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

Bijal D. Shah*[1], Wesley Furnback[2], Kaitlyn Esselman[2], Po-Ya Chuang[3], Mei Xue[4], Keri Yang[4]

[1]Moffitt Cancer Center, Tampa, FL, United States of America, *[2]Real Chemistry, Inc., New York, United States of America*, *[3]Real Chemistry, Inc., San Francisco, California, United States of America*, *[4]BeiGene USA, Inc., San Mateo, CA, United States of America*

Background: Mantle cell lymphoma (MCL) is a rare and incurable B-cell malignancy. MCL can be controlled for a prolonged period of time but eventually becomes refractory or relapsed (R/R), leading to subsequent treatment. BTKis have been shown to be effective for the treatment of R/R MCL. However, real-world data for the treatment pattern and outcomes of BTKis in MCL are limited.

Aims: This study aimed to examine treatment adherence and healthcare resource utilization (HCRU) of BTKi treatment in MCL.

Methods: The Symphony Integrated Dataverse (IDV®) was used to conduct a retrospective observational study. Adult patients with MCL initiating their first BTKi or second BTKi (after ibrutinib) between 01/2020 and 10/2023 were included in the study. The index was defined as the date of BTKi initiation. Patients without 30 days of continuous enrollment pre- and post-index date were excluded. Patients were followed until the end of the study period or lost to follow-up. Adherence was evaluated by compliance and persistence. Compliance was calculated as the proportion of days covered >0.80 using 30-day intervals from initiation to 1 year. Persistence was measured as the proportion of patients who remained in 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 (PPPM) during BTKi treatment.

Results: Among 2,122 patients who were first-time BTKi users, there were significant differences for mean age at index (acalabrutinib=70; ibrutinib=68; zanubrutinib=70, *P*<.0001), commercial insurance (acalabrutinib=34%; ibrutinib=42%; zanubrutinib=47%, *P*<.0001), and baseline atrial fibrillation (acalabrutinib=1.94%; ibrutinib=1.24%; zanubrutinib=3.47%, *P*=0.0232). A total of 228 patients switched from ibrutinib to acalabrutinib or zanubrutinib. Adherence results suggested zanubrutinib had numerically better 1-year compliance (*P*=0.2176) and treatment persistence at 1 and 2 years (*P*=0.2687; *P*=0.6270) for patients who switched from ibrutinib to zanubrutinib than to acalabrutinib (Table). HCRU showed that the mean (SD) outpatient visits (1.12 [1.67] vs 1.62 [3.17]; *P*=0.1755) and inpatient services (0.22 [0.68] vs 0.68 [3.12]; *P*=0.1693) were lower in patients switched from ibrutinib to zanubrutinib than acalabrutinib.

Summary/Conclusion: 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.

Table. Adherence and switching for BTKis

	Ibrutinib	Acalabrutinib	Zanubrutinib
First-time BTKi patients, n	725	878	519
Compliance at 1 year, %	11.80	16.45	16.73
Persistence at 1 year / 2 years, %	30.6 / 15.7	32.8 / 16.3	33.1 / 18.6
BTKi patients switched from Ibrutinib, n		140	88
Compliance at 1 year, %		10.26	19.45
Persistence at 1 year / 2 years, %		30.2 / 13.0	38.6 / 16.3

BTKis, Bruton tyrosine kinase inhibitors.