Real-World Adherence and Healthcare Resource Utilization of Bruton Tyrosine Kinase Inhibitors in Mantle Cell Lymphoma

P2045

Bijal Shah,[1] Wesley Furnback,[2] Kaitlyn Esselman,[3] Po-Ya Chuang,[3] Mei Xue,[3] Keri Yang[3]

[1]Moffitt Cancer Center, Tampa, FL, USA; [2]Real Chemistry, New York, NY, USA; [3]BeiGene, USA, San Mateo, CA, USA

INTRODUCTION

- Mantle cell lymphoma (MCL) is a rare and incurable B-cell malignancy[1]
- MCL can be controlled for a prolonged period of time but eventually becomes refractory or relapsed (R/R), leading to subsequent treatment[2]
- Bruton tyrosine kinase inhibitors (BTKis) have been shown to be effective for the treatment of R/R MCL[3-5]
- However, real-world data for the treatment patterns and outcomes of BTKis in MCL are limited

OBJECTIVE

- To examine treatment adherence and healthcare resource utilization (HCRU) of patients undergoing BTKi treatment in MCL

METHODS

Data Source

- Data were sourced from Symphony Integrated Dataverse (IDV®, a comprehensive, longitudinal, open claims database, and integrated electronic medical record data)
- The study period was from December 2019 to November 2023 with an index period between January 2020 and October 2023

Inclusion Criteria

- Patients aged ≥18 years with ≥1 diagnosis for MCL
- Patients who initiated their first BTKi treatment or switched from ibrutinib to acalabrutinib or zanubrutinib during the index period, defined as the date of treatment initiation
- Patients with continuous enrollment in the database for 30 days prior to and 30 days after the index date

Cohorts

- Two cohorts were identified
  - Patients receiving their first BTKi (acalabrutinib, ibrutinib, zanubrutinib) during the index period
  - Patients that received ibrutinib as their first BTKi and initiated acalabrutinib or zanubrutinib as their second BTKi during the index period

Study Measures

- Demographics, clinical characteristics, and comorbidities were measured at index date
- Adherence was evaluated by compliance and persistence
  - Compliance was calculated as the proportion of days covered using 30-day intervals from initiation on treatment to 1 year. Proportion of days covered > 0.80 indicated compliance
  - Persistence was measured as the proportion of patients who remained on treatment among patients with sufficient follow-up periods
- HCRU was measured by all-cause outpatient visits, inpatient services, and other medical/hospital services per-patient-per-month during BTKi treatment

RESULTS

First-Ever BTKi Patients

- A total of 2122 patients initiated their first-ever BTKi during the index period.
  - Among these patients, 725 initiated ibrutinib, 878 initiated acalabrutinib, and 519 initiated zanubrutinib
- There were significant differences for mean age at index (*P*<.001), payer type (*P*<.001), and prior line of therapy (*P*<.001) **(Table 1)**

Table 1. Demographics and Clinical Characteristics

Variable	Ibrutinib (n=725)	Acalabrutinib (n=878)	Zanubrutinib (n=519)	*P* Value
Age at index				**<.0001**
Mean (SD)	68.31 (9.24)	70.46 (8.2)	70.04 (8.6)	
Median (IQR)	70 (62, 77)	72 (65, 77)	72 (65, 77)	
Age groups, n (%)				**.0013**
18-55	70 (9.66)	53 (6.04)	32 (6.17)	
56-64	167 (23.03)	161 (18.34)	96 (18.5)	
65+	488 (67.31)	664 (75.63)	391 (75.34)	
Sex				**.0895**
Male	542 (74.76)	613 (69.82)	375 (72.25)	
Female	183 (25.24)	265 (30.18)	144 (27.75)	
Payer type				**<.0001**
Medicaid	38 (5.24)	50 (5.69)	22 (4.24)	
Medicare	354 (48.83)	518 (59)	249 (47.98)	
Commercial	303 (41.79)	299 (34.05)	243 (46.82)	
Self	16 (2.21)	9 (1.03)	1 (0.19)	
Other	14 (1.93)	2 (0.23)	4 (0.77)	
Prior line of therapy				**<.0001**
Mean (SD)	0.78 (0.63)	0.94 (0.61)	0.91 (0.64)	
Median (IQR)	1 (0, 1)	1 (1, 1)	1 (1, 1)	

SD, standard deviation; IQR, interquartile range.

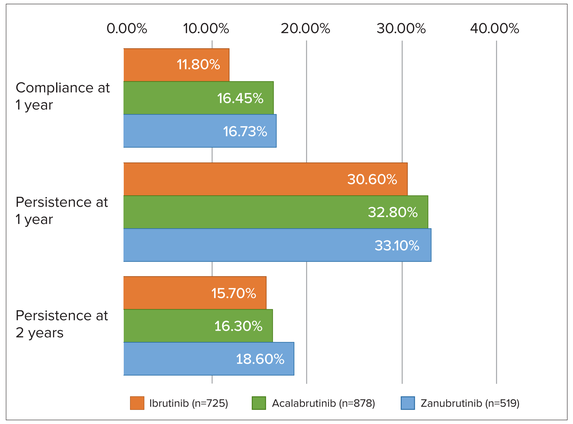
Comorbidities

- Across the measured comorbidities at baseline, there were significant differences among the three BTKis for in the rate of atrial fibrillation (acalabrutinib=1.94%; ibrutinib=1.24%; zanubrutinib=3.47%, *P*=.0232)

Compliance and Persistence

- Compliance and persistence results are shown in **Figure 1**

Figure 1. Compliance and Persistence in First-Ever Bruton Tyrosine Kinase Inhibitor Users



- Compliance at 1 year was numerically highest for zanubrutinib (16.73%) followed by acalabrutinib (16.45%) and ibrutinib (11.80%) (*P*=.1476)
- Treatment persistence at 1 and 2 years was also numerically highest for zanubrutinib (33.1%; 18.6%) compared to acalabrutinib (32.8%; 16.3%) and ibrutinib (30.6%; 15.7%) (*P*=.2180; *P*=.2275)

Acalabrutinib and Zanubrutinib as the Second BTKi After Ibrutinib

- A total of 228 patients switched from ibrutinib to acalabrutinib (n=140) or zanubrutinib (n=88).
  - Over 85% of patients switched directly from ibrutinib to acalabrutinib or zanubrutinib
- There were no significant differences in mean age, sex, or prior lines of therapy between patients receiving acalabrutinib or zanubrutinib post-ibrutinib **(Table 2)**
- There were no significant differences in baseline comorbidities between patients receiving acalabrutinib or zanubrutinib post-ibrutinib

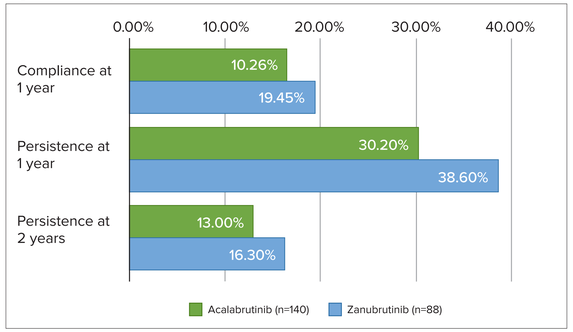
Table 2. Demographics and Clinical Characteristics of Patients Post-Ibrutinib

Variable	Acalabrutinib (n=140)	Zanubrutinib (n=88)	*P* Value
Age at index			**.0781**
Mean (SD)	70.77 (8.7)	68.91 (7.05)	
Median (IQR)	73 (66.5, 77)	68 (64, 76)	
Age groups, n (%)			**.0091**
18-55	10 (7.14)	3 (3.41)	
56-64	19 (13.57)	26 (29.55)	
65+	111 (79.29)	59 (67.05)	
Sex			**.1836**
Male	118 (84.29)	68 (77.27)	
Female	22 (15.71)	20 (22.73)	
Payer type			**.0201**
Medicaid	3 (2.14)	5 (5.68)	
Medicare	90 (64.29)	39 (44.32)	
Commercial	46 (32.86)	42 (47.73)	
Self	0 (0)	0 (0)	
Other	1 (0.71)	2 (2.27)	
Prior line of therapy			**.9962**
Mean (SD)	1.36 (1)	1.36 (1.03)	
Median (IQR)	1 (1, 2)	1 (1, 2)	
Switching Status			**.8654**
Direct switch from ibrutinib	122 (87.14)	76 (86.36)	

SD, standard deviation; IQR, interquartile range.

- Among patients who switched from ibrutinib to zanubrutinib or acalabrutinib
  - Zanubrutinib had numerically better 1-year compliance (*P*=.2176)
  - Zanubrutinib had numerically better treatment persistence at 1 and 2 years (*P*=.2687; *P*=.6270) (**Figure 2**)

Figure 2. Compliance and Persistence of Patients Post-Ibrutinib

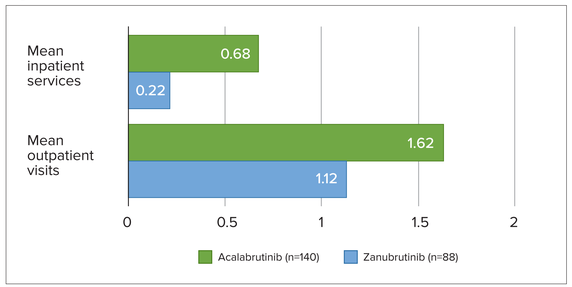


CONCLUSIONS

- In this study, zanubrutinib was associated with a trend towards improved compliance, persistence, and HCRU when used as the first BTKi and after prior ibrutinib
- Among patients who switched from ibrutinib to zanubrutinib or acalabrutinib
  - Zanubrutinib demonstrated numerically better compliance and persistence than acalabrutinib
  - Zanubrutinib demonstrated numerically lower outpatient visits and inpatient services than acalabrutinib

- HCRU showed that the mean (SD) number of outpatient visits and inpatient services were numerically lower in patients that switched from ibrutinib to zanubrutinib (1.12 [1.67] vs 1.62 [3.17]; P=.1755) than in patients that switched to acalabrutinib (0.22 [0.68] vs 0.68 [3.12]; P=.1693; **Figure 3**)

Figure 3. Healthcare Resource Utilization of Patients Post-Ibrutinib



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DISCLOSURES

BS: Employment: Moffitt Cancer Center. Research Funding: Jazz Pharmaceuticals, Servier, Kite. Travel accommodations for Kite. Other relationships with DSMB, Pepromene Bio. **WF:** Employment and equity holder in Real Chemistry. **KE:** Employment in Real Chemistry. **PC:** Employment in Real Chemistry. **MX:** Employemnt in BeiGene. **KY:** Employment and equity holder in BeiGene

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