

Conference Abstracts

Era Improvements in Age-Standardized and Conditional Survival for Acute Myeloid Leukemia: A SEER-22 Analysis, 2000–2016

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Background

Novel therapies and supportive care have changed outcomes in acute myeloid leukemia (AML), but it is unclear whether gains occur early or later after diagnosis. We quantified era-specific changes in 5-year relative survival (RS) and 5-year conditional RS given survival to 2 years.

Methods

Population-based cohort study using SEER*Stat (SEER 22 Research Limited-Field Incidence, diagnoses 2000–2016, follow-up through 2021). Adults (≥ 15 years) with AML were identified by ICD-O-3 histologies (9840–9867, 9871–9876, 9891, 9895–9898, 9910, 9920); autopsy/death-certificate-only cases were excluded. Primary endpoint was age-standardized 5-year RS (International Cancer Survival Standard 1, ages 15+), estimated by the Ederer II method with actuarial life tables. Eras were 2000–04, 2005–09, 2010–14, 2015–16. Secondary endpoint was 5-year conditional RS given survival to 24 months (months 25–60). Results are presented with 95% CIs.

Results

Age-standardized 5-year RS increased across eras:

2000–04: 18.4% (95% CI 16.8–22.2)

2005–09: 18.7% (17.4–22.1)

2010–14: 20.3% (18.9–24.2)

2015–16: 25.6% (22.7–32.1)

Absolute improvement from 2000–04 to 2015–16 was +7.2 percentage points (~39% relative increase). In contrast, 5-year conditional RS (given survival to 2 years) remained high and largely stable:

2000–04: 77.6% (71.0–82.9)

2005–09: 74.5% (68.8–79.3)

2010–14: 74.0% (68.0–79.0)

2015–16: 77.9% (68.9–84.6)

Conclusions

AML 5-year survival from diagnosis has improved meaningfully since 2000, while conditional 5-year survival after the first 2 years remains ~75–78% and largely unchanged. These patterns suggest that most gains occurred during the first 24 months after diagnosis. Efforts to further improve outcomes should prioritize strategies that reduce early mortality (e.g., induction risk mitigation, infection prevention, access to novel agents). Conditional survival estimates provide realistic prognostic information

for patients who have already survived initial therapy.

Keywords

Acute myeloid leukemia; SEER; relative survival; conditional survival; era trends; age-standardization.