Real-World Treatment Patterns of Bruton Tyrosine Kinase Inhibitors in Patients with Mantle Cell Lymphoma in Community Oncology Practices in the United States

Abstract P1110

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BACKGROUND

- Mantle cell lymphoma (MCL) is a rare and aggressive B-cell malignancy, accounting for 10% of all non-Hodgkin lymphoma subtypes[1]
- Three Bruton tyrosine kinase inhibitors (BTKis) have been approved for the treatment of relapsed/refractory (R/R) MCL in the United States: ibrutinib, acalabrutinib, and zanubrutinib

Figure 1. BTKi Approval Timeline in the United States

- Real-world data on BTKi use in MCL remain limited[2,3]

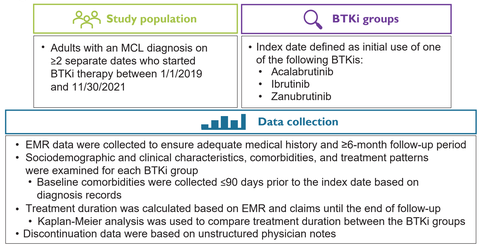
OBJECTIVE

- To examine US real-world BTKi treatment pattern, duration, and adherence in patients with MCL

METHODS

- This retrospective observational study used electronic medical record (EMR) data from the Integra Connect database of structured and unstructured fields across 18 US community-based oncology practices with >2000 physician caregivers

Figure 2. Study Design



Inclusion/Exclusion Criteria

- Age ≥18 years at index date, with ≥1 diagnosis of MCL
- ≥1 valid medical or prescription claim 6 months before and after the index date
- Started BTKi treatment between 1/1/2019 and 11/30/2021
- Patients were required to have treatment data available from at least 3 months pre-index date and at least 6 months post-index date

RESULTS

- In 402 patients with MCL identified to start BTKi therapy (44 zanubrutinib; 161 acalabrutinib; 197 ibrutinib), the median (range) age at BTKi therapy start was 75 (56-89) years for the zanubrutinib, 76 (36-89) for the acalabrutinib, and 72 (36-89) for the ibrutinib groups (*P*<.01; **Table 1**)
- There were no significant differences between the 3 BTKi groups in other baseline characteristics

Table 1. Baseline Demographics and Characteristics

Characteristic	Zanubrutinib (n=44)	Acalabrutinib (n=161)	Ibrutinib (n=197)
Age at index, years			
Mean (SD)*	74 (7.96)	75 (9.46)	70 (9.95)
Median (Q1-Q3)*	75 (68-79)	76 (69-81)	72 (65-80)
Min-max	56-89	36-89	36-89
Age group, n (%)			
<50 years	0 (0)	2 (1.2)	6 (3.0)
50-64 years	8 (18.2)	25 (15.5)	37 (18.8)
65-79 years	27 (61.4)	81 (50.3)	99 (50.3)
≥80 years	9 (20.5)	53 (32.9)	61 (30.9)
Sex, n (%)			
Female	13 (29.5)	47 (29.2)	56 (28.4)
Male	30 (68.2)	114 (70.8)	141 (71.6)
Unknown	1 (2.3)	0 (0)	0 (0)
Race, n (%)			
White	14 (31.8)	116 (72.0)	129 (65.5)
Black or African American	2 (4.5)	5 (3.1)	10 (5.1)
Asian	0 (0)	2 (1.2)	1 (0.5)
Other	18 (40.9)	38 (23.6)	57 (28.9)
Ethnicity, n (%)			
Hispanic or Latino	1 (2.3)	9 (5.6)	8 (4.1)
Not Hispanic or Latino	33 (75.0)	110 (68.3)	152 (77.2)
Other	10 (22.7)	42 (26.1)	37 (18.8)
Payer type, n (%)			
Commercial	10 (22.7)	30 (18.6)	48 (24.4)
Medicare/Medicaid	15 (34.1)	74 (46.0)	76 (38.6)
Self-pay	0 (0)	1 (0.6)	3 (1.5)
Unknown	1 (2.3)	4 (2.5)	5 (2.5)
Other	18 (40.9)	52 (32.3)	65 (33.0)

* *P*<.05.

- The zanubrutinib group had more comorbidities at baseline than the acalabrutinib group (**Table 2**)

Table 2. Baseline Comorbidities

n (%)	Zanubrutinib (n=44)	Acalabrutinib (n=161)	Ibrutinib (n=197)
Atrial fibrillation	5 (11.4)	15 (9.3)	12 (6.1)
Cardiac arrhythmias (other than atrial fibrillation)	9 (20.5)	24 (14.9)	25 (12.7)
Cardiovascular disease	18 (40.9)	66 (41.0)	63 (32.0)
Chronic pulmonary disease*	11 (25.0)	27 (16.8)	25 (12.7)
Diabetes	10 (22.7)	27 (16.8)	28 (14.2)
GERD	12 (27.3)	41 (25.5)	38 (19.3)
Hypertension	16 (36.4)	67 (41.6)	71 (36.0)
Renal disease	9 (20.5)	24 (14.9)	28 (14.2)

GERD, gastroesophageal reflux disease. * *P*<.05.

BTKi Utilization and Switching Pattern

- Half of patients treated with zanubrutinib used other BTKis in prior therapy, with 31.8% switching from other BTKis to zanubrutinib within 60 days of treatment start
- In the acalabrutinib group, 29% had prior BTKi use (**Table 3**)

Table 3. BTKi Switching Pattern

n (%)	Zanubrutinib (n=44)	Acalabrutinib (n=161)	Ibrutinib (n=197)
Prior BTKi use	22 (50.0)	47 (29.2)	-
Switched BTKi within 60 days	**14 (31.8)**	**27 (16.8)**	-
Switched from acalabrutinib	6 (13.6)	-	
Switched from ibrutinib	8 (18.2)	27 (16.8)	
Switched from zanubrutinib	-	1 (0.6)	2 (0.1)

BTKi Treatment Duration and Adherence

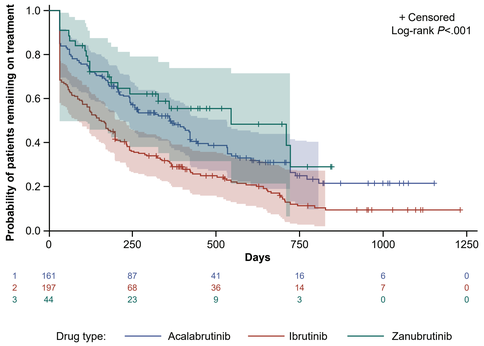
- Given the later approval date of zanubrutinib, the zanubrutinib group had a shorter mean follow-up period (493 days) vs the acalabrutinib (701 days) and ibrutinib (746 days) groups
- Nevertheless, patients treated with zanubrutinib had significantly longer median treatment duration (292 days) vs acalabrutinib (259 days) and ibrutinib (149 days) (*P*<.01; **Table 4** and **Figure 3**)

Table 4. BTKi Treatment Duration and Adherence

Days or n (%)	Zanubrutinib (n=44)	Acalabrutinib (n=161)	Ibrutinib (n=197)
Treatment duration, days			
Average follow-up	493	701	746
Median treatment*	292	259	149
Adherence, n (%)			
>30 days	44 (100)	161 (100)	197 (100)
>60 days*	40 (91)	137 (85)	137 (70)
>90 days*	34 (84)	119 (75)	114 (59)
>180 days*	27 (64)	100 (64)	87 (45)
>360 days*	16 (53)	67 (45)	58 (31)

* *P*<.05.

Figure 3. Treatment Duration Between BTKi Groups



BTKi Treatment Discontinuation

- The discontinuation rate was lower in the zanubrutinib vs acalabrutinib or ibrutinib groups (**Table 5**)

Table 5. BTKi Discontinuation

n (%)	Zanubrutinib (n=44)	Acalabrutinib (n=161)	Ibrutinib (n=197)
Discontinuation	19 (43.2)	83 (51.6)	89 (45.2)
Discontinuation due to toxicity	6 (13.6)	28 (17.4)	26 (13.2)
Discontinuation due to no response, disease progression, or worsened comorbidities	8 (18.2)	37 (23.0)	49 (24.9)

CONCLUSIONS

- Real-world EMR data from US community-based oncology practices suggested significantly longer treatment duration, better adherence, and a lower discontinuation rate in patients with MCL treated with zanubrutinib compared with acalabrutinib or ibrutinib
- Further analyses on long-term utilization and outcomes are needed upon data maturation

LIMITATION

- This study is subject to the inherent limitations of a retrospective, observational, real-world study using EMR data with potentially inconsistent data documentation

REFERENCES

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DISCLOSURES

BDS: consulting or advisory role with Adaptive Biotechnologies, Amgen, Autolus, Bristol Myers Squibb/Celgene, Century Therapeutics, Deciphera, Jazz Pharmaceuticals, Kite, Lilly, Novartis, PeproMene, Pfizer, Precision BioSciences; travel accommodations from AstraZeneca, Celgene, Janssen, Kite, Novartis, Pfizer, Seagen, Stemline Therapeutics; honoraria from BeiGene, Gilead Sciences, Pharmacyclics/Janssen, Spectrum/Acrotech; research funding by Incyte, Jazz Pharmaceuticals, Kite/Gilead, SERVIER. **MX:** employment, stock, and research funding with BeiGene. **KY:** employment, leadership, stock, research funding, and travel expenses by BeiGene. **SL:** employment with GSK. **BT:** employment and stock with BeiGene.

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