Real-World Overall Survival of multiple myeloma patients in a Colombian HMO during 2015-2023

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BACKGROUND

- Multiple myeloma (MM) is a hematologic disease with heterogeneous outcomes and is associated with survival rates ranging from a few months to more than a decade[1].
- In 2015, the International Staging System (ISS) was established as a reliable prognostic framework, utilizing commonly accessible biomarkers. It has since become the standard model for risk stratification in patients newly diagnosed with MM[2,3].
- Chronic kidney disease and acute kidney injury are important complications associated with MM; they impact around one-third of patients at diagnosis and half of them at some point during the course of the disease[4].
- One observational study reported a median overall survival of 8.6 years[5] while the Globocan and US databases estimated the 5-years relative survival rate at 62%[6,7].

OBJECTIVE

- To estimate the overall survival (OS) of MM patients in a Colombian Health Maintenance Organization (HMO) between 2015-2023.

METHODS

- A retrospective, descriptive cohort study of MM patients from 2015 to 2023 was conducted. Patients with the ICD-10 code C90.0 were included.
- An observational, secondary data collection without sites, retrospective dynamic cohort study was conducted to identify patients with MM in the Colombian population under clinical practice affiliated to an HMO. The index date is defined as the time when the patient is diagnosed with MM.
- The inclusion criteria were: 1) confirmed diagnosis of MM, 2) ≥18 years, 3) ≥1 claim or administration of treatment for MM, 4) treated at the HMO between January 2015 and December 2023, and 5) medical records are available ≥1 year before and after the index date.
- The index date was when MM was diagnosed, and patients were followed until death, insurance discontinuation, or December 31th, 2023, whichever occurred first.
- The clinical and demographic characteristics such as age, comorbidities, cytogenetic risk, extramedullary disease among others were abstracted from the medical records or laboratory reports. In terms of treatments, it was collected from the medical records and claim databases.
- Overall survival was defined as the interval between the start from diagnosis and the date of death due to any cause.
- Time to event for death (overall survival) was evaluated using the Kaplan-Meier method. A Cox regression analysis was used to adjust for confounding clinical characteristics (International Staging System, ECOG performance, autologous transplant, renal failures, and bone lesion).

RESULTS

- A total of 700 patients were included. At index, these patients were older than 60 years (median: 64, IQR 16, Q1-Q3: 55-71) with late-stage disease (49.3% were at III-stage per ISS) (Table 1).
- Over 82% presented with a skeletal event and pathologic fractures (48.8%); hypercalcemia (26.2%) and spinal cord compressions (19.3%) were also common. The median CCI score was 3 (IQR 3). 41.7% patients received autologous transplantation (AT).

RESULTS (cont)

- The median OS (mOS) was 6.5 years (Figure 1), though this varied by those with (10.2 years) and without (5.0 years) AT (Figure 2).
- mOS varied considerable by ECOG performance score: ECOG 0 (10.6% patients) = not reached; ECOG 1 (50.9%) = 7.2 years; ECOG 2 (30%) = 6.6 years; ECOG 3 (7.7%) = 4.1 years; and ECOG 4 (0.9%) = 1.1 years (Figure 3). Similarly, mOS also varied by ISS: Stage I (14%) = 7.9 years; Stage II (36.7%) = 6.8 years; Stage III (49.3%) = 6.4 years (Figure 4).
- mOS also significantly varied by history of dialysis (hazard ratio = 2.1, 95% Confidence interval (CI): 1.45 – 2.98). Similarly, the patients with creatinine >2 mg/dl have more risk of death comparing to patients with less 2 mg/dl (HR = 2.18, 95% CI: 1.62 – 2.92) (Figure 5).
- The bone lesions at diagnosis was not associated with overall survival.

Table 1. Clinical and demographic characteristics of patients included in the study

Caracteristics	(n=700, %)
Women (%)	367 (52.4)
Age (mean (SD))	62.9 (11.3)
Raze	
African american	12 (1.7)
White	65 (9.3)
Indigenous	1 (0.1)
Mestizoes	466 (66.6)
Mulatto	1 (0.1)
Raizales	1 (0.1)
Zambaigo	1 (0.1)
Non information	153 (21.9)
International Staging System (ISS) Stage	
I	98 (14.0)
II	257 (36.7)
III	345 (49.3)
Durie Salmon Stage	
IA	78 (11.1)
IB	7 (1.0)
IIA	193 (27.6)
IIB	63 (9.0)
IIIA	248 (35.4)
IIIB	111 (15.9)
ECOG	
0	74 (10.6)
1	356 (50.9)
2	210 (30.0)
3	54 (7.7)
4	6 (0.9)
Skeletal-related events	578 (82.6)
Bone fractures	342 (48.8)
Hypercalcemia	183 (26.2)
Spinal cord compression	135 (19.3)
Radiation therapy	82 (11.7)
Dialysis at diagnosis	66 (9.4)
Plasmapheresis	13 (1.90)
Spinal cord decompression surgery	48 (6.9)

RESULTS (cont)

Figure 1. Overall survival in MM Colombian patients diagnosed between 2015 and 2023.

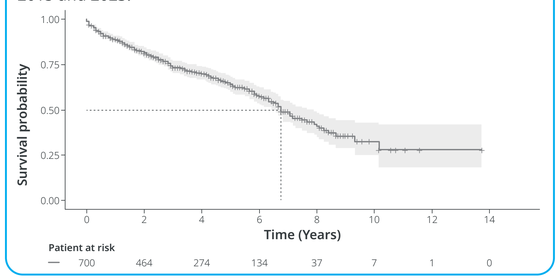


Figure 2. Overall survival in MM Colombian patients diagnosed between 2015 and 2023, with or without autologous transplant.

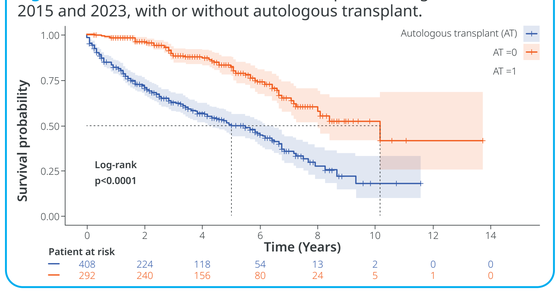


Figure 3. Overall survival in MM Colombian patients diagnosed between 2015 and 2023 by ECOG score at diagnosis.

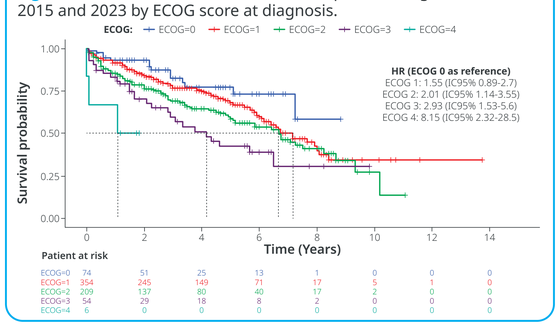
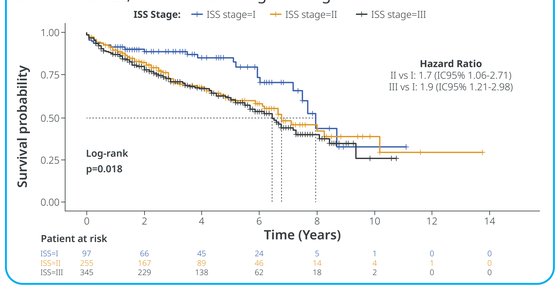


Figure 4. Overall survival in MM Colombian patients diagnosed between 2015 and 2023, based on ISS stage at diagnosis.



RESULTS (cont)

Figure 5. Overall survival in MM Colombian patients diagnosed between 2015 and 2023, based on dialysis at diagnosis.

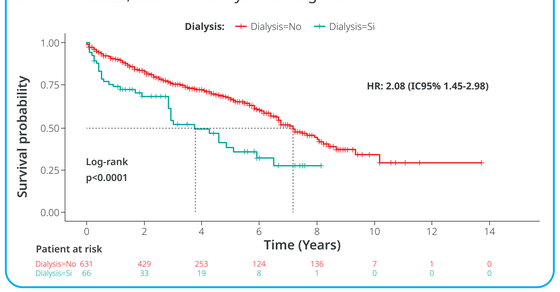
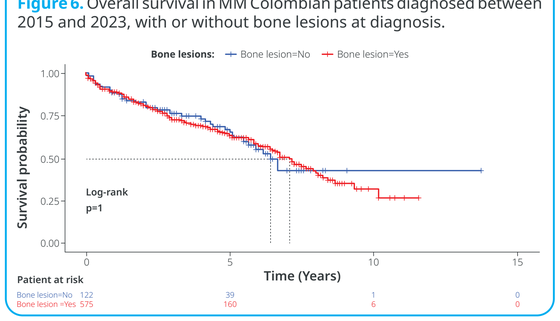


Figure 6. Overall survival in MM Colombian patients diagnosed between 2015 and 2023, with or without bone lesions at diagnosis.



CONCLUSION

- The mOS of Colombian MM patients was over six years. However, there are several clinical variables that were associated to the time of survival such as AT, ECOG, ISS, dialysis, among others.

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