PA-515

Real-world characteristics and outcomes of patients with relapsed or refractory multiple myeloma treated with talquetamab: Early results from eMMpower consortium

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Key takeaway

Overall, talquetamab (TAL) monotherapy was an effective treatment option, even in these heavily pretreated and high-risk patients (pts) with relapsed or refractory multiple myeloma (RRMM), and common adverse events (AEs) were manageable.

Conclusions

In this real-world study of heavily pretreated and high-risk pts with RRMM using TAL as monotherapy, the real-world effectiveness is consistent with the pivotal trial findings.

Most cytokine release syndrome (CRS) events were mild, and the majority of pts reporting dysgeusia experienced improvement. Various supportive treatments were used in dysgeusia management.

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Introduction

- TAL is a novel treatment for RRMM in the United States (US; approved 09 August 2023), with safety and efficacy demonstrated in clinical trials.[1-3]
- Existing real-world (RW) studies often include a single center or small sample size, introducing the need for a larger, multicenter study to assess TAL's real-world safety and efficacy.[4-6]
- This study described RW pt profiles, patterns of care, and clinical outcomes of RRMM pts treated with TAL monotherapy using a large, multi-center consortium in the US.

Methods

Data source

- The study used deidentified data from eMMpower (PA-322), an ongoing, longitudinal, multi-site, RW retrospective chart review consortium of pts with MM in the US (analytic cutoff date: 31 March 2025).

Study design

- RRMM adults receiving Tal monotherapy post-approval in the 2nd line or later were included. Pts receiving Tal in a clinical trial, as part of an expanded access program, or as a bridging therapy to CAR-T were excluded.
- Index date was defined as the first dose of Tal.
- Pts were followed until the earliest of:
  - Day before initiating next line of treatment;
  - Date of last encounter with the sites; or
  - Date of death.

Statistical analysis

- Pt characteristics and safety outcomes (e.g., CRS, dysgeusia, weight loss) were summarized descriptively for all patients. Clinical effectiveness outcomes (e.g., overall response rate [ORR], duration of response, progression-free survival [PFS], overall survival [OS]) were time-to-event variables summarized using Kaplan-Meier analyses or cumulative incidence function analyses.
- For patients who completed step-up dosing (SUD) and received at least 1 treatment dose after SUD, we summarized their dosing strength and frequency.

Results

Study sample

- A total of 85 pts were included; 76.5% and 23.5% from academic and community centers, respectively (see **Table 1** for pt characteristics).
- The mean (median) age at treatment initiation was 65.6 (65.9) years; 37.6% were female, 82.4% were White, 29.4% had ECOG score ≥2, and 44.7% had a Simplified Frailty Score (SFS) indicating frailty.[7]
- Additionally, 67.1% had high-risk cytogenetics at treatment initiation and the mean (median) proportion of plasma cells in bone marrow was 51.3% (57.5%).

Patterns of care

- Pts received a median of 6.0 prior lines of treatment.
- Following TAL initiation, 67 pts (78.8%) completed SUD and received ≥1 TAL treatment dose after SUD at the time of chart abstraction:
  - 95.5% followed a biweekly dosing schedule with 4.5% following weekly dosing schedule
  - 80.6% had 0.8mg/kg biweekly dosing, 4.5% had 0.4mg/kg weekly dosing, and 14.9% had biweekly dosing of a different dose strength
- The remaining 18 pts (21.2%) had not yet received their 1st treatment dose after completing SUD at the time of chart abstraction.

Clinical outcomes

- Over a median follow-up time of 4.1 months, the ORR was 75.6% (≥complete response [≥CR] rate: 19.2%; very good partial response [VGPR] rate: 29.5%; partial response [PR] rate: 26.9%) with a median duration of response of 7.5 months (95% confidence interval [CI]: 5.9, Not Reached [NR]).
- The median PFS was 7.9 (95% CI: 5.3, 10.1) months (see **Figure 1**). Median OS was not reached (95% CI: 12.6, NR) (see **Figure 2**).

Safety outcomes

- Forty-nine pts (57.6%) experienced CRS (grade 1: 43.5%; grade 2: 11.8%; grade 3: 2.4%) (see **Table 2** for safety outcomes).
- Of 62 pts (72.9%) with dysgeusia, 45.2% improved after a mean (median) of 105.0 (78.5) days while on treatment. Common management strategies included saline mouthwash (43.5%), Biotene mouthwash/spray (30.6%), dexamethasone mouthwash (17.7%), and zinc (11.3%).
- Of 43 pts (50.6%) experiencing weight loss, 44.2% had weight stabilization after a mean (median) of 77.7 (32.0) days and 18.6% had resolution after a mean (median) of 95.0 (34.0) days.

Table 1. Pt characteristics at index[a]

	All Patients N = 85
Age at index (years)	
Mean ± SD	65.6 ± 9.2
Median (IQR)	65.9 (59.4, 72.0)
Female	32 (37.6%)
Race	
White	70 (82.4%)
Black/African American	8 (9.4%)
Other/Unknown	7 (8.2%)
Geographic region	
Northeast	3 (3.5%)
Midwest	26 (30.6%)
West	31 (36.5%)
South	25 (29.4%)
ECOG	
0	8 (9.4%)
1	50 (58.8%)
2	19 (22.4%)
>2	6 (7.1%)
Unknown	2 (2.4%)
R-ISS stage	
Stage I	12 (14.1%)
Stage II	23 (27.1%)
Stage III	31 (36.5%)
Unknown	19 (22.4%)
SFS score[b]	
Frail (score ≥2)	38 (44.7%)
Non-Frail (score <2)	45 (52.9%)
Unknown	2 (2.4%)
Plasma cells in bone marrow at MM diagnosis (%)	
Mean ± SD	51.3 ± 30.2
Median (IQR)	57.5 (29.3, 80.0)
Cytogenetic risk[c]	
High	57 (67.1%)
Standard	25 (29.4%)
Unknown	3 (3.5%)
Type of measurable MM disease	
Serum measurable	61 (71.8%)
Serum free light chains only	20 (23.5%)
Plasma cell only	3 (3.5%)
Unknown	1 (1.2%)
Prior lines of treatment received	
Mean ± SD	6.4 ± 2.4
Median (IQR)	6 (5.0, 7.0)
Years from MM diagnosis to index	
Mean ± SD	6.4 ± 4.1
Median (IQR)	5.4 (3.1, 8.7)
Months of follow-up	
Mean ± SD	5.6 ± 4.1
Median (IQR)	4.1 (2.1, 8.9)

Notes:
a. Demographics characteristics were evaluated at the index date (i.e., the date of the first dose of Tal). Clinical characteristics were evaluated using assessment closest to and within 12 months prior to index. Disease history was evaluated from initial MM diagnosis to index.
b. SFS was defined as in Facon et al. (2020)7
c. High cytogenetic risk was defined as in Tan et al. (2025)8 .

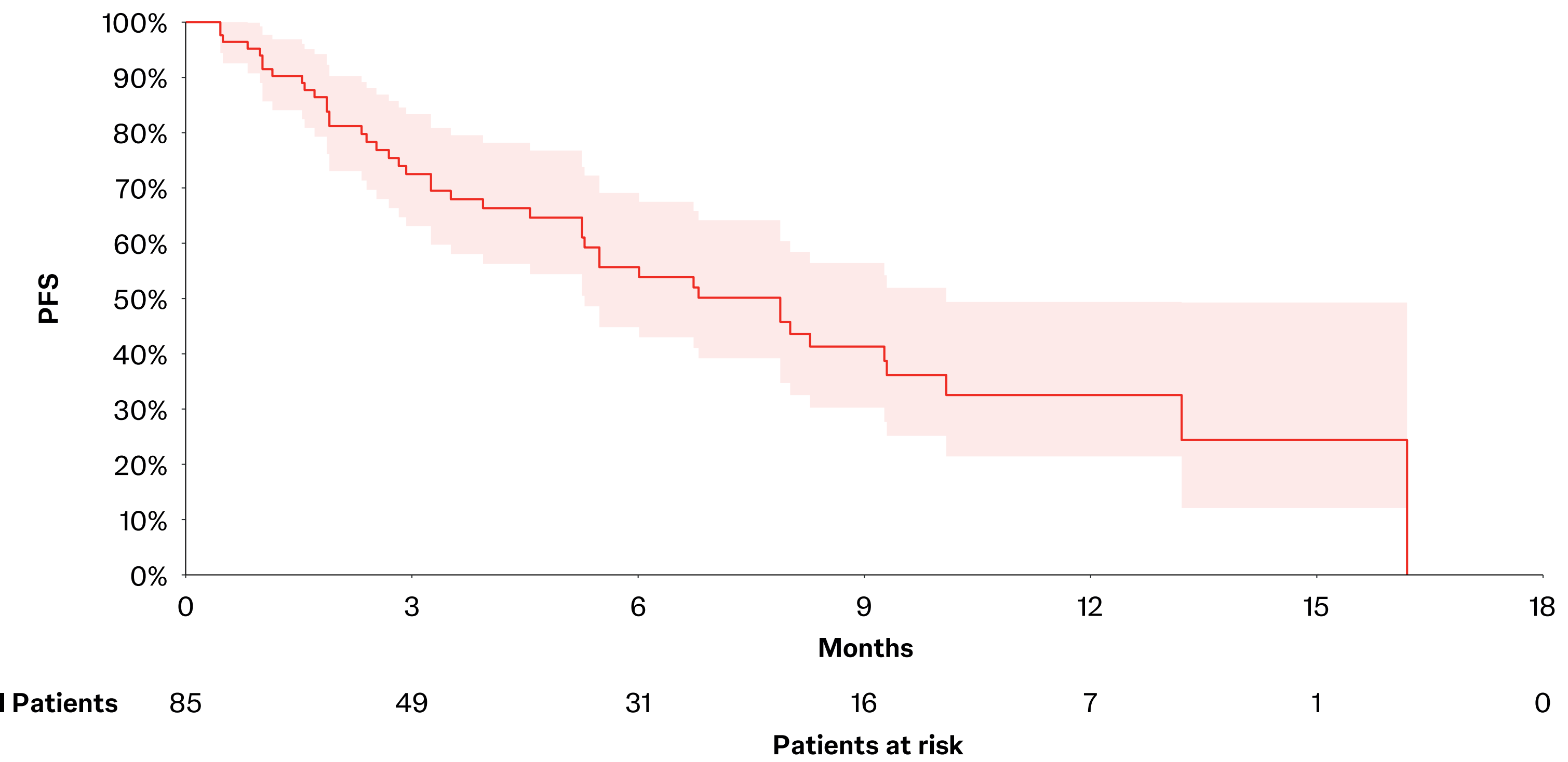
Table 2. Safety outcomes[a]

	All Patients N = 85
CRS	49 (57.6%)
Grade 1	37 (75.5%)
Grade 2	10 (20.4%)
Grade 3	2 (4.1%)
Grade 4+	0 (0.0%)
Unknown	0 (0.0%)
Dysgeusia	62 (72.9%)
Improvement of dysgeusia	28 (45.2%)
Time to improvement (days)[b]	
Mean ± SD	105.0 ± 85.9
Median (IQR)	78.5 (39.5, 168.8)
Dysgeusia intervention[c]	
Saline mouthwash	27 (43.5%)
Biotene mouthwash/spray	19 (30.6%)
Dexamethasone mouthwash	11 (17.7%)
Zinc	7 (11.3%)
Nystatin mouthwash	5 (8.1%)
Vitamin B	3 (4.8%)
Other	9 (14.5%)
Unknown	11 (17.7%)
Weight loss	43 (50.6%)
Resolution of weight loss	8 (18.6%)
Time to resolution (days)[b]	
Mean ± SD	95.0 ± 130.9
Median (IQR)	34.0 (14.3, 107.3)
Stabilization of weight loss	19 (44.2%)
Time to stabilization (days)[b]	
Mean ± SD	77.7 ± 102.4
Median (IQR)	32.0 (19.5, 74.8)
ICANS	11 (12.9%)
Infection	28 (32.9%)
Infection led to hospitalization/ER visit	15 (53.6%)
Type[c]	
Bacterial	15 (53.6%)
Viral	13 (46.4%)
Fungal	1 (3.6%)
Unknown	1 (3.6%)

Notes:
a. Safety outcomes were assessed from the index date (i.e., the date of the first dose of Tal) to the earliest of the next line of therapy, last encounter with the site (for patients without evidence of death) or date of death. A single patient may experience multiple events within each reported safety outcome.
b. Times to improvement, resolution, or stabilization were calculated among those having the AE, having available onset date of that AE, and having available dates of improvement, resolution, or stabilization, respectively.
c. Categories are not mutually exclusive.

Figure 1. PFS during TAL line of therapy[a]

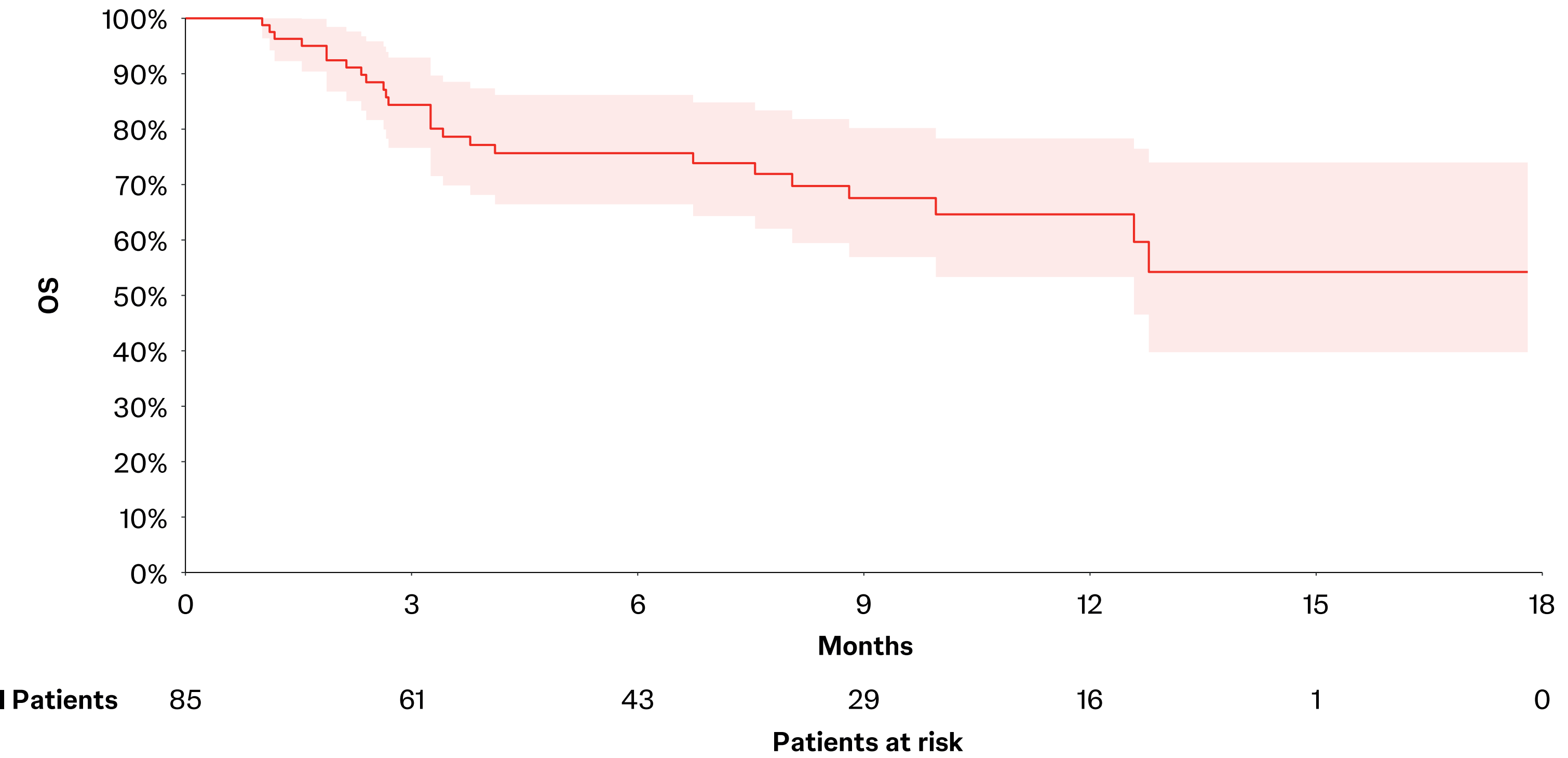
	Total patients	Patients with events	Median time (months), 95% CI	M3	M6	M9	M12	M15
All Patients	85	43	7.9 (5.3,10.1)	72.5%	55.7%	41.3%	32.5%	24.4%



Note:
a. PFS was defined as months from the index date (i.e., the date of the first dose of Tal) until date of disease progression or death. Patients without disease progression or death were censored at the earlier of date of last encounter or start of subsequent line of therapy.

Figure 2. OS during follow-up[a]

	Total patients	Patients with events	Median time (months), 95% CI	M3	M6	M9	M12	M15
All Patients	85	25	NR (12.6, NR)	84.4%	75.7%	67.6%	64.6%	54.2%



Note:
a. OS was defined as months from the index date (i.e., the date of the first dose of Tal) until date of death. Patients without death were censored at the date of last encounter.

Limitations

- Unlike pts in clinical trials, pts treated in real-world settings may not be monitored for response or disease progression at regular time intervals, and different response assessment criteria may be used. More missing data are anticipated in RW clinical practice compared to clinical trials.
- This study provides insight on patients' experience using TAL in the initial months following treatment initiation. The relatively short follow-up time (median: 4.1 months) limits the interpretation of the study outcomes to this time period. However, planned future updates of the eMMpower database will permit further investigation into clinical response and survival outcomes over a longer time period following TAL initiation.

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Abbreviations

AE, adverse event; CAR-T, Chimeric Antigen Receptor T-cell therapy; CI, confidence interval; CR, complete response; CRS, cytokine release syndrome; ECOG, Eastern Cooperative Oncology Group; ER, emergency room; ICANS, immune effector cell-associated neurotoxicity syndrome; IQR, interquartile range; NR, not reached; ORR, overall response rate; OS, overall survival; PFS, progression-free survival; PR, partial response; Pt, patient; R-ISS, Revised International Staging System; RRMM, relapsed or refractory multiple myeloma; RW, real-world; SD, standard deviation; SFS, Simplified Frailty Score; TAL, talquetamab; US, United States; VGPR, very good partial response.

Multiple Myeloma

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