Real-world Burden of Disease, Treatment Patterns and Outcomes in Patients with Mantle Cell Lymphoma (MCL)

Alvaro Alencar,[1] Mei Xue,[2] Po-Ya Chuang,[3] Wesley Furnback,[3] Keri Yang[2]

[1]University of Miami Sylvester Comprehensive Cancer Center, Miami, FL; [2]BeiGene USA, Inc, San Mateo, CA; [3]Real Chemistry, New York, NY

Background: MCL is a rare, incurable B-cell malignancy with recent newer targeted therapies that have revolutionized treatment paradigms. Real-world evidence that helps understand these treatment patterns is limited.

Aims: To examine disease burden, treatment utilization patterns, and associated clinical and economic outcomes in real-world MCL patients by year and lines (L) of therapy (LOT) in the US.

Methods: A retrospective, observational study was conducted using Symphony Integrated Dataverse® to identify eligible adult patients diagnosed with MCL who initiated treatment from 2019 to 2024. Treatment regimens were categorized into 7 mutually exclusive groups: bendamustine-based chemotherapy (B-based), rituximab, cyclophosphamide, doxorubicin hydrochloride, vincristine sulfate, and prednisone (R-CHOP), rituximab monotherapy (R-mono), Bruton tyrosine kinase inhibitors (BTKi) including zanubrutinib, acalabrutinib, ibrutinib, and pirtobrutinib, bortezomib-based, venetoclax-based, and any other regimens. Patients were indexed on the day of MCL treatment initiation and followed until end of study period or loss to follow-up. Patient sociodemographic and clinical characteristics were examined at baseline. Treatment utilization patterns were examined by regimen, LOT and year. Time to next treatment (TTNT) was calculated from the start of the index LOT to the start of the next LOT. Healthcare resource utilization (HCRU) was reported as outpatient visits, inpatient services, and other medical or hospital services per patient per month (PPPM).

Results: A total of 7,503 MCL patients initiated 1L, and 4,506 and 1,383 patients initiated 2L and 3L+ therapies, respectively. Mean age at baseline was 67.6 in 1L, 69.6 in 2L, and 70.5 in 3L+. Patients were primarily male (1L:70.5%; 2L: 71.7%; 3L+:74.8%) and White/Non-Hispanic (1L: 62.8%; 2L: 62.7%; 3L+: 68.7%); Black/Non-Hispanic and Hispanic patients accounted for 10% across all LOTs. Patients presented with significant burden of chronic conditions, with mean Charlson comorbidity index score 6.7 in 1L and 4.7 in 2L+. In 1L, B-based was the most used regimen (45.4%), followed by R-mono (20.6%) and BTKi (13.7%). In 2L and 3L+ settings, BTKi was the most used regimen (52.0% and 45.8%, respectively), followed by B-based (13.7% and 8.2%, respectively) and R-mono (10.3% and 12.4%, respectively). From 2019 to 2024, utilization of B-based and R-CHOP decreased while BTKi use increased across all LOT (Figure). In MCL patients, mean TTNT was 16.3 months in 1L, 17.7 in 2L, and 17.6 in 3L+. HCRU was substantial in MCL patients. Mean outpatient visits was 4.02 PPPM in 1L, and 3.02 and 3.41 PPPM in 2L, and 3L+ respectively. Mean inpatient service utilization was 0.91, 1.01, 1.44 PPPM in 1L, 2L, and 3L+ respectively. Across all LOT, outpatient utilization PPPM was the highest for R-CHOP (5.72 in 1L, 6.43 in 2L, 6.08 in 3L+) and B-based (4.23 in 1L, 4.41 in 2L, 4.85 in 3L+) while lowest for BTKi patients (1.02 in 1L, 0.86 in 2L, and 0.76 in 3L+).

Conclusion:

In this real-world study, chemotherapy-based regimens were associated with higher HCRU, while BTKi use increased across all LOTs. MCL patients mostly received treatment that resulted in short TTNT and substantial HCRU, underscoring the unmet needs of MCL patients and highlighting the need for novel agents to lower the disease burden in MCL.

Figure: MCL Treatment Utilization Pattern, by Treatment Regimen, Line of Therapy and Year