MSR100

The Importance of Assessment Design When Capturing Reasons for Therapeutic Change in Cancer Care

David Andorsky,[1] Christina Dunbar,[2] Brittani Wayne,[2] Chuck Wentworth,[2] Yunfei Wang,[2] Scott Goldfarb,[3] Ronda Copher,[3] Mark Balk,[3] Gregory Maglinte,[3] Ira Zackon[2]

[1]Rocky Mountain Cancer Center, Boulder, CO, USA; [2]Ontada, Boston, MA, USA; [3]BeiGene USA, Inc., Cambridge, MA, USA

INTRODUCTION

- Examining treatment patterns and switching in cancer care is common in real-world studies
- Exploring treatment switching in patients diagnosed with chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) has become increasingly important due to advances in novel therapies for B-cell cancers, in particular the Bruton tyrosine kinase inhibitors (BTKis)[1,2]
- Common reasons for treatment switching in CLL/SLL include disease progression, adverse events (AEs), and physician or patient preference[3]
- From a methodological perspective, this study was interested in whether the reason for treatment switching varied as a function of assessment timing

OBJECTIVE

- To evaluate the importance of the timing of the assessment when examining the reasons for treatment switching in cancer care

METHODS

Design and Sample Selection

- This was a retrospective chart review study of patients from the US Oncology Network
- Structured and unstructured fields were abstracted from the iKnowMed electronic health record
- Eligible patients were:
  - Adult aged ≥18 years and diagnosed with CLL/SLL
  - Treated with and discontinued the first-generation BTKi ibrutinib or the second-generation BTKi acalabrutinib
- Patients were included if they initiated treatment with zanubrutinib between 1/1/2022 and 9/30/2023 following discontinuation of the previous BTKi (**Figure 1**)

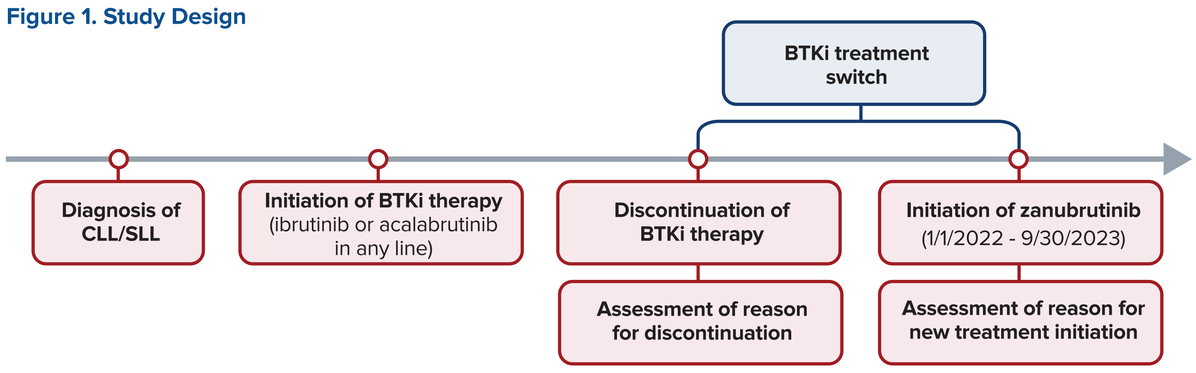
Outcomes

- Physician's reasons for treatment switching were independently evaluated at treatment discontinuation and at new treatment initiation
- Selected reasons for treatment switching were disease progression, AEs, or other

Statistical Analysis

- Descriptive statistics including mean, standard deviation (SD), median, minimum and maximum, and interquartile range (IQR) were used to evaluate demographic, clinical, and treatment characteristics
- A 3x2 chi-square analysis was used to evaluate whether the physician's reason for switch (disease progression, AEs, other) varied as a function of the time of evaluation (at treatment discontinuation vs. at new treatment initiation)

Figure 1. Study Design



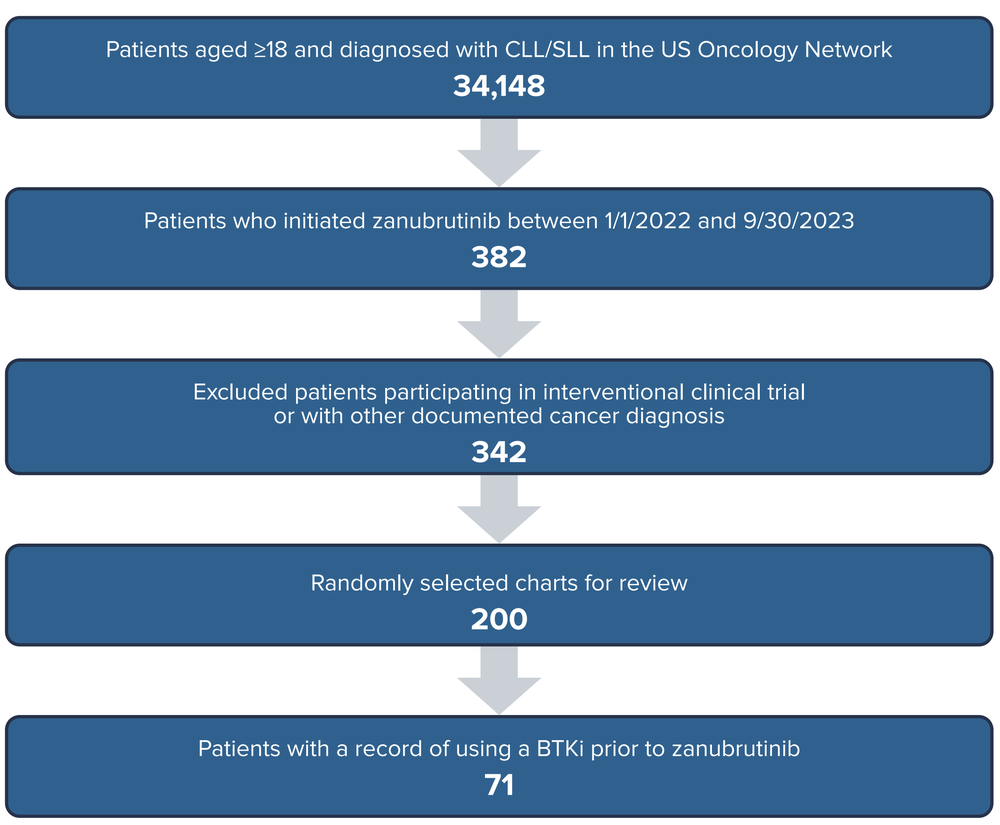
BTKi, Bruton tyrosine kinase inhibitor; CLL/SLL, chronic lymphocytic leukemia/small lymphocytic lymphoma.

RESULTS

Demographic and Treatment Characteristics

- A total of 71 patients were identified as having switched from ibrutinib or acalabrutinib to zanubrutinib during the study period (**Figure 2**)
- Among baseline demographics, mean (SD) age was 74.2 (8.8) years, 71.8% were male, and 81.7% identified as White/Caucasian (**Table 1**)
- Common comorbidities within 6 months prior to initiation of zanubrutinib included hypertension (43.7%), cardiovascular-related comorbidities (29.6%), and atrial fibrillation (19.7%) (**Table 1**)
- A cohort of 15 patients (21.1%) received a non-BTKi treatment between the BTKi regimens
- The mean (SD) time between BTKi discontinuation and initiation of zanubrutinib was 12.1 (21.1) months, with a median (range) of 0.3 (0, 105) months

Figure 2. Patient Attrition



BTKi, Bruton tyrosine kinase inhibitor; CLL/SLL, chronic lymphocytic leukemia/small lymphocytic lymphoma; US, United States.

CONCLUSIONS

- The results of this study underscore the importance for researchers to consider the timing of the assessment when evaluating the reasons influencing treatment switching in cancer care
- The results also highlight the value of chart review design for assessing reasons for treatment switching in clinical decision-making

Table 1. Baseline Demographics Characteristics

Variable	All Patients (N=71)
Age (in years) at index	
Mean (SD)	74.2 (8.8)
IQR	67, 81
Median (Min, Max)	75 (56, 90)
Sex – n (%)	
Female	20 (28.2)
Male	51 (71.8)
Race – n (%)	
White/Caucasian	58 (81.7)
Black/African American	6 (8.5)
Other/Not Documented	7 (9.9)
ECOG performance status – n (%)	
0	10 (14.1)
1	16 (22.5)
2	8 (11.3)
Not documented	37 (52.1)
Time since initial CLL/SLL diagnosis (months) – Median (min, max)	94.7 (9.2, 451.9)
Time (in months) between discontinuation of BTKi and initiation of zanubrutinib – mean (SD)	
Ibrutinib	17.3 (25.2)
Acalabrutinib	4.2 (7.5)

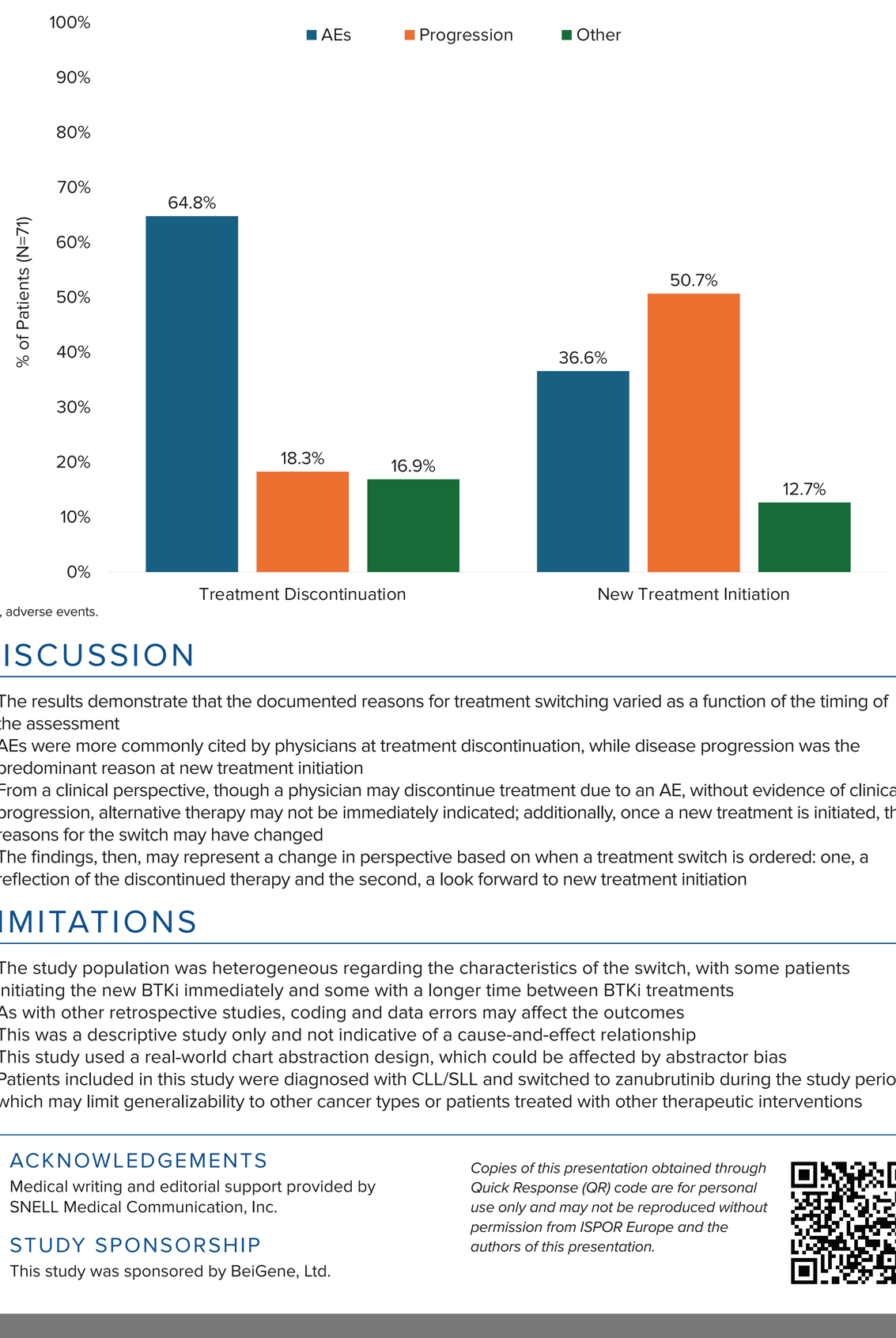
Variable	All Patients (N=71)
Deletion 17p status – n (%)	
Yes	10 (14.1)
No	53 (74.6)
Unknown	8 (11.3)
TP53 mutation status – n (%)	
Yes	1 (1.4)
No	6 (8.5)
Unknown	64 (90.1)
Charlson Comorbidity Index Score	
0	55 (77.5)
1	7 (9.9)
2	8 (11.3)
3+	1 (1.4)
Comorbidities – n (%)[a]	
Atrial fibrillation	14 (19.7)
Bleeding	1 (1.4)
Cardiovascular-related comorbidities[b]	21 (29.6)
Headaches	4 (5.6)
Hypertension	31 (43.7)
Hypercholesteremia	7 (9.9)

[a] Comorbidities were collected within 6 months prior to and including the index date (initiation of zanubrutinib).
[b] Cardiovascular-related comorbidities include angina pectoris, atrial fibrillation, atrial flutter, cardiac arrest, cardiac arrhythmia, cardiomyopathy, heart failure, history of atrial fibrillation, left ventricular dysfunction, other arrhythmia, other cardiac or vascular disorder, and ventricular tachycardia.
BTKi, Bruton tyrosine kinase inhibitor; CLL/SLL chronic lymphocytic leukemia/small lymphocytic lymphoma; ECOG, Eastern Cooperative Oncology Group; IQR, interquartile range; SD, standard deviation.

Reasons for Treatment Switching

- The most common reported reason for treatment switching was AEs followed by disease progression
- When evaluated at treatment discontinuation, documented reasons for treatment switching were AEs (64.8%), disease progression (18.3%), and other (16.9%) (**Figure 3**)
- Reasons for new treatment initiation were progression (50.7%), AEs (36.6%), and other (12.7%) (**Figure 3**)
- Reasons for treatment switching varied as a function of time of assessment, χ^2=16.78, *P*<.001

Figure 3. Reasons for In-Class Switching by Time of Assessment



AEs, adverse events.

DISCUSSION

- The results demonstrate that the documented reasons for treatment switching varied as a function of the timing of the assessment
- AEs were more commonly cited by physicians at treatment discontinuation, while disease progression was the predominant reason at new treatment initiation
- From a clinical perspective, though a physician may discontinue treatment due to an AE, without evidence of clinical progression, alternative therapy may not be immediately indicated; additionally, once a new treatment is initiated, the reasons for the switch may have changed
- The findings, then, may represent a change in perspective based on when a treatment switch is ordered: one, a reflection of the discontinued therapy and the second, a look forward to new treatment initiation

LIMITATIONS

- The study population was heterogeneous regarding the characteristics of the switch, with some patients initiating the new BTKi immediately and some with a longer time between BTKi treatments
- As with other retrospective studies, coding and data errors may affect the outcomes
- This was a descriptive study only and not indicative of a cause-and-effect relationship
- This study used a real-world chart abstraction design, which could be affected by abstractor bias
- Patients included in this study were diagnosed with CLL/SLL and switched to zanubrutinib during the study period, which may limit generalizability to other cancer types or patients treated with other therapeutic interventions

REFERENCES

1. Muñoz J, et al. *Oncologist.* 2023;28(4):309-318. Erratum in: *Oncologist*. 2023;28(6):e487.
2. Shadman M, et al. *Lancet Haematol.* 2023;10(1):e35-e45.
3. Mato AR, et al. *Blood*. 2016;128(18):2199-2205.

DISCLOSURES

DA: Consultancy: Novartis; Research Funding: Abbvie, AstraZeneca, Epizyme, Novartis, Ipsen. **CD, BW, CW, YW, IZ:** Employment: Ontada; Consulting/Service Fees: BeiGene USA (institutional). **SG, RC, MB, GM:** Employment: BeiGene USA; Stock Ownership: BeiGene USA.

ACKNOWLEDGEMENTS

Medical writing and editorial support provided by SNELL Medical Communication, Inc.

STUDY SPONSORSHIP

This study was sponsored by BeiGene, Ltd.

CORRESPONDENCE: David Andorsky, David.Andorsky@usoncology.com

Presented at ISPOR Europe 2024; November 17-20, 2024; Barcelona, Spain