Complication Burden across Age Groups in Venetoclax-Based Acute Myeloid Leukemia Hospitalizations: A National Inpatient Sample Study

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INTRODUCTION

Venetoclax-based combinations have transformed acute myeloid leukemia (AML) treatment, initially for elderly patients unfit for intensive chemotherapy and now as **frontline therapy across age groups**.

Age-specific acute complications remain poorly characterized nationally. We examined age-stratified inpatient outcomes in a nationally representative cohort of AML patients receiving venetoclax-based therapy.

METHOD

- Using the NIS (2019-2023), we identified adult AML hospitalizations with venetoclax combination therapy.
- Patients were stratified by age (18-74 vs ≥75 years).
- Key outcomes included in-hospital mortality, sepsis, AKI, gastrointestinal bleeding, and neutropenia.
- Multivariable logistic regression assessed age impact, adjusting for sex and Charlson Comorbidity Index.

CONCLUSIONS

- Despite higher comorbidity burden, patients aged ≥75 years receiving venetoclax-based therapy did not experience increased in-hospital mortality.
- Older age independently predicted higher AKI risk but lower infection rates, likely reflecting modified treatment intensity.
- Venetoclax-based regimens appear safe across age strata.

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CONTACT INFORMATION

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RESULTS

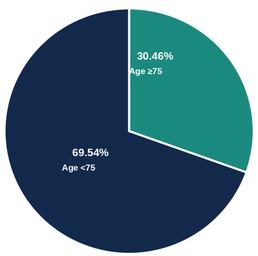
1. Study Population

Total Hospitalizations
13,855

Age ≥75
30.46%
(n = 4,220)

Age <75
69.54%
(n = 9,635)

Overall mean age: 65.79 yrs



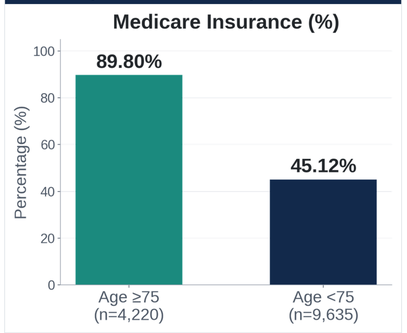
2. Clinical Severity

Mean Charlson Comorbidity Index

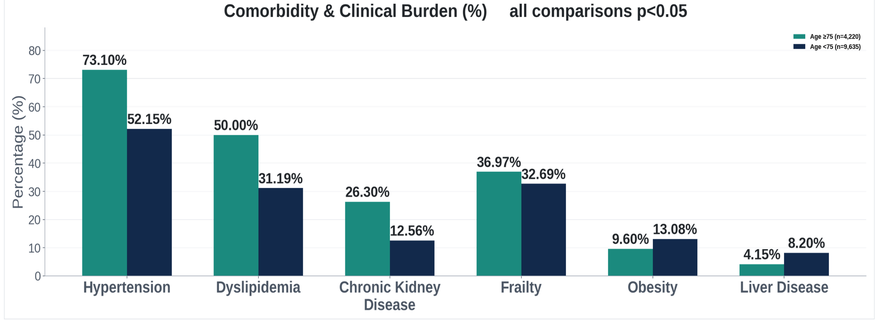
3.67 Age ≥75 vs **3.31** Age <75

p < 0.001

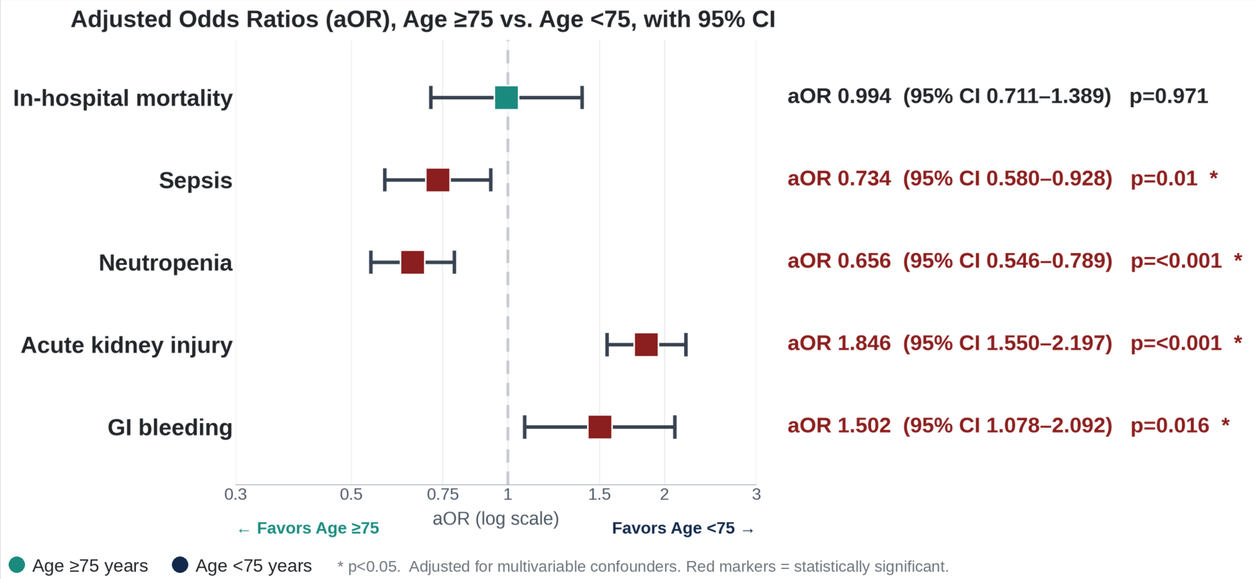
3. Primary Insurance Coverage



4. Comorbidity & Clinical Burden



5. Adjusted In-Hospital Outcomes (Age ≥75 vs. Age <75)



Age ≥75 years Age <75 years * p<0.05. Adjusted for multivariable confounders. Red markers = statistically significant.