Outcomes of hypercalcemia in patients with Multiple Myeloma: A Population-Based Study Using National Inpatient Sample (NIS) Database

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Abstract

Background: Multiple myeloma (MM) has different complications, including renal failure, anemia, infections, metabolic complications, and skeletal problems. Hypercalcemia is the most common metabolic complication, and the presence of hypercalcemia indicates worse outcomes. **Aims:** The study aims to examine outcomes such as hospitalization costs, length of stay, survival rates, and the incidence of complications of hypercalcemia in multiple myeloma patients admitted in the United States from 2017 to 2020. **Methods:** We performed a retrospective analysis using the National Inpatient Sample database to determine the incidence of hypercalcemia in patients admitted to United States hospitals from 2017 to 2020. Univariate and multivariate logistic regression were used to calculate the odds ratio. We used STATA software 17 to perform the analysis. **Results:** We found that the total number of patients with MM was 437799, out of which 8.6% had hypercalcemia. The mean age of the patients was 69 years, and hypercalcemia was found to be more common in males (55%) than females (45%). The presence of hypercalcemia was also associated with increased mortality (adjusted odds ratio 1.3, p-value 0.00). It was also seen that MM patients who had hypercalcemia had a higher risk of complications, including acute kidney injury (OR 3, $p<0.05$), hyperkalemia (OR 1.8, p-value <0.05), metabolic acidosis (1.4, p-value <0.05), spinal cord compression (OR 0.9, p-value >0.05), increased length of stay (OR 3, p-value <0.05), and higher cost of hospitalizations (p-value <0.05). **Conclusion:** The data is also limited to the demographic characteristics, impact, and outcomes of hypercalcemia on patients with MM. This study contributes valuable insights into the clinical implications of hypercalcemia in patients with multiple myeloma (MM). It fills existing gaps in the literature by utilizing a large population-based dataset.

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