SWITCHING TOO SOON? EARLY VS. LATE TKI SWITCHING: REAL WORLD ANALYSIS OF EARLY TKI MODIFICATION IN CHRONIC MYELOID LEUKEMIA

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Introduction

In chronic myeloid leukemia (CML), early switching of tyrosine kinase inhibitors (TKIs) may reflect intolerance or lack of early response, while delayed switching often follows later-emerging resistance.

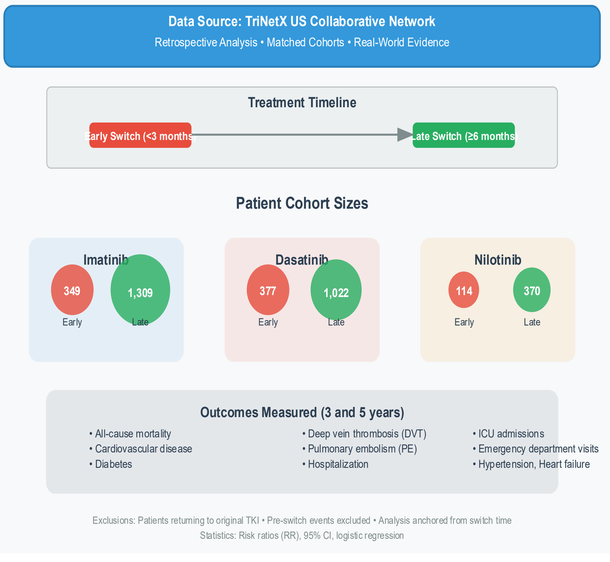
Aim

To compare long-term clinical outcomes after early (<3 months) versus late (≥6 months) TKI switching in adults with CML across imatinib,

Objectives

Evaluate 3- and 5-year all-cause mortality, cardiovascular events, diabetes, DVT/PE, hospitalization, ICU/ED use in matched cohorts anchored at the switch date, excluding pre-switch events and estimating risk ratios with 95% CIs via logistic regression

Methods



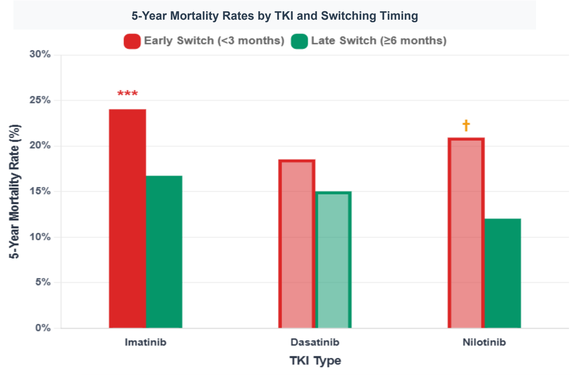
Results

Among imatinib users, early switchers had higher 5-year mortality (24.0% vs 16.7%; RR 1.43, 95% CI 1.06–1.94, p=0.018) and numerically more hospitalizations/ICU use.

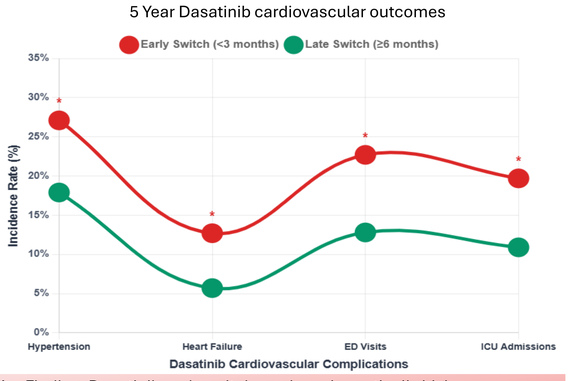
Among dasatinib users, early switchers had more hypertension (27.1% vs 17.9%; RR 1.51, p=0.027), heart failure (12.7% vs 5.7%; RR 2.24, p=0.002), ED visits (22.7% vs 12.8%; RR 1.78, p=0.004), and ICU admissions (19.7% vs 10.9%, p=0.002).

Among nilotinib users, early switchers trended toward higher 5-year mortality (20.9% vs 12.0%; RR 1.74, p=0.078) with minimal differences in other outcomes.

Results



Key Finding: Early imatinib switching associated with 43% higher mortality risk (p=0.018). Nilotinib shows concerning trend (74% higher, p=0.078).



Key Finding: Dasatinib early switchers show dramatically higher cardiovascular risks - 2.24x higher heart failure risk (p=0.002) and 1.51x higher hypertension risk (p=0.027). * = p < 0.05

Discussion

Early TKI switching (<3 months) didn't improve outcomes and was linked to higher mortality (imatinib) and greater cardiopulmonary/acute care use (dasatinib); nilotinib showed only a nonsignificant mortality trend.

Favor response-guided monitoring and cautious timing of changes; interpret cautiously given confounding by indication, limited molecular response data, and potential EHR misclassification.

