



The 65th ASH Annual Meeting Abstracts

ONLINE PUBLICATION ONLY

652.Multiple Myeloma: Clinical and Epidemiological

The Impact of Obesity in Hospitalized MM Patients: A Nationwide AnalysisEkrem Turk, MD¹, Ayobami Olafimihan, MBBS², Maria Cuartas, MD³¹ John H Stroger Hospital Jr Hospital of Cook County, Chicago, IL² John H Stroger Jr. Hospital of Cook County, Chicago, IL³ John H. Stroger, Jr. Hospital of Cook County, CHICAGO, IL

Introduction

Obesity has become a global public health challenge with significant clinical implications. Although its impact has been studied extensively in various chronic diseases, the specific influence of obesity on the prognosis of multiple myeloma (MM) patients remains poorly understood. Using a nationwide dataset, we conducted a comprehensive investigation into the association between obesity and hospitalization outcomes, including length of stay, complication rates, and mortality among MM patients.

Methods:

Nationwide Inpatient Sample (NIS) was queried to determine adult hospitalized patients with a primary diagnosis of MM using ICD-10 codes. The primary outcome is defined as the effect of obesity on inpatient mortality in those patients. Secondary outcomes included LOS, total hospital charge, major pathological fractures and relapsing MM. We evaluated the baseline characteristics using the t-test and chi-square test as appropriate. Multivariable logistic regression analysis was performed to assess the association of MM with obesity and inpatient mortality adjusted by age, gender, race, Charlson index, insurance, and household income.

Results

A total of 78975 MM patients were identified, Obesity prevalence in MM was 9.6%. Compared to MM patients without obesity, MM patients with obesity were younger (63 vs. 65.7 years, $p < 0.001$), more likely to be female (51.8% vs. 43.5%, $p < 0.001$), African American (27.7% vs. 22.6% $p < 0.001$), and have low-income ($p = 0.05$). There were no significant difference in the insurance types. MM with obesity had high Charlson Comorbidity index of > 5 (34.5% vs. 25.5%). Mean Charlson Comorbidity index was 4.1 in obesity group vs 3.6 in non-obese MM cohort. The overall inpatient mortality rate was 5% in MM. MM with obesity had lower mortality rate compared to MM without obesity (3.6% vs 5.1%). Age, Charlson index, hospital teaching status and hospital bedsize were found to be independently associated with inpatient mortality among hospitalized patients with MM. MM with obesity had a lower odds of ratio with increased all-cause mortality of 36% compared to MM without obesity (aOR 0.64, 95% CI 0.47-0.87, $p = 0.004$). In addition, MM with obesity was associated with increased LOS (mean 11.8 vs. 11.2 $P < 0.038$), however this difference was not significant after adjusted by cofounders. There was no significant difference in total hospital charges in the two groups. Presence of obesity had no association with development of relapsing MM (10.3% vs 11.2%, $p = 0.301$). MM with obesity cohort had 9.4% major pathologic fractures while MM without obesity had 7.6% ($p = 0.07$)

Conclusion

This nationwide analysis unveils an intriguing 'obesity paradox' in hospitalized multiple myeloma (MM) patients, where despite having a higher Charlson Comorbidity Index, obese MM patients had a lower inpatient mortality rate. The cause of this paradox remains unclear and could be influenced by various confounding factors. Although obesity was associated with a slightly increased length of stay, it did not lead to higher hospital charges, nor did it impact the rate of MM relapses or the prevalence of major pathological fractures. These findings highlight a complex relationship between obesity and MM outcomes, warranting further investigation to provide a more comprehensive understanding that can guide future patient management strategies.

Disclosures No relevant conflicts of interest to declare.

<https://doi.org/10.1182/blood-2023-191082>