Mortality from Leukaemia Associated DIC: An Analysis of Recent Trends and Disparities

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INTRODUCTION

Disseminated intravascular coagulation (DIC):

- a syndrome marked by fibrin deposition in the bloodstream due to intravascular activation of coagulation
- occurs in 47.5% of leukemic patients
- Higher incidence in AML than in ALL

PURPOSE

To evaluate trends in mortality from leukemia-associated DIC, identify demographic and geographical disparities, and highlight at-risk populations.

METHODS

- Data Source: CDC WONDER database (2018-2023)
- Identified death certificates with leukemia-associated DIC
- Calculated Age-Adjusted Mortality Rates (AAMR) per million
- Assessed Average Annual Percent Changes (AAPC) with 95% Confidence Intervals (CI)
- Stratified data by gender, census region, age group, and place of death

RESULTS

1076 DIC and Leukemia-Related Deaths Between 2018 to 2023

58.55% Male
2018, 0.47 AAMR
2023, 0.60 AAMR
Total, 0.59 AAMR

41.45% Female
2018, 0.40 AAMR
2023, 0.36 AAMR
Total, 0.37 AAMR

Age Group and Racial Disparities (Age Adjusted Mortality Rate Per 1000,000 persons)

Age Group-Stratified Overalls AAMRs
65+ years 2.0
45-64 years 0.46
15-44 years 0.21
1-14 years 0.07

Race-Stratified Overalls AAMRs
Hispanic or Latino 0.46
NH White 0.47
NH Black 0.44
NH Asian or Pacific Islander 0.30

Location (Age Adjusted Mortality Rate Per 1000,000 persons)

Northeast 0.51, Midwest 0.38, South 0.42, West 0.57

No. of Deaths by Place of Death

RESULTS

Overall Mortality: 1,076 deaths from leukemia-associated DIC (2018-2023)
Trend Analysis: AAMR increased from 0.43 (2018) to 0.49 (2023); APC: 2.64% (95%CI: 1.63-3.65)

Gender Disparities:
- Females: AAMR decreased from 0.40 (2018) to 0.37 (2023); APC: 0.10% (95%CI: -9.60 to 10.86)
- Males: AAMR increased from 0.47 (2018) to 0.60 (2023); APC: 3.70% (95%CI: -2.28 to 10.15)

RESULTS – CONT'D

Geographical Disparities:
- Highest AAMR in the West (0.57, 95%CI: 0.51-0.64)
- AAMR in the West increased from 0.50 (2018) to 0.69 (2023); APC: 5.45% (95%CI: 0.63-10.51)

Place of Death: 90% of deaths occurred in inpatient medical facilities
- **Age Group Disparities**: Highest AAMR in 65+ age group (2.0, 95%CI: 1.85-2.16)

DISCUSSION

A cross-sectional and retrospective analysis of the US National Inpatient Sample database by Patel et al. found 19% involved DIC out of the 2583 hospitalizations with APL, highlighting the healthcare burden

CONCLUSIONS

Mortality from leukemia-associated DIC has risen over the past six years, disproportionately affecting males, the elderly, and individuals in the Western region. Targeted interventions are necessary to mitigate disparities and reduce mortality rates.

REFERENCES

Available upon request.