# Reduced Mortality, Cytopenias, and Cardiovascular Events With Asciminib Compared With Ponatinib in Previously Treated Chronic Myeloid Leukemia: A Propensity-Matched Real-World Analysis

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## INTRODUCTION

Ponatinib remains an effective option for heavily pretreated chronic myeloid leukemia (CML) but is limited by substantial vascular and hematologic toxicities. Asciminib, a first-in-class **STAMP inhibitor targeting the ABL myristoyl pocket**, has demonstrated favorable tolerability in clinical trials; however, comparative real-world data against ponatinib remain limited.

## AIM

To compare mortality, hematologic toxicity, thromboembolic events, and cardiovascular outcomes among patients with CML treated with asciminib versus ponatinib in a large real-world cohort

## METHOD

-Retrospective multicenter cohort study using the TriNetX Research Network (2015–2025).
-Adults with BCR::ABL1-positive CML treated with asciminib or ponatinib after prior TKI exposure were included.
-Included **473** matched patients per cohort.
-Follow up period: 1 year

## RESULTS

- Asciminib was associated with significantly lower mortality compared with ponatinib (7.4% vs 19.5%; HR 0.39, 95% CI 0.27–0.59; p<0.001).
- Asciminib demonstrated lower risks of cytopenia (16.7% vs 29.2%; RR 0.57; p=0.005), anemia (12.0% vs 33.1%; RR 0.36; p<0.001), and thrombocytopenia (8.2% vs 22.6%; RR 0.36; p<0.001).
- Cardiovascular and thromboembolic outcomes favored asciminib, including reduced MACE (2.6% vs 6.0%; HR 0.47, 95% CI 0.23–0.95; p=0.032) and VTE (4.6% vs 11.7%; HR 0.41, 95% CI 0.24–0.70; p=0.001).
- The composite endpoint occurred less frequently with asciminib (17.6% vs 37.5%; HR 0.45, 95% CI 0.24–0.84; p=0.010).
- Kaplan-Meier analyses consistently demonstrated superior event-free survival with asciminib across all endpoints

## CONCLUSION

Asciminib was associated with **significantly lower mortality, hematologic toxicity, thromboembolic complications, and cardiovascular events** compared with ponatinib in previously treated CML.

## CONTACT INFORMATION

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## REFERENCES

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