ethnicity	**2016-2018** [ibrutinib]	**2019** (v2.2019: Jan 2019) [ibrutinib]	**2016-Jun 2022** (v4.2020: Feb 2020) [acalabrutinib, VO, ibrutinib]	**Jul 2022-Jul 2024** (v2.2023: Aug 2022) [acalabrutinib, VO, zanubrutinib]
White	46%	76%	84%	72%
Black	50%	76%	84%	66%
Hispanic	43%	67%	69%	56%

1L, first-line; BR, bendamustine-rituximab; CLL, chronic lymphocytic leukemia; NCCN, National Comprehensive Cancer Network; VO, venetoclax + obinutuzumab