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Trends in Hospitalization for Multiple Myeloma in Spain (2016–2023): Rising healthcare burden and declining in-hospital mortality

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INTRODUCTION

Multiple myeloma (MM) accounts for 1–2% of all cancers and represents the second most common hematological cancer in Europe. Analysis of hospitalization patterns provides valuable insight into disease burden and patient outcomes. Since population-based data on admissions due to MM remain limited, a detailed analysis is therefore needed to quantify healthcare demand and temporal trends at a national level.

The primary objective of this study was to evaluate trends in MM admissions and mortality over a 8-year study period in Spain.

RESULTS

A total of 107,496 MM-related admissions were recorded, corresponding to 43,383 unique patients and an average of 2.5 admissions per patient. The median age was 73 years (interquartile range 63–81). Women accounted for 47% of hospitalizations, with no significant change in sex distribution (p=0.81). The annual number of admissions rose from 10,939 in 2016 to 15,641 in 2022 (Figure 1A). Similarly, the hospitalization rates increased from 25.1 to 34.5 per 100,000 population (p<0.001).

A total of 5,107 patients died during an episode of hospitalization, corresponding to an overall in-hospital mortality rate of 11% of unique patients (Table 1). The in-hospital mortality rate showed a significant, non-linear trend over the 8-year period (Figure 1B), showing its maximum of 11.9% in 2020, corresponding to the peak of the COVID-19 pandemic. Post-2020, the rate declined consistently, up to 9.6% in 2023.

Figure 1. Trends in Multiple Myeloma hospitalization and mortality rates per 100,000 population in Spain, 2016-2023.

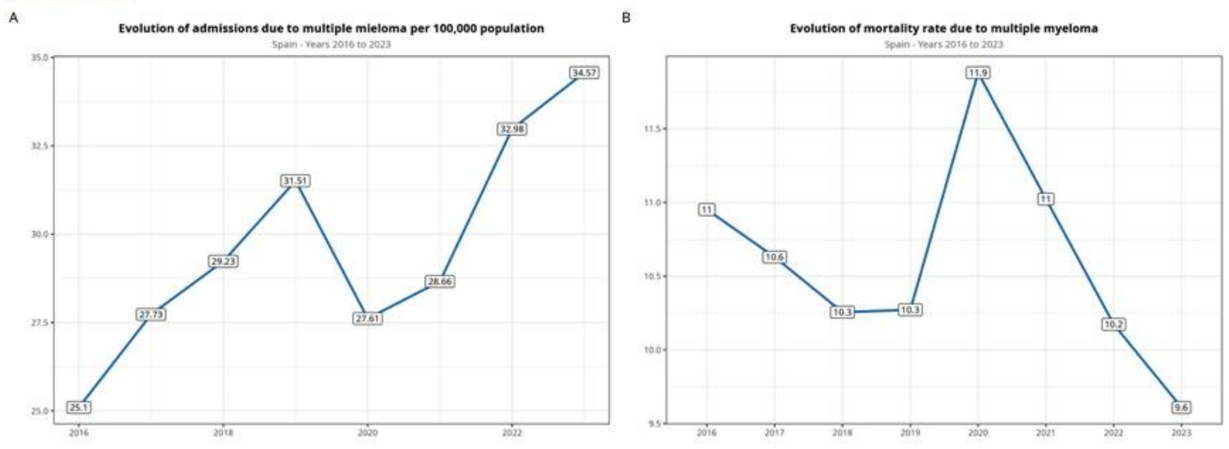

Table 1. Baseline characteristics, hospital admissions, and outcomes of patients with multiple myeloma in Spain (2016-2023)

	Total Patients	2016	2017	2018	2019	2020	2021	2022	2023	p-value
	43,383	6,857	5,464	5,582	5,231	4,677	4,991	5,221	5,360	
Admissions (% per patient)	107,496 (2.4%)	10,939 (1.6%)	11,901 (2.1%)	13,466 (2.4%)	14,505 (2.7%)	12,744 (2.7%)	13,172 (2.6%)	15,128 (2.9%)	15,641 (2.9%)	<0.001
Stage										
No remission	36,462 (84%)	5,612 (82%)	4,597 (84%)	4,561 (82%)	4,352 (83%)	3,961 (85%)	4,234 (85%)	4,547 (87%)	4,598 (86%)	<0.001
Complete remission	3,012 (6.9%)	537 (7.8%)	371 (6.8%)	450 (8.1%)	408 (7.8%)	311 (6.6%)	318 (6.4%)	282 (5.4%)	335 (6.3%)	<0.001
Relapses	1,591 (3.7%)	393 (5.7%)	252 (4.6%)	278 (5.0%)	182 (3.5%)	142 (3.0%)	143 (2.9%)	107 (2.0%)	94 (1.8%)	<0.001
Age	73 (63, 81)	72 (63, 81)	72 (63, 81)	73 (64, 82)	73 (64, 81)	72 (62, 81)	73 (63, 81)	73 (63, 81)	73 (63, 81)	0.002
Sex (women)	20,179 (47%)	3,161 (46%)	2,587 (47%)	2,589 (46%)	2,463 (47%)	2,145 (46%)	2,305 (46%)	2,431 (47%)	2,498 (47%)	0.81
Hematopoietic stem cell transplantation	5,608 (13%)	904 (13%)	677 (12%)	667 (12%)	652 (12%)	634 (14%)	668 (13%)	689 (13%)	717 (13%)	0.12
Deaths	5,107	894	645	624	569	606	576	586	607	<0.001

CONCLUSION

The 43% increase in MM-related admissions highlights a rising healthcare burden despite advances in disease management. Improved diagnostic techniques and the introduction of new therapeutic options lead to extended patient survival. The average of 2.5 hospitalizations per patient suggests that MM is being managed as a chronic condition requiring repeated hospital care, driven by disease progression, treatment-related toxicity, and comorbid conditions. These population-based data emphasize the need for strategic healthcare planning to address the growing demand for inpatient care among patients with MM.

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