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Real World Healthcare Resource Utilization (HRU) and Costs Associated with Mantle Cell Lymphoma (MCL) Therapies in the Frontline (1L) and Relapsed/Refractory (R/R) Setting

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OBJECTIVE

To examine treatment patterns, healthcare costs, and healthcare resource utilization (HRU) for approved treatments, including BTKi regimens, chimeric antigen receptor T-cell therapy (CAR-T), chemotherapy or chemoimmunotherapy (CT/CIT), other targeted agents, anti-CD20 monotherapy (aCD20) in a sample of MCL pts in the 1L, 2L, and 3L setting in the United States

CONCLUSIONS

In this real-world study of Optum claims data, we observed increased utilization and higher mean costs with BTKis and CAR-Ts compared to CT/CIT and aCD20 monotherapy across line of therapies in MCL.

Prescription drug costs were the greatest source of costs. Non-pharmacy costs and inpatient costs were the main drivers of medication and medical costs, respectively.

These results demonstrate the need for consideration of costs/HRU in MCL clinical decision-making, especially with respect to possible financial toxicity for patients.

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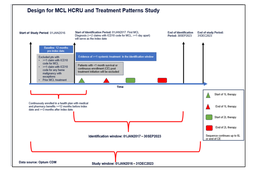
INTRODUCTION

- Mantle cell lymphoma is generally considered incurable and is associated with poor prognosis.[1]
- Despite recent advances in treatment, all patients have refractory or recurrent disease with generally shorter duration of remission with each subsequent line of therapy.[2,3]
- Many non-chemotherapy treatment options for relapsed/refractory (R/R) MCL have emerged over the last decade.
  - These options include B-cell lymphoma 2 inhibitors (Venetoclax), Bruton tyrosine kinase inhibitor (BTKi)–based treatments, chimeric antigen receptor (CAR) T-cell, anti-CD20, chemotherapy or chemoimmunotherapy (CT or CIT) proteasome inhibitor, and thalidomide analogue.
- As the treatment landscape evolves for Mantle Cell Lymphoma (MCL), understanding treatment patterns and burden of illness may inform clinical decision-making.
- Evidence is lacking with respect to the real-world healthcare resource utilization (HRU) and costs for patients (pts) with MCL in the 1L and R/R setting, treated with contemporary regimens.

METHODS

- This was a retrospective cohort study using Optum Clinformatics Data Mart 01/01/2016 – 12/31/2023 (study period)
- Pts diagnosed with MCL between 01/01/2017 and 09/30/2023 (identification window), with continuous enrollment in a health plan with medical and pharmacy benefits ≥ 12 months before index and ≥ 3 months after index date, and with evidence of at least one systemic treatment (approved MCL treatment) in the identification window. The index date was the date of first MCL diagnosis (**Figure 1**). Treatment included treat to progression (BTKi, CAR-T, CT/CIT, aCD20) and fixed duration agents (Venetoclax).
- Outcomes assessed included: treatment patterns (treatment regimen, duration of therapy and line duration); healthcare costs (all-cause and MCL-related monthly total, medication, and medical costs); healthcare resource utilization (HRU)
- Descriptive statistics were used to assess HRU, treatment regimens. Healthcare costs were the sum of medication and medical costs. Combination regimens of VEN + BTKi were grouped under BTKi. When referring to VEN-based regimens, these do not include VEN+BTKi combinations.

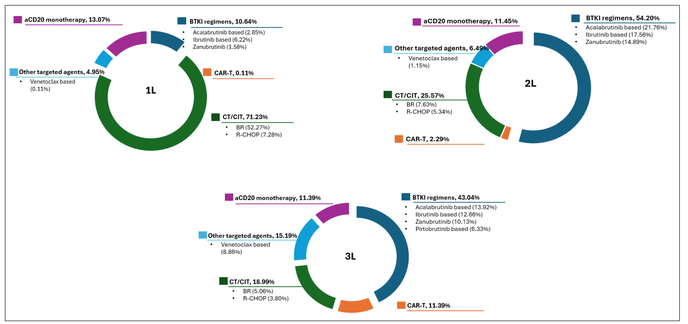
Figure 1: Study design and sample selection



RESULTS

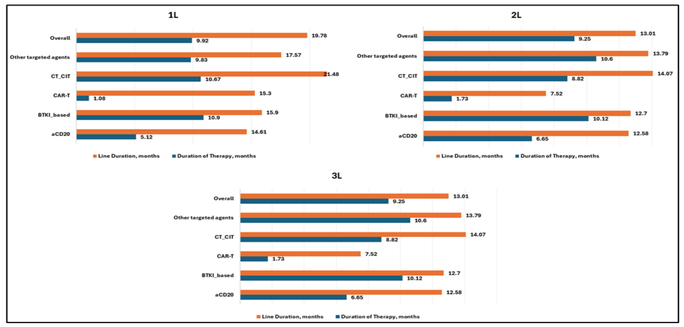
- The final sample included 949 pts in 1L as follows: 101 pts in the BTKi group, 1 pt in the CAR-T group, 676 in the CT/CIT group, 47 pts in the other targeted agents' group (including venetoclax-based) and 124 pts in the aCD20 group.
  - On average, pts were 72.3 years old, primarily male (70.7%), of White race (80%),with primarily Medicare insurance coverage (80%) and had hypertension as a comorbidity (63.2%).
- Of 949 pts in 1L, CT/CIT (71.2%) was the most received treatment followed by aCD20 monotherapy (13.1%) and BTKi regimens (10.6%). Of 262 pts in 2L, BTKi regimens (54.2%), CT/CIT (25.6%) and aCD20 monotherapy (11.5%) were the most used treatments. Of 79 pts in 3L, BTKi regimens (43.0%), CT/CIT (19.0%), and other-targeted agents (15.2%) were the preferred regimens (**Figure 2**).
- Venetoclax-based regimens were used among 0.1%, 1.2%, and 8.9% in 1L, 2L, and 3L, respectively (**Figure 2**).

Figure 2: Distribution of treatment regimens across lines of therapy in MCL patients



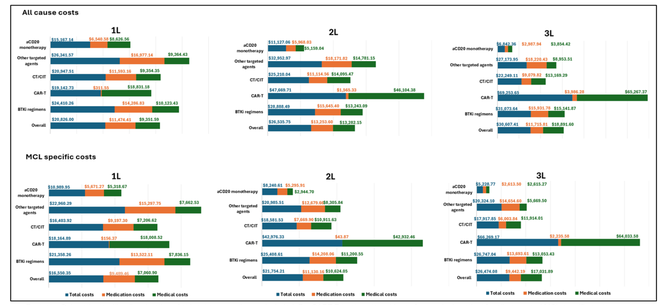
- BTKi regimens and CT/CIT had the longest mean duration of treatment in 1L. In 2L and 3L, BTKi regimens and other targeted agents had the longest duration of therapy. Across all lines of therapy, CT/CIT had the longest mean off-treatment times (**Figure 3**)
- Mean all-cause costs in 1L were $20,826 PPPM [BTKi: $24,410; CT/CIT: $20,948; CAR-T: $19,143]. In 2L, mean all-cause total costs increased to $26,536 PPPM [BTKi: $28,888; CT/CIT: $25,210; CAR-T: $47,670]. Similar trends were seen in 3L (**Figure 3**). MCL-specific costs also showed a similar pattern across lines of therapy.

Figure 3: Mean duration of treatment and line duration (in months) in overall sample, across lines of therapy, and treatment regimens in MCL patients



- Medication costs were the drivers of all-cause and MCL-specific costs (**Figure 4**)
  - Except for BTKi regimens, non-pharmacy (outpatient administered medications) costs were the drivers of medication costs in 1L, 2L, and 3L. In 1L and 2L, inpatient costs were the main drivers of medical costs.
  - In 3L, the same pattern was observed, except in patients who received other targeted agents and aCD20 monotherapy, wherein outpatient costs were the main drivers.

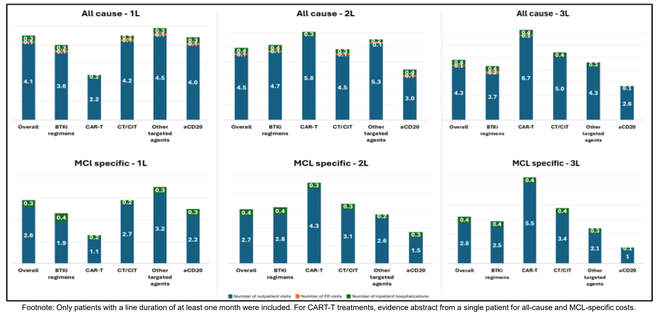
Figure 4: Mean total costs PPPM in overall sample, across lines of therapy, and treatment regimens in MCL patients



Footnote: Only patients with a line duration of at least one month were included. For CART-T treatments, evidence from a single patient for all-cause and MCL-specific costs.

- The mean number of outpatients visits were higher in 2L (4.5 days), and in 3L (4.3 days) compared to 1L (4.1 days). Mean inpatient hospitalizations were higher in 2L (0.4 day) and 3L (0.4 day) compared to 1L (0.3 days) (**Figure 5**).
  - 57.4% and 55.5% of pts receiving BTKis and CT/CIT, respectively, had ≥1 hospitalization with a mean duration of 3.3 and 2.1 days. 48.6%, 60.0% and 100% of pts receiving BTKis, CT/CIT and CAR-T, respectively had ≥1 hospitalization PPPM [mean duration 4.4, 3.2 and 6.6 days, respectively].

Figure 5: Healthcare resource utilization (PPPM) in overall sample, across lines of therapy, and treatment regimens in MCL patients



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