TREATMENT DISPARITIES IN LEUKEMIA AMONG PATIENTS WITH HIV: A NATIONWIDE ANALYSIS

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Introduction

Leukemia and HIV each involve complex treatment protocols, but their co-occurrence introduces additional challenges, including clinical hesitancy due to potential complications and immunosuppression. Prior studies suggest that people living with HIV (PLWH) are less likely to receive guideline-based cancer therapies.

Aim

To investigate inpatient disparities in chemotherapy and bone marrow transplant rates among leukemia patients with and without HIV.

Objectives

- Identify inpatient leukemia cases with and without HIV
- Compare rates of chemotherapy and bone marrow transplant between cohorts
- Assess demographic and clinical characteristics, including comorbidity and mortality

Methods

A retrospective cohort study was conducted using the National Inpatient Sample (NIS) database from 2016 to 2020. Hospitalizations for leukemia were identified using ICD-10 codes. Patients with asymptomatic HIV were identified using ICD-10 code Z21. Baseline demographics, comorbidity burden (Charlson Comorbidity Index), and clinical outcomes were analyzed. Statistical analysis included chi-square tests and t-tests.

Results

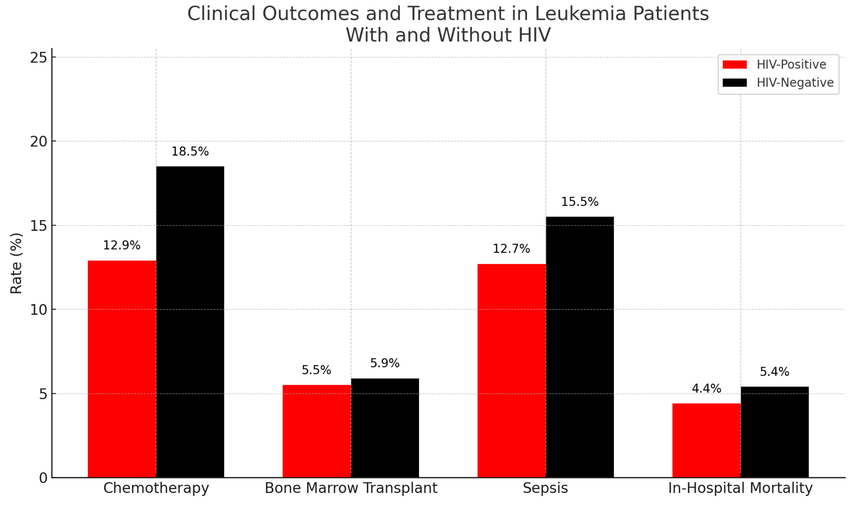
- **Sample Size**:
  - HIV-positive cohort: 2,630
  - HIV-negative cohort: 1,928,885
- **Demographics**:
  - Age: 56.85 vs 62.42 years ($p < 0.001$)
  - Female: 31.6% vs 43.4% ($p < 0.001$)
  - Black patients: 49.1% vs 13.4% ($p < 0.001$)
- **Clinical**:
  - CCI: 5.7 vs 6.3 ($p < 0.001$)
  - Sepsis: 12.7% vs 15.5% ($p < 0.001$)
  - In-hospital mortality: 4.4% vs 5.4% ($p = 0.017$)
- **Treatment**:
  - Chemotherapy: 12.9% (HIV+) vs 18.5% (HIV−) ($p < 0.001$)
  - Bone marrow transplant: 5.5% vs 5.9% ($p = 0.374$)

Summary

HIV-positive leukemia patients received significantly less chemotherapy compared to HIV-negative patients, despite lower comorbidity and in-hospital mortality. Bone marrow transplant rates did not differ significantly between groups.

Discussion

These results highlight disparities in the administration of chemotherapy for PLWH with leukemia. The findings are particularly concerning given that the HIV-positive cohort had lower sepsis and mortality rates, suggesting fewer contraindications. These data call for a more equitable approach to cancer treatment delivery among immunocompromised populations.



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