NEPHROTIC SYNDROME AS A PREDICTOR OF ACUTE KIDNEY INJURY AND PROLONGED HOSPITALIZATION IN LEUKEMIA: INSIGHTS FROM A NATIONWIDE COHORT

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Introduction

Leukemia, a hematologic malignancy, often involves multi-organ complications. Nephrotic syndrome, although rare in leukemia, may worsen outcomes such as acute kidney injury (AKI) and prolonged hospitalization.

Aim

To evaluate the clinical outcomes associated with nephrotic syndrome in hospitalized leukemia patients.

Objectives

- Assess whether nephrotic syndrome increases the risk of AKI.
- Analyze its association with length of stay, cost, and comorbidity burden.

Methods

A retrospective cohort study using the 2016–2020 National Inpatient Sample (NIS) was conducted. Leukemia patients were identified using ICD-10 codes and stratified by presence or absence of nephrotic syndrome. Outcomes were compared using t-tests, chi-square tests, and multivariable logistic regression adjusting for age, sex, race, and Charlson Comorbidity Index (CCI).

Results

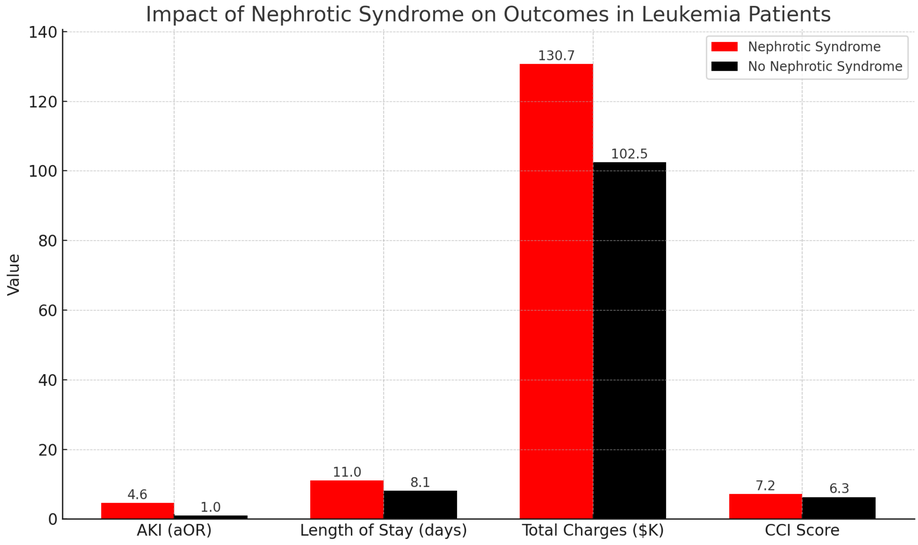
- Demographics: Nephrotic group was older (63.7 vs. 62.4 years, p < .001) with more Black (19.6%) and Asian (3.6%) patients.
- Clinical Outcomes:
  - Higher odds of AKI in nephrotic group (aOR 4.26–4.96, p < .001)
  - Longer hospital stay (11.0 vs. 8.1 days)
  - Greater hospital charges ($130,720 vs. $102,468)
  - Higher CCI (7.17 vs. 6.28)
- Nephrotic syndrome was more likely among leukemia vs. non-leukemia patients (aOR 1.47–1.58).

Summary

Nephrotic syndrome in leukemia is associated with significantly worse clinical and economic outcomes, particularly AKI and extended hospitalization.

Discussion

Despite being less commonly discussed, nephrotic syndrome poses a serious risk for leukemia patients. It drives higher AKI risk, costs, and resource utilization. These findings highlight the need for timely detection and nephrology collaboration in leukemia care.



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