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Beyond the Remission: How Does Beating Cancer Affect Your Heart Attack Outcomes? Impact of Multiple Myeloma in Remission on Hospitalization Outcomes in Patients with Acute Myocardial Infarction: Insights From a Retrospective Analysis of the 2021 National Inpatient Sample Database

Kalaivani Babu MD[1], Srinishant Rajarajan MD[1], Vasuki Anandan MD[2], Amit Correa MD[3]

[1] Allegheny General Hospital, Pittsburgh, USA
[2] University of Michigan Medical School, Ann Arbor, USA; LTC Charles S Kettles Veterans Affairs Medical Center, Ann Arbor, USA
[3] Memorial Hermann Cancer Center, Houston, USA; McGovern Medical School, Houston, USA

Allegheny Health Network

INTRODUCTION

Acute myocardial infarction (MI), commonly known as a heart attack, poses a significant health threat globally, necessitating extensive healthcare resources. Patients with MI often contend with concurrent medical conditions, including multiple myeloma (MM), a plasma cell cancer that can enter remission with treatment. However, the lingering effects of MM remission on MI hospitalization outcomes remain uncertain. This study investigates the association between MM remission and MI hospitalization outcomes using data from the 2021 National Inpatient Sample (NIS) database.

METHODS

This retrospective analysis examines adult MI admissions in the NIS database, exploring the relationship between MM remission and hospitalization outcomes, including mortality, length of stay, and total charges. Adjustment variables encompass age, race, Charlson Comorbidity Index, and hospital characteristics (region, teaching status, bed size), alongside income quartile based on zip code.

RESULTS

We identified 582,294 patients admitted for acute MI from the NIS 2021 database, out of which 0.02% of the population was composed of adult patients with a history of MM in remission. Survival rates were comparable between MI patients with remitted MM (96.3% survived) and those without MM in remission (95.05% survived). Initially, mean total hospitalization charges were higher for patients with remitted MM ($131,227.50) than those without ($118,957.80). However, adjusted analysis revealed no significant impact of MM remission on total charges. Interestingly, the unadjusted analysis showed a longer average length of stay for patients with remitted MM (5.19 days) compared to those without (4.39 days). However, after adjusting for confounders, a statistically significant association was observed, indicating a 1.93-day shorter length of stay for remitted MM patients (*P*=0.003).

CONCLUSIONS

This study illuminates the interplay between MM remission and MI hospitalization outcomes. While MM remission does not significantly impact mortality or total charges, it may influence resource utilization patterns, evidenced by the observed decrease in length of stay. Further research is warranted to elucidate the underlying factors driving these findings.

Category	Outcome
Total Cases	582,294
Patients with MM in remission	0.02%
Patients without MM in remission	99.98%
Survival Rates	
Patients with MM in remission	96.3% survived (P=0.000)
Patients without MM in remission	95.05% survived
Mean Total Hospitalization Charges	
Patients with MM in remission	$131,227.50 (P=0.000)
Patients without MM in remission	$118,957.80
Adjusted Total Charges Impact	No significant impact
Unadjusted Length of Stay	
Patients with MM in remission	5.19 days (P=0.003)
Patients without MM in remission	4.39 days
Adjusted Length of Stay Impact	1.93-day shorter length of stay for remitted MM patients (P=0.003)