

Real-World Evaluation of Treatment Discontinuation and Healthcare Resource Utilization in Patients With Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma

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INTRODUCTION

- Chronic lymphocytic leukemia and small lymphocytic lymphoma (CLL/SLL) are the most prevalent types of leukemia in the United States¹
- Given the emergence of novel CLL/SLL targeted therapies,² it is important to understand real-world treatment characteristics and unmet needs

OBJECTIVES

- The objectives of this retrospective cohort study were to examine real-world outcomes among patients with CLL/SLL, overall, and by CLL and SLL, respectively

METHODS

Data Source

- Symphony Integrated Dataverse, an open-claims database, integrated with electronic medical record data
- Study period was from January 1, 2013, to March 31, 2023, and included patients with an index date (date of treatment initiation) between January 1, 2020, and December 31, 2022 (index period)

Inclusion Criteria

- Age ≥18 years with ≥1 diagnosis of CLL or SLL
- Initiated a first-line (1L) or second-line (2L) treatment during the index period
- Continuous enrollment in the database for 365 days prior to or 90 days after the index date

Cohorts

- Cohorts were developed based on treatment regimens and stratified by line of therapy (1L and 2L)
 - Chemotherapy (including bendamustine-based)
 - Anti-CD20-based
 - Bruton tyrosine kinase (BTK) inhibitor (ibrutinib- and acalabrutinib-based; zanubrutinib use was not captured in the BTK inhibitor treatment category as its CLL/SLL indication approval date [January 19, 2023] was outside the index period)
 - Venetoclax-based

Study Measures

- Demographics, clinical characteristics, and comorbidities were measured at baseline
- Discontinuation rate was defined as the percentage of patients who discontinued their current treatment regimen within 90 days post index date
- Time to next treatment (TTNT) was defined as the number of days from the initiation of the first treatment regimen to the date of initiation for the next treatment regimen
- Healthcare resource utilization (HCRU) included mean per patient per month (PPPM) outpatient visits, inpatient visits, and other medical/hospital services

RESULTS

Patients

- 17,748 and 5667 patients with CLL/SLL initiated a 1L or 2L treatment regimen during the index period, respectively; baseline characteristics for 1L are presented in **Table 1**
- The most frequently used treatment regimens in 1L were BTK inhibitor (49.9%), followed by anti-CD20 (26.1%), venetoclax (15.4%), and chemotherapy (8.6%); BTK inhibitor continued to be the predominant treatment (49.6%) in 2L, followed by venetoclax (30.9%), chemotherapy (10.4%), and anti-CD20 (9.2%)
- Of the 17,748 patients initiating 1L, 13.3% had SLL, while the remaining 86.7% had CLL; the proportion of patients with SLL vs CLL decreased in 2L (8.0% vs 92.0%, respectively)
 - Treatment discontinuation rates in patients with SLL were higher than patients with CLL in 1L (32.4% and 25.1%, respectively); however, the rates became comparable with later lines of therapy

Table 1. Baseline Demographics and Characteristics, 1L

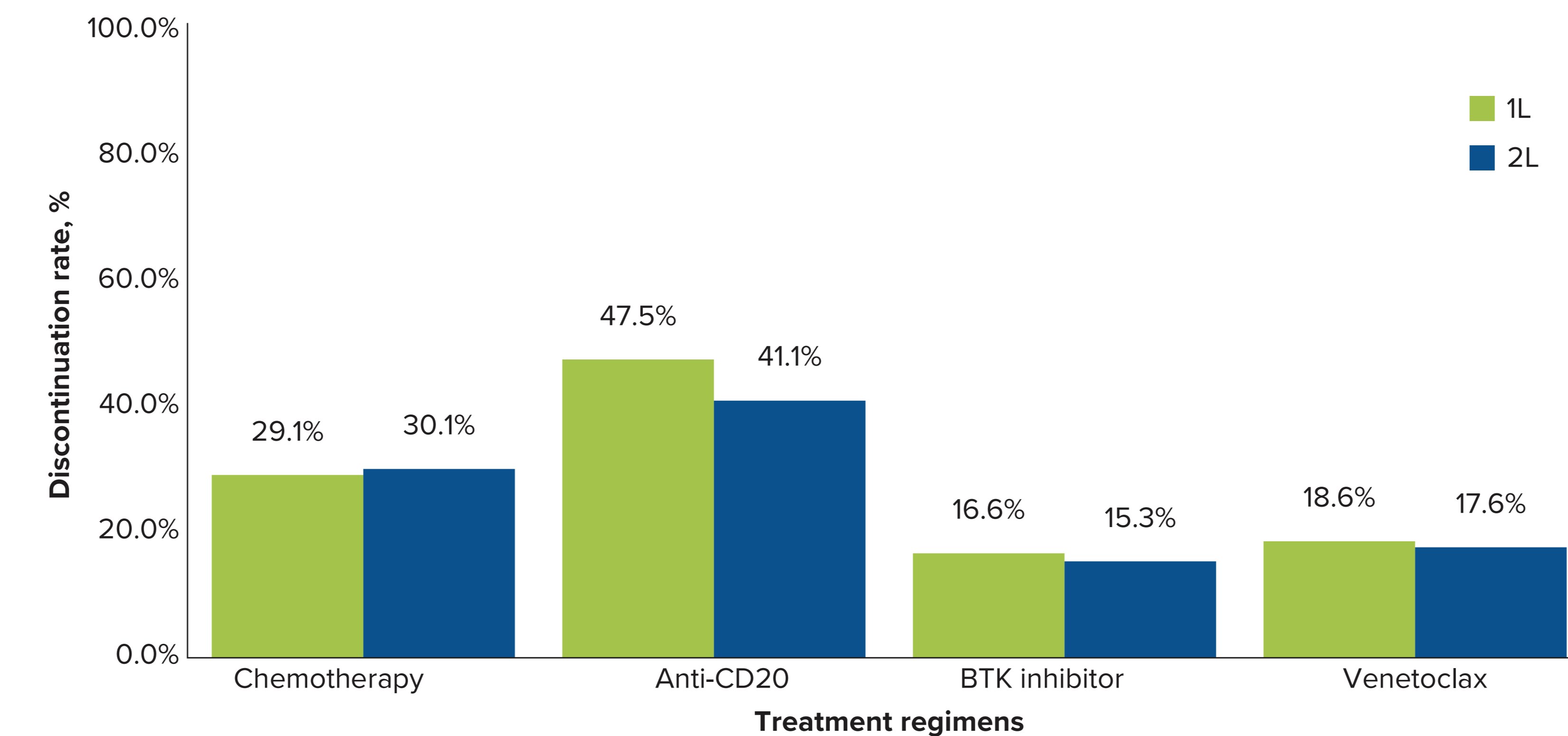
Characteristic	Chemotherapy (n=1530)	Anti-CD20 (n=4628)	BTK inhibitor (n=8860)	Venetoclax (n=2730)
Follow-up, median (IQR), days	599 (316-892)	519 (266-810)	578.5 (317-878.5)	491 (244-791)
Age, mean ± SD, years ^a	69.87 ± 8.93	69.97 ± 9.49	70.51 ± 8.09	67.97 ± 9.21
Female, n (%) ^a	609 (39.8)	1959 (42.3)	3467 (39.1)	991 (36.3)
Payer type, n (%) ^a				
Medicare	842 (55.0)	2294 (49.6)	5463 (61.7)	1447 (53.0)
Commercial	458 (29.9)	1320 (28.5)	2841 (32.1)	1123 (41.1)
Medicaid	62 (4.1)	239 (5.2)	346 (3.9)	120 (4.4)
Other ^b	168 (11.0)	775 (16.7)	210 (2.4)	40 (1.5)
CCI, mean ± SD ^a	6.64 ± 3.47	6.53 ± 3.31	4.75 ± 3.71	5.25 ± 3.69

^a P<.05. ^b Includes self-pay, missing payer channel, and other.

Discontinuation Rates (Figure 1)

- Across 1L and 2L, 90-day discontinuation rates were lowest for BTK inhibitor-based regimens (16.6% and 15.3%), followed by venetoclax-based regimens (18.6% and 17.6%), chemotherapy-based regimens (29.1% and 30.1%), and anti-CD20-based regimens (47.5% and 41.1%)
- Discontinuation rates reported in 1L and 2L treatments were statistically significant (P<.0001; analysis of variance [ANOVA])

Figure 1. 90-Day Discontinuation Rates Across Treatment Regimens by 1L and 2L



Time to Next Treatment

- Median TTNT in 1L was not yet reached (NYR) for BTK inhibitor-based regimens, 1120 days (IQR, 847 to NYR) for venetoclax-based, 977 days (IQR, 549-1159) for chemotherapy-based, and 879 days (IQR, 499 to NYR) for anti-CD20-based regimens
- A similar TTNT trend was observed in 2L

Healthcare Resource Utilization

- Mean HCRU was lower among BTK inhibitor regimens vs other treatment regimens across both lines of therapy (**Table 2**)
- Across all lines of therapy, HCRU was significantly higher in patients with SLL than patients with CLL
- Median PPPM outpatient visits were 1.02 for SLL and 0.67 for CLL; median PPPM for other medical/hospital services was 0.7 for SLL and 0.23 for CLL

Table 2. HCRU Across Treatment Regimens by 1L and 2L

HCRU, PPPM	Chemotherapy	Anti-CD20	BTK inhibitor	Venetoclax
First line, n (%)	1530 (8.6)	4628 (26.1)	8860 (49.9)	2730 (15.4)
Mean no. of outpatient visits (SD) ^a	2.86 (3.75)	2.88 (3.36)	1.07 (1.63)	1.75 (3.10)
Mean no. of inpatient visits (SD) ^a	0.45 (2.24)	0.41 (2.50)	0.31 (1.74)	0.62 (3.37)
Mean no. of other M/H services (SD) ^a	2.59 (3.31)	2.73 (3.58)	0.85 (1.76)	1.64 (3.38)
Second line, n (%)	588 (10.4)	521 (9.2)	2810 (49.6)	1748 (30.8)
Mean no. of outpatient visits (SD)	2.9 (4.06)	3.3 (3.98)	1.07 (1.65)	1.47 (2.56)
Mean no. of inpatient visits (SD)	0.54 (2.87)	0.66 (3.74)	0.31 (1.71)	0.43 (2.52)
Mean no. of other M/H services (SD) ^a	2.73 (4.00)	2.68 (3.75)	0.97 (1.78)	1.70 (3.09)

^a P<.05. M/H, medical/hospital.

Regression of Treatment Regimen and TTNT

- Within 1L, anti-CD20-based and chemotherapy-based regimens had significantly (P<.0001) shorter TTNT compared with BTK inhibitor-based regimens, in both the univariate and multivariate models (**Figure 2**), suggesting patients on anti-CD20 and chemotherapy-based regimens moved onto subsequent treatment sooner; similar results were found in 2L, but significantly longer TTNT was also identified with venetoclax-based regimens (**Figure 3**)

Regression of Treatment Regimen and Discontinuation

- In both 1L and 2L settings and across both univariate and multivariate models, the risk of discontinuation was significantly higher for anti-CD20-based, chemotherapy-based, and venetoclax-based regimens compared with BTK inhibitor-based regimens

CONCLUSIONS

- BTK inhibitor therapy, the primary treatment regimen across first-line and second-line therapies, has significantly lower discontinuation rates and healthcare resource utilization, and longer time to next treatment, compared with other treatment regimens
- The majority of patients in the study had CLL; those patients with SLL had poorer outcomes

Figure 2. TTNT for 1L Treatment Regimens

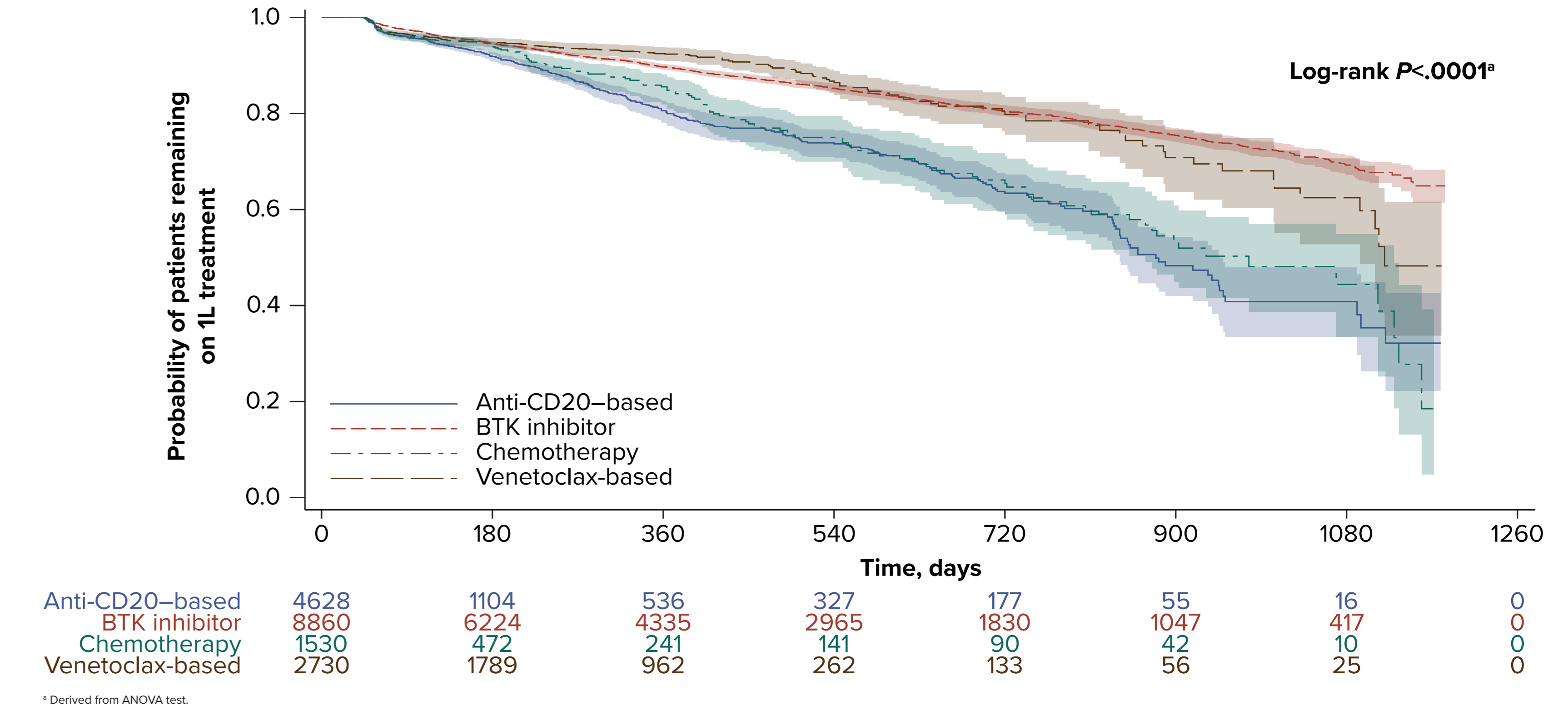
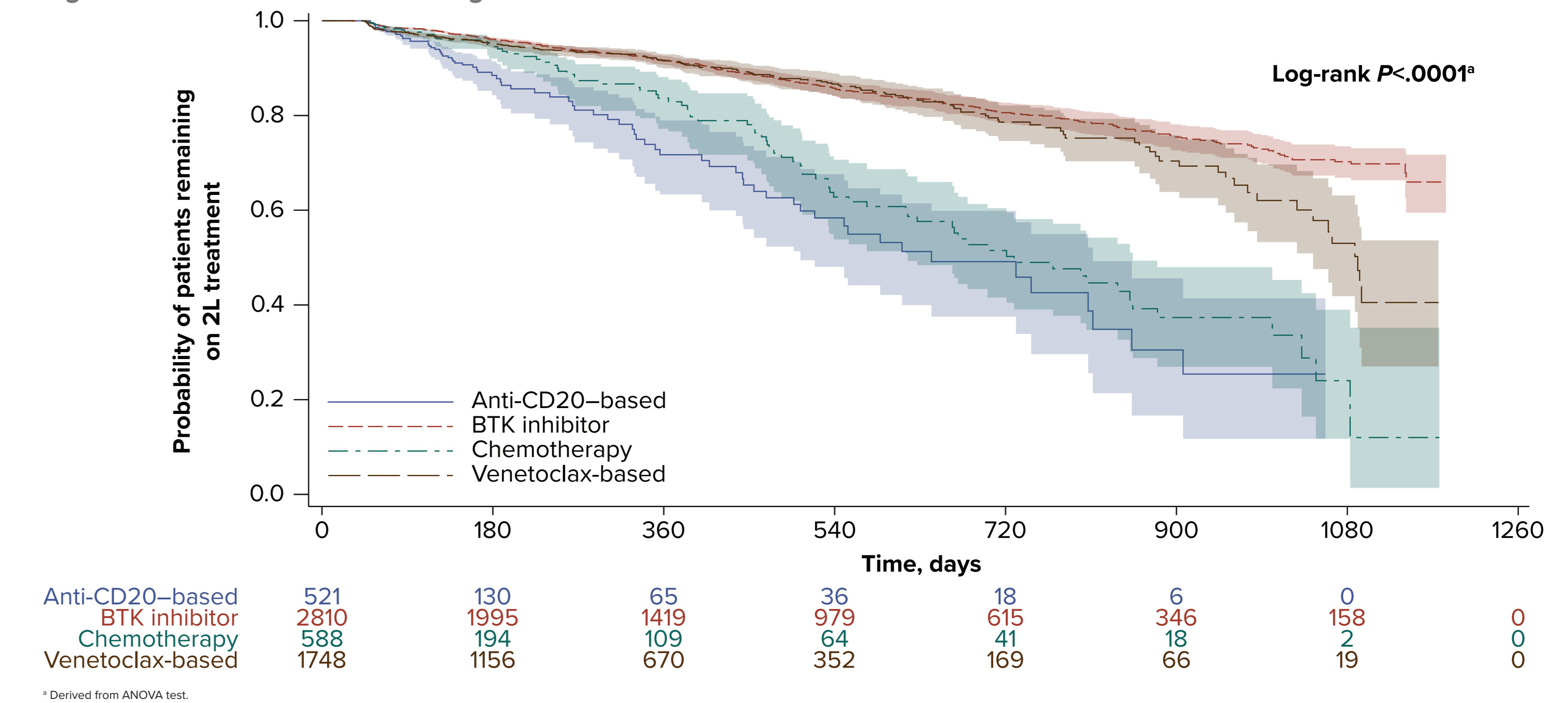


Figure 3. TTNT for 2L Treatment Regimens



DISCUSSION

- In this study, BTK inhibitor therapy emerges as the leading treatment strategy for both initial and subsequent lines of therapy
- Further studies are needed to evaluate real-world clinical outcomes of CLL/SLL regimens to support evidence-based treatment decisions
- Findings from this study may not be generalizable to other populations or settings outside of this specific data source

REFERENCES

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