Poster # CML – 694

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Adherence of Asciminib vs ATP-Competitive Tyrosine Kinase Inhibitors in Second Line for Chronic Myeloid Leukemia in Chronic Phase

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KEY FINDINGS & CONCLUSIONS

- In this real-world study of patients with Ph+ CML-CP receiving 2L therapy, both adherence measures demonstrated that asciminib was associated with more favorable adherence patterns compared with ATP-competitive TKIs, including 2G TKIs
- Patients receiving asciminib were more likely to be classified as highly adherent and less likely to be classified as non-adherent over the first 12 months following 2L initiation, while similar proportions of moderately adherent patients were observed between treatment cohorts
- The favorable adherence patterns observed with asciminib in US clinical practice are consistent with the improved tolerability observed in the ASC4FIRST and ASCEMBL trials, and may be associated with improved long-term clinical outcomes in this population

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BACKGROUND

- Intolerance or resistance to first- and second-generation (1G/2G) ATP-competitive tyrosine kinase inhibitors (TKIs) is common among patients with Philadelphia chromosome-positive chronic myeloid leukemia in chronic phase (CML-CP)[1,2]
- Asciminib, the first TKI specifically targeting the ABL myristoyl pocket (STAMP), is approved for the treatment of patients with newly diagnosed or previously treated Ph+ CML-CP, including those with T315I mutation, based on improved efficacy and tolerability in the pivotal phase III ASC4FIRST and ASCEMBL trials[3,4]
- Long-term adherence to TKI therapy is an important indicator of treatment tolerability and is associated with improved clinical outcomes in patients with Ph+ CML-CP[5]

Objectives

- To compare adherence trajectories among patients with CML-CP who initiated asciminib vs an ATP-competitive TKI in the second-line (2L) setting

METHODS

- This was a retrospective, longitudinal cohort study of adult patients with CML-CP treated with asciminib or an ATP-competitive TKI after one prior TKI
- HealthVerity, a large US nationwide health insurance claims database, was used (1/1/2016 to 5/21/2025). All data were de-identified and compliant with the HIPAA
- Eligible patients were aged ≥18 years, had ≥2 diagnoses for CML on separate dates (ICD-10-CM: C92.1), initiated 2L treatment (index date) after 10/29/2021 with asciminib or an ATP-competitive TKI, and had ≥12 months of follow-up
- Entropy balancing was used to weight the ATP-competitive TKI cohort to match the baseline characteristics of the 2L asciminib cohort
- **PDC (conventional adherence measure):** proportion of days covered (PDC) with a TKI during the first-year post-index, defined as the total number of days of medication covered divided by 365 days
  - Median annual PDC was compared between cohorts using Wilcoxon rank-sum test
- **GBTM trajectory (novel adherence measure):** monthly PDC with a TKI during the 12 month post-index period was evaluated using group-based trajectory modeling (GBTM), a novel application in hematology that captures dynamic medication adherence patterns over time[6,7]
  - The distribution of patients across weighted GBTM trajectory groups was compared between cohorts, and weighted risk ratios (RRs) for trajectory group membership were reported
  - A subgroup analysis compared adherence trajectories among patients receiving asciminib vs 2G ATP-competitive TKIs (i.e., dasatinib, nilotinib, or bosutinib) in 2L

RESULTS

Patient characteristics

- The study included 90 patients in the 2L asciminib cohort and 1,612 patients in the 2L ATP-competitive TKI cohort (dasatinib: 37%, bosutinib: 23%, nilotinib: 18%, imatinib: 18%, or ponatinib: 4%) (**Table 1**)

Table 1. Patient characteristics[a]

Mean ± SD [median] or n (%)	2L asciminib N = 90	2L ATP-competitive TKI N = 1,612	Std. Diff. %
Age	54.7 ± 14.7 [57.5]	54.7 ± 14.6 [56.0]	0.0
Gender[b]			
Male	50 (55.6)	896 (55.6)	0.0
Female	39 (43.3)	715 (44.3)	2.0
Insurance plan type[c]			
Commercial	42 (46.7)	752 (46.7)	0.0
Non-commercial	48 (53.3)	860 (53.3)	0.0
Medicaid	26 (28.9)	528 (32.8)	8.4
Medicare Advantage	16 (17.8)	290 (18.0)	0.6
Unknown	10 (11.1)	123 (7.6)	12.0
Index year			
2021-2022	31 (34.4)	555 (34.4)	0.0
2023-2025	59 (65.6)	1,057 (65.6)	0.0
NCI comorbidity index score	0.5 ± 0.7 [0.3]	0.6 ± 0.7 [0.3]	2.2
Adherence-related comorbidities[d]	50 (55.6)	896 (55.6)	0.0
TKI initiated in 1L			
First-generation TKI	18 (20.0)	322 (20.0)	0.0
Second-generation TKI	72 (80.0)	1,290 (80.0)	0.0

Abbreviations: 1L: first-line; 2L: second-line; ATP: adenosine triphosphate; NCI: National Cancer Institute; Std. Diff.: standardized difference; TKI: tyrosine kinase inhibitor.
Notes:
[a] Assessed during the 12-month baseline period.
[b] Gender was unknown for 1 patient per cohort.
[c] Categories were not mutually exclusive.
[d] Adherence-related comorbidities were assessed based on a diagnosis of one of the following conditions: anxiety, depression, substance-related and addictive disorders, or dementia.

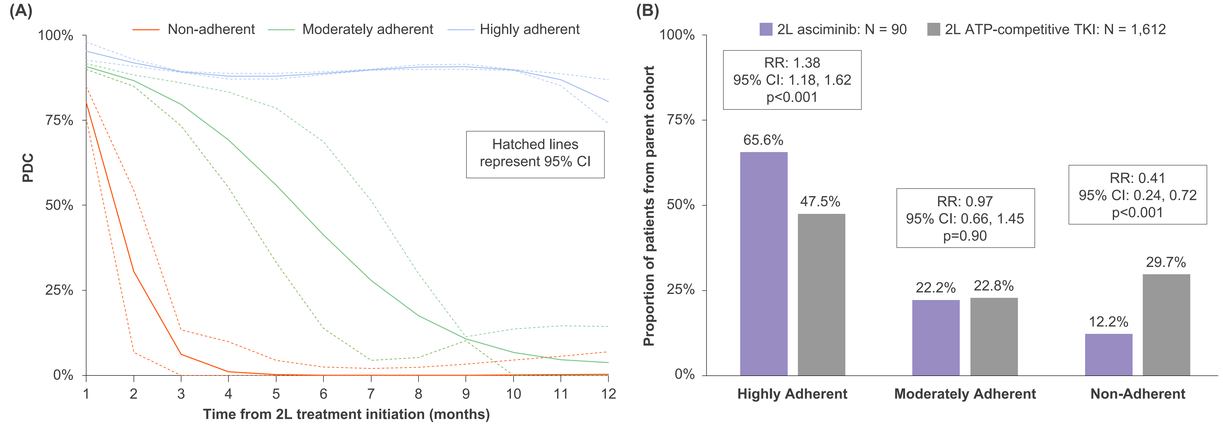
Conventional TKI adherence

- Median annual PDC was higher in the asciminib cohort (91%) compared to the ATP-competitive cohort (67%; p<0.05)

TKI adherence trajectories

- GBTM converged on three distinct adherence patterns among all patients (N=1,702): 48% were considered highly adherent (median monthly PDC: 95%), 23% moderately adherent (median monthly PDC: 42%), and 29% non-adherent (median monthly PDC: 8%) (**Figure 1A**)
- Patients receiving asciminib were more likely to be classified as highly adherent compared with those receiving ATP-competitive TKIs (65.6% vs 47.5%; RR: 1.38; p<0.001) (**Figure 1B**)
- Patients receiving asciminib were less likely to be classified as non-adherent compared with those receiving ATP-competitive TKIs (12.2% vs 29.7%; RR: 0.41; p<0.001)

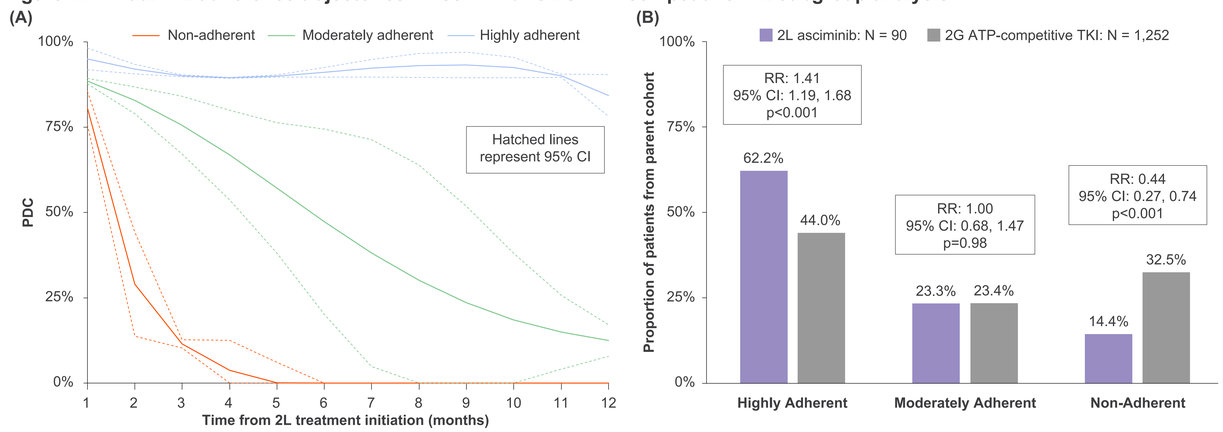
Figure 1. Annual TKI adherence trajectories – Asciminib vs ATP-competitive TKI



Abbreviations: 2L: second-line; ATP: adenosine triphosphate; CI: confidence interval; PDC: proportion of days covered; RR: risk ratio; TKI: tyrosine kinase inhibitor.

- Adherence trajectories were consistent for the comparison of asciminib vs 2G ATP-competitive TKIs in 2L (**Figure 2**)

Figure 2. Annual TKI adherence trajectories – Asciminib vs 2G ATP-competitive TKI subgroup analysis



Abbreviations: 2G: second-generation; 2L: second-line; ATP: adenosine triphosphate; CI: confidence interval; PDC: proportion of days covered; RR: risk ratio; TKI: tyrosine kinase inhibitor.

Limitations

- Limited clinical information available in claims data, including disease severity, disease phase, laboratory results, or reasons for treatment modifications
- Medication use was inferred from pharmacy claims and may not reflect actual medication consumption
- Results may be affected by coding errors, missing data, and residual confounding

References

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