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Comparison of Healthcare Utilization in Patients with Multiple Myeloma (MM) and Lymphoma Undergoing Autologous Hematopoietic Stem Cell Transplantation (HSCT)

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INTRODUCTION

- Rising healthcare costs underscore the need to understand the **economic impacts on autologous hematopoietic stem cell transplantation (AHSCT)**
  - standard of care for multiple myeloma (MM) and crucial for relapsed/refractory lymphoma

AIM

- To examine the healthcare utilization and factors influencing costs among patients with MM and lymphoma who underwent AHSCT.

METHOD

- Using the National Inpatient Sample database (2019–2021),
- Patients age ≥18 years who underwent AHSCT for MM or lymphoma.
- Multivariable regression analyses to compare the healthcare utilization and identify predictors of hospitalization cost.

RESULTS

- 26,720 weighted patients who underwent AHSCT for MM (66.4%) and lymphoma (33.6%).

Lymphoma [vs. Multiple Myeloma]

- Younger [mean, 54.0 vs 61.4 years, *P*<0.0001]
- Longer lengths of stay [LOS, 20.5 vs 16.4 days, *P*<0.0001]
- Higher total costs [$93,998 vs $52,761, *P*<0.0001]

- Results remained consistent after adjusting for age, sex, and Charlson Comorbidity Index (CCI): LOS (mean difference: 4.582, 95% CI: 3.907–5.258) and total costs (mean difference: $42,885, 95% CI: 37,718–48,053).
- **Compared to MM,** patients with lymphoma exhibited a higher likelihood of mucositis, febrile neutropenia, septic shock, and IMV (*P*<0.05).

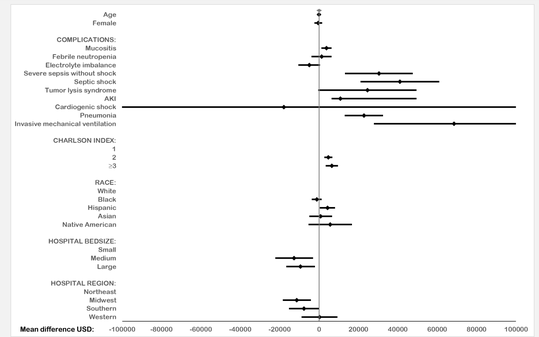


Figure 1. Multivariable analysis of factors associated with total hospital costs among patients with Multiple Myeloma who underwent autologous hematopoietic stem cell

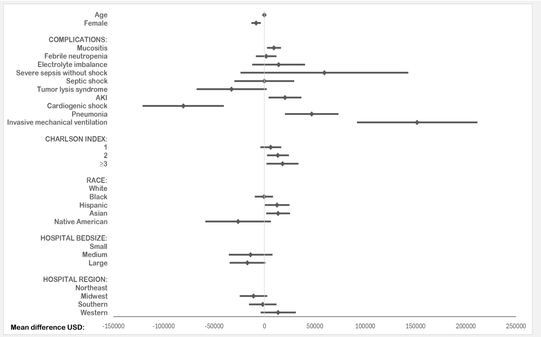


Figure 2. Multivariable analysis of factors associated with total hospital costs among patients with Lymphoma who underwent autologous hematopoietic stem cell

- **Among MM**, higher costs were associated: Hispanic population, mucositis, severe sepsis, septic shock, acute kidney injury (AKI), pneumonia, invasive mechanical ventilation (IMV), and CCI ≥2.
- **For lymphoma,** higher costs were associated: Hispanic and Asian population, mucositis, AKI, pneumonia, IMV, and CCI ≥2.

CONCLUSIONS

- Patients with **lymphoma** undergoing AHSCT incur **higher healthcare costs and have longer hospital stays** compared to MM.
  - Differences in the spectrum:
    - **Complications** and their **severity**,
    - **Disease status (newly diagnosed vs relapsed)**.
    - **Treatment-related factors** (timing of AHSCT, pre-transplant conditioning regimen)

- Future direction: Identify additional factors and interventions to mitigate the economic burden associated with AHSCT.

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