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

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
2. Department of Medicine, Mayo Clinic, Rochester, MN
3. Rutgers Cancer Institute, New Brunswick, NJ
4. BeiGene, San Mateo, CA
5. Mount Sinai Comprehensive Cancer Center, Miami Beach, FL

Introduction

The NCCN guidelines for first-line (1L) regimens in CLL have evolved over the past decade, shifting from ibrutinib (ibr) and chemoimmunotherapy (CIT) to second-generation BTK inhibitor and venetoclax combinations. We evaluated real-world use of preferred 1L treatment (tx) since 2016 in CLL patients (pts) in routine care to identify differences in prescribing based on race/ethnicity and practice type.

Methods

This retrospective observational study utilized the US nationwide Flatiron Health electronic health record-derived de-identified database. Eligible pts had confirmed CLL and initiated 1L tx between 01/01/16-07/31/24. Primary outcome was receipt of preferred 1L tx defined by NCCN guidelines in four time periods by race/ethnicity (Hispanic, White, Black, Asian/Other). Odds ratios (ORs) were estimated using logistic regression, additionally adjusting for age, sex, ECOG performance status, IGHV, del17p/*TP53* mutation status, time period, and practice type.

Results

A total of 7528 pts were included. Compared with White pts (n=5472), Black pts (n=640) were younger (median age at 1L: 68 vs 71). More Black and Hispanic (n=290) pts were treated at community practices (86% vs 80% White). Of those pts tested, more Black pts had unmutated IGHV than White (77% vs 56%). Presence of del17p/*TP53* mutation was similar across races/ethnicities.

The proportion of pts receiving preferred 1L tx based on the NCCN Guidelines significantly differed by race/ethnicity (Table) (*P*=0.0021). The proportion of Hispanic pts treated with preferred 1L tx was significantly lower than White (OR=0.61; 95% CI: 0.47-0.79), but Black was similar to White (OR=1.07; 95% CI: 0.89-1.30).

Updates to NCCN guidelines were significantly associated with pts receiving preferred 1L tx by practice type (*P*=0.0005). In 2016-2018, 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 zanu, use of TTs was 71% in community practices and 74% in academic centers.

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	% Pts receiving preferred tx by race[a]			
	White	Black	Hispanic	Asian/ Other
2016-2018: Preferred tx ibr	46%	50%	43%	45%
2019 (v2.2019: Jan 2019) Preferred tx ibr	76%	76%	67%	79%
2020-Jun 2022 (v4.2020: Feb 2020) Preferred tx acala, VO, ibr	84%	84%	69%	83%
Jul 2022-Jul 2024 (v2.2023: Aug 2022) Preferred tx acala, VO, zanu	72%	66%	56%	73%

VO, venetoclax + obinutuzumab

[a]By listing of NCCN preference (preferred vs other) among non-del17p and age >65 yrs