Too Soon to Switch? Early TKI Switching vs. Continuous Monotherapy: Long-Term Outcomes in Chronic Myeloid Leukemia (CML)

C.Ugwu[1], M.Megiso[1], N. Ubah[2], E.Obomanu,[1] A.Taneja[3]

[1]Department of Internal Medicine, Jefferson Einstein Hospital Philadelphia;
[2]Department of Internal Medicine, Montefiore St Luke Cornwall;
[3]Sidney Kimmel Comprehensive Cancer Center, Jefferson Einstein Philadelphia Hospital

Introduction

❖ Early switching of tyrosine kinase inhibitors (TKIs) within the first 3 months in chronic myeloid leukemia (CML) is often due to intolerance or suboptimal response, but the long-term impact of such early changes is unclear. This study examines the outcomes of early TKI switching compared to continuous monotherapy in CML patients.

Objectives

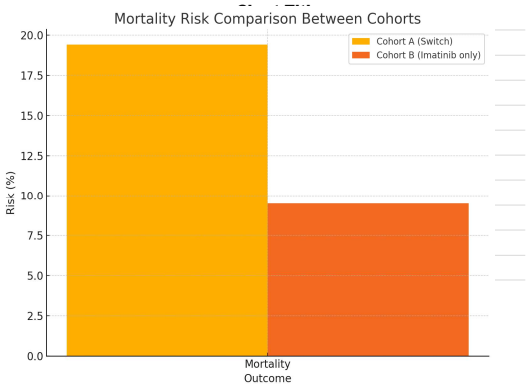
To assess the long-term risks of mortality and major complications in CML patients who switch TKIs early versus those who remain on their initial TKI.

Methods

- We used data from the TriNetX US Collaborative Network to compare matched cohorts of early switchers and long-term non-switchers for imatinib (n=349 vs. n=4,579), dasatinib (n=377 vs. n=2,849), and nilotinib (n=114 vs. n=1,308).
- Patients were followed for 3 and 5 years.
- Outcomes included mortality, cardiovascular complications, diabetes, thromboembolic events, hospitalizations, and ICU admissions.
- Propensity matching and logistic regression were applied to estimate risk ratios (RRs) with 95% confidence intervals (CIs).

Results

- Early TKI switching was consistently associated with higher 5-year mortality and increased rates of heart failure, ICU admissions, and hospitalizations across all three TKIs.
- For example, 5-year mortality for imatinib switchers was 24.0% vs. 11.9% for non-switchers (RR=2.03, p<0.001).
- Similar trends were observed for dasatinib and nilotinib.



Conclusion

❑ Early switching from first-line TKI therapy in CML is linked to worse survival and more complications.

❑ Careful assessment and monitoring are essential before considering early changes to frontline therapy.

References

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