ANTI-BCMA THERAPY IN MULTIPLE MYELOMA. A SINGLE-CENTER EXPERIENCE.

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Background

According to **the LocoMMotion (1) and MAMMOTH (2) studies, triple-exposed/triple-refractory multiple myeloma (MM) patients** represent an unmet medical need, because of **there is no standard of care and their overall survival (OS) is not superior to 9 months**. **BCMA** emerges as a new target that can be attacked by conjugated, bispecific antibodies (BiAbs) or T lymphocytes with CAR. Access to them is fundamentally through clinical trials in our country. However, no head-to-head comparative studies are available.

Objectives

To indirectly compare **the time to access to the therapy and hospitalization, toxicity and efficacy** of BCMA BiAbs antibodies and CAR-T.

Materials & Methods

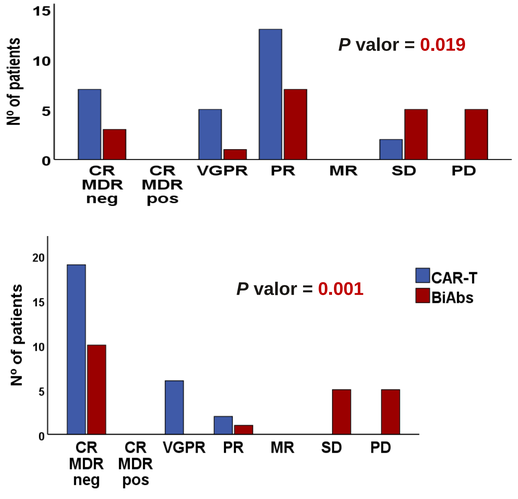
Observational retrospective study which included **49 patients** treated with **anti-BCMA therapy** in the Universitary Hospital of Salamanca (October 2018 – April 2022).

Results

Baseline characteristics of the series are shown in the **table 1. Time to acces to the therapy and hospitalization** are detailed in the **figure 1a and 1b.** The **early and the best response achieved** are shown in the **figure 2a and 2b.**. The **toxicity** and **adverse events** are presented in the **table 2** and the **progression-free survival (PFS) and OS** in the **figure 3a and 3b**.

	Total (N=49)	CAR-T (N=27)	BiAbs (N=22)	*P* valor
Age, median (range)	60 (36-77)	58 (36-76)	64 (44-77)	No sig.
Men (%)	28 (57,1)	15 (55,6)	13 (59,1)	No sig.
Prior lines of therapy, median (range)	3 (1-10)	2 (1-8)	4 (1-10)	**0,001**
≥ 3 Prior lines of therapy (%)	30 (61,2)	10 (37,0)	20 (90,9)	**0,000**
ISS 3 (%)	12 (24,5)	8 (29,6)	4 (18,2)	No sig.
High-risk CTG (%)	19 (38,8)	12 (44,4)	7 (31,8)	No sig.
PD pre-therapy (%)	36 (73,5)	14 (51,9)	22 (100)	**0,000**
Triple-exposed (%)	39 (79,6)	18 (66,7)	21 (95,5)	**0,013**
Triple-refractory (%)	28 (57,1)	13 (48,1)	15 (68,2)	No sig.

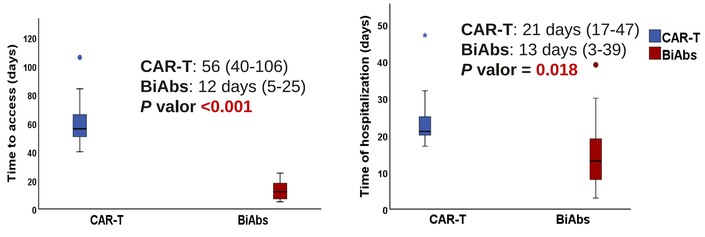
Table 1. Baseline characteristics of the series.



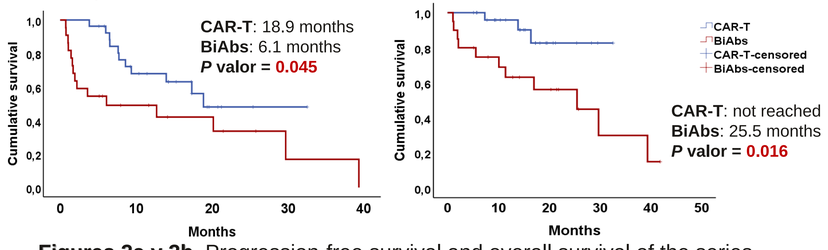
Figures 2a y 2b. Early and best response achieved.

	CAR-T (N=27)	BiAbs (N=22)	*P* valor
CRS (%)	25 (92,6)	15 (68,2)	**0,028**
Grade 1-2	8 (32,0)	6 (40,0)	No sig.
Grade 3-4	0 (0,0)	0 (0,0)	No sig.
ICANS (%)	1 (3,7)	1 (4,5)	No sig.
Grade 1-2	1 (3,7)	0 (0,0)	No sig.
Grade 3-4	0 (0,0)	1 (4.5)	No sig.
Neutropenia (%)	25 (92,6)	5 (22,7)	**0,000**
Grade 4			
Mid-term grade 3 (1-3 months)	24 (88,9)	14 (63,6)	**0,035**
Late-term grade 3 (≥ 3 months)	10 (37,0)	7 (43,8)	No sig.
Thrombocytopenia (%)	19 (70,4)	2 (9,1)	**0,000**
Grade 4			
Mid-term grade 3 (1-3 months)	16 (59,3)	2 (9,5)	**0,000**
Late-term grade 3 (≥ 3 months)	3 (11,1)	1 (6,3)	No sig.
Infections (%)	20 (74,1)	18 (81,8)	No sig.
First month	7 (25,9)	6 (27,3)	No sig.
Mid-term (1-3 months)	4 (14,8)	10 (55,6)	**0,004**
Late-term (≥ 3 months)	17 (65,4)	10 (83,3)	No sig.
SARS-CoV2 infection	8 (29,6)	7 (50)	**0,002**
Severe (in-patient)	1 (12,5)	6 (85,7)	**0,005**
Re-entry (%)	14 (51,9)	18 (81,8)	**0,028**
Adverse event	7 (25,9)	13 (59,1)	**0,019**

Table 2. Toxicity and adverse events of the series.



Figures 1a y 1b. Time to acces to therapy and hospitalization of the series



Figures 3a y 3b. Progression-free survival and overall survival of the series.

Conclusions

- **Anti-BCMA therapy improved the expected survival of relapsed/refractory MM patients** of our center.
- **Time to acces to treatment and hospitalization** was significantly **shorter** in patients treated with **biespecific monoclonal antibodies**.
- The **incidence** of **CRS** and **severe and prolonged cytopenias** were **higher** in patients who received **CAR-T**. Patients treated with **BiAbs** developed **more mid-term infections**, with more **severe COVID19 infections**.
- **Early and best response achieved, progression-free survival as well as overall survival were superior in the CAR-T group.**

References

1. Mateos M-V, Weisel K, De Stefano V, et al. LocoMMotion: A prospective, non-interventional, multinational study of real-life current standards of care in patients with relapsed/refractory multiple myeloma (RRMM) receiving ≥3 prior lines of therapy. *J Clin Oncol*. 2021;39(15_suppl):8041–8041

2. Gandhi UH, Cornell RF, Lakshman A, et al. Outcomes of patients with multiple myeloma refractory to CD38-targeted monoclonal antibody therapy. *Leukemia*. 2019;33(9):2266–2275