

DISSEMINATED INTRAVASCULAR COAGULATION IN ADULTS WITH ACTIVE ACUTE PROMYELOCYTIC LEUKEMIA: A NATIONWIDE ANALYSIS OF DEMOGRAPHICS, COMORBIDITIES, COMPLICATIONS, AND 30-DAY READMISSION RATES

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INTRODUCTION

Disseminated intravascular coagulation (DIC) is a **life-threatening complication in acute myeloid leukemia (AML)**, causing severe bleeding, thrombosis, and multiorgan dysfunction. Limited data exist on outcomes in **acute promyelocytic leukemia (APML) patients with DIC**. This study addresses this gap using a **national sample**.

AIM

To evaluate the demographics, comorbidities, in-hospital complications, mortality, and 30-day readmission rates among adults with active APML complicated by DIC using a nationwide database.

METHOD

Study Design: Retrospective cross-sectional study using the Nationwide Readmissions Database (NRD), 2016–2022.

Study Population: Adult patients (≥18 years) with active APML complicated by DIC during non-elective hospitalizations.

Exclusion Criteria: COVID-19 diagnoses, age<18, same-day discharges, and missing data.

Variables Assessed: Patient demographics, comorbidities, and in-hospital complications.

Readmission Outcome: All-cause, non-elective 30-day readmissions were evaluated among survivors, excluding COVID-19-associated readmissions.

CONCLUSIONS

- DIC in patients with APML was associated with high mortality and substantial morbidity.
- Acute kidney injury, ICU admission, and mechanical ventilation were among the most frequent in-hospital complications.
- These findings emphasize the importance of early recognition and aggressive supportive care in this high-risk population.

RESULTS

•A total of **2,671 hospitalizations** with active APML complicated by DIC were identified.

•Mean age was **51.09 years**, and **51.13% were male**.

•Most patients were treated at **metropolitan teaching hospitals (93.43%)**.

•**Private insurance (50.36%)** was most common, followed by Medicare (26.69%) and Medicaid (16.45%).

Common Comorbidities

- Hypertension: **44.28%**
- Dyslipidemia: **22.68%**
- Obesity: **19.51%**
- Smoking: **19.27%**
- Diabetes: **18.28%**
- CKD: **11.50%**
- CHF: **11.71%**

Major In-Hospital Complications

- Acute kidney injury: **34.60%**
- ICU admission: **25.61%**
- Mechanical ventilation: **22.78%**
- Hemorrhagic stroke: **13.08%**
- Acute ischemic stroke: **6.53%**
- Acute myocardial infarction: **5.48%**
- Cardiac arrest: **4.75%**
- Vasopressor use: **4.27%**
- Acute pulmonary embolism: **3.02%**
- Cardiogenic shock: **0.97%**

Mortality & Readmission

- In-hospital mortality was **22.64%**.
- Non-survivors were older than survivors (**58.13 vs. 49.03 years**).
- Non-survivors had a higher Charlson Comorbidity Index (**4.08 vs. 3.00; p<0.001**).
- Among survivors, **13.97% were readmitted within 30 days**, with a mean time to readmission of **11.59 days**.

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