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Mortality and Clinical Risk Factors in Patients with Multiple Myeloma

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INTRODUCTION

Multiple myeloma (MM) is a complex hematologic malignancy characterized by the proliferation of plasma cells. While therapeutic advancements have significantly improved survival rates in recent years, hospitalized patients remain a highly vulnerable population due to the inherent nature of the disease and its associated treatments.

The objective of this study was to analyze the trends in hospital admissions and in-hospital mortality among patients with multiple myeloma in Spain between 2020 and 2023, and to identify the clinical and demographic risk factors associated with mortality during these hospitalizations.

RESULTS

The study included a total of 20,249 patients. While annual hospitalized patients rose from 4,677 in 2020 to 5,360 in 2023, the in-hospital mortality rate showed a significant declining trend, decreasing from 11.9% to 9.6% ($p = 0.028$). Multivariate analysis revealed that the highest risks for mortality were associated with SARS-CoV-2 infection (OR = 1.77; 95% CI: 1.54–2.04), relapsed MM (OR = 1.75; 95% CI: 1.5–2.02), and cerebrovascular disease (OR = 1.7; 95% CI: 1.37–2.11). A Charlson Comorbidity Index (CCI) > 4 also significantly increased mortality risk (OR = 1.67). On the contrary, hematopoietic stem cell transplantation (HSCT) was the strongest protective factor (OR = 0.36; 95% CI: 0.3–0.43), followed by being in complete remission (OR = 0.53; 95% CI: 0.44–0.63).

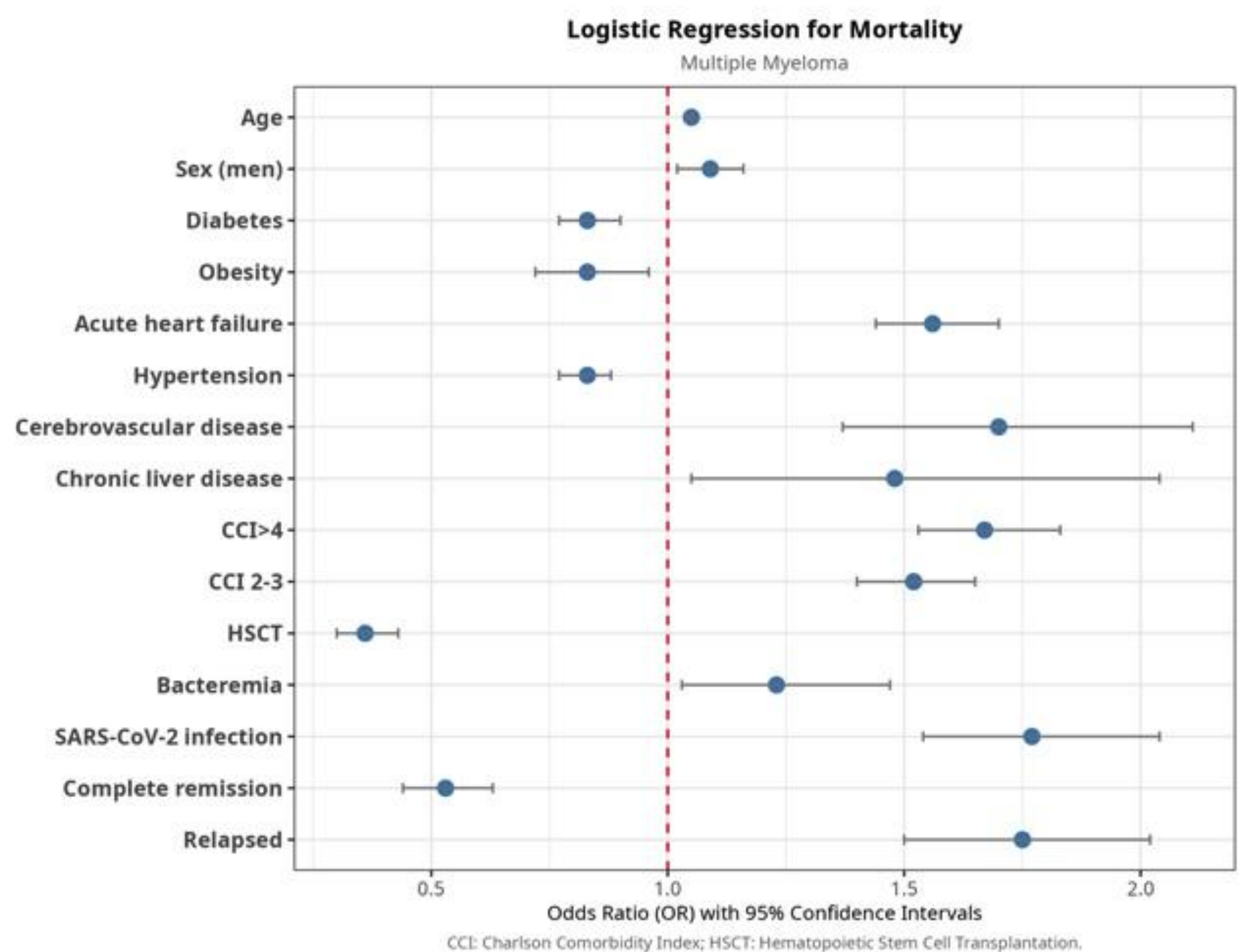


Figure 1. Clinical and comorbidity-based predictors of in-hospital mortality in multiple myeloma patients: a logistic regression model.

CONCLUSION

In-hospital mortality for MM in Spain has significantly improved between 2020 and 2023. However, the presence of acute infectious complications and severe cardiovascular or cerebrovascular comorbidities remains a critical determinant of survival, outweighing the impact of age alone.

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