

Conference Abstracts

Incidence and Outcomes of Acute Leukemia in the Incarcerated Population: A Multi-Center Real-World Analysis

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Background

Incarcerated individuals represent a medically vulnerable population with well-documented barriers to specialty care, including limited access to transplantation and tertiary oncology services. Despite this, outcomes of acute leukemia within correctional settings remain poorly characterized. Whether incarceration independently impacts survival in acute leukemia across diverse health systems is unknown.

Methods

We conducted a retrospective cohort study using the TriNetX Global Collaborative Network, comprising 160 academic and non-academic healthcare organizations across the United States. Adults aged ≥ 18 years with acute leukemia (AML, ALL, APL, and other acute leukemias; ICD-10 C91–C94) were identified. Incarcerated status was defined using ICD-10 Z65.1. A comparator cohort of non-incarcerated patients with acute leukemia was constructed. Propensity score matching (1:1) balanced age, sex, race, ethnicity, and comorbidities. Outcomes included all-cause mortality and overall survival, with follow-up up to 5 years. Kaplan–Meier methods and Cox proportional hazards models were used.

Results

Among 175,185 adults with acute leukemia, 138 (0.08%) were identified as incarcerated. After matching, 134 patients were included in each cohort. The incarcerated cohort was younger (mean age 45 years) and predominantly male (85%). Five-year mortality risk was 24.6% in incarcerated patients versus 30.3% in non-incarcerated patients (risk difference -5.7% , $p=0.30$). Five-year survival was 66.3% in the incarcerated cohort compared with 61.3% in the non-incarcerated cohort. Median survival was not reached in either group. In multivariable analysis, incarceration was not associated with increased mortality (HR 0.83, 95% CI 0.52–1.31; $p=0.87$). Notably, transplant utilization was low among incarcerated patients.

Conclusion

Across geographically diverse academic and non-academic centers, incarcerated adults with acute leukemia experienced survival outcomes comparable to the general population, despite limited access to hematopoietic transplantation. These findings demonstrate that acceptable leukemia outcomes are achievable within correctional settings and support the need for standardized referral pathways and equitable delivery of high-quality oncology care for incarcerated patients.