



Carlyn Rose Tan, MD,<sup>1</sup> Andriy Derkach, PhD,<sup>2</sup> Kylee MacLachlan, MD, PhD<sup>1</sup>, Malin Hultcrantz, MD, PhD<sup>1</sup>, Hani Hassoun, MD<sup>1</sup>, Sham Mailankody, MBBS<sup>1</sup>, Urvi Shah, MD<sup>1</sup>, Sridevi Rajeeve, MD<sup>1</sup>, Gunjan L. Shah, MD<sup>3</sup>, Michael Scordo, MD<sup>3</sup>, David J. Chung, MD, PhD<sup>3</sup>, Heather J. Landau, MD<sup>3</sup>, Sergio A. Giralt, MD<sup>3</sup>, Alexander Lesokhin, MD<sup>1</sup>, Neha Korde, MD<sup>1</sup>, Dee Lin, PharmD, MS<sup>4</sup>, Bingcao Wu, PhD<sup>4</sup>, Jessica Fowler, PhD<sup>4</sup>, Mariana Fernandez, MD<sup>5</sup>, Saad Z. Usmani, MD<sup>1</sup>

<sup>1</sup>Myeloma Service, Department of Medicine, Memorial Sloan Kettering Cancer Center, New York, NY, USA; <sup>2</sup>Department of Biostatistics and Epidemiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA; <sup>3</sup>Adult Bone Marrow Transplant Service, Department of Medicine, Memorial Sloan Kettering Cancer Center, New York, NY, USA; <sup>4</sup>Janssen Scientific Affairs, LLC, Horsham, PA, USA; <sup>5</sup>Janssen-Cilag S.A., Madrid, Spain

## Introduction

- Teclistamab (Tec) is the first BCMAxCD3 bispecific antibody approved for triple-class-exposed relapsed/refractory multiple myeloma (RRMM); it is given with a step-up dosing schedule followed by weekly (QW) or every-other-week (Q2W) treatment doses<sup>1</sup>
- The MajesTEC-1 study demonstrated an overall response rate (ORR) of 63%, a median progression-free survival (mPFS) of 11.4 months, and median duration of response (mDOR) of 24.0 months at 30.4-month median follow-up (data cutoff: Aug 22, 2023)<sup>2</sup>
- Switching from QW to less frequent dosing (e.g., Q2W) was allowed in the pivotal MajesTEC-1 trial. With the longest follow-up of any bispecific antibody in multiple myeloma, teclistamab continues to demonstrate deep and durable responses and reduced grade ≥3 infections over time, including in patients who switched to less frequent dosing<sup>2</sup>
- Furthermore, previous research has shown that initial real-world recipients of Tec following approval had many comorbidities and increased incidence of high-risk features and the vast majority of the population would not have met the eligibility criteria for the MajesTEC-1 trial<sup>3,4</sup>
- Herein, we examined real-world patient characteristics and outcomes associated with Tec including the following subgroups: (1) patients treated within the first 4 months since commercial Tec was first used at Memorial Sloan Kettering Cancer Center (MSK; early initiators who were expected to have high disease burden) as compared to recent initiators and (2) patients who switched to less frequent dosing schedules

## Methods

### Study design

- This is a retrospective observational study of patients with RRMM who started treatment with Tec at MSK from November 29, 2022 (date of the first patient treated with commercial Tec at MSK) to March 1, 2024
- The data cut-off date for analysis was April 17, 2024
- Adults with RRMM who received ≥1 dose of commercial Tec were included, with the date of the first Tec dose being the index date
- Patient demographic and clinical characteristics, prior lines of therapy (LOT), and prior BCMA-targeting therapy use were captured at Tec initiation
- Treatment responses, time to response, 6-month PFS, duration of response, switch to less frequent dosing, reason for less frequent dosing, and effectiveness after switching to less frequent dosing were described after Tec initiation
- Treatment responses were evaluated based on the International Myeloma Working Group (IMWG) Uniform Response Criteria<sup>5</sup>

### Data analysis

- Patient characteristics at Tec initiation were summarized by frequency (percentage) or median (interquartile range [IQR])
- PFS was evaluated using the Kaplan-Meier survival analysis
- T-tests were used to compare continuous data, and Fisher's exact tests were used for the comparison of discrete characteristics
- Results were reported for overall population and the three subgroups of interest:
  - Early initiators:** patients treated within the first 4 months since commercial Tec was first used at MSK (November 29, 2022, to March 31, 2023; early initiators who were expected to have high disease burden)
  - Recent initiators:** patients treated with Tec after March 31, 2023
  - Patients with less frequent dosing:** patients who switched from QW to less frequent dosing (e.g., Q2W)

## Results

- There were 86 patients with RRMM who received ≥1 Tec dose and were included in this analysis (Table 1)
- Median age was 71 (IQR 64-78), 51% were female, 76% were white
- 10% patients had a ECOG of 2; 71% patients had high risk cytogenetic abnormalities (HRCA)
- The median number of prior LOT was 6 (IQR 4-8), with 37% patients who received a BCMA-directed therapy before Tec

TABLE 1: Baseline patient characteristics

Characteristic	Tec patients N = 86
Median age (IQR), years	71 (64-78)
Age ≥75, n (%)	31 (36)
Female, n (%)	44 (51)
Race, n (%)	
White	65 (76)
Black	14 (16)
Other	7 (8)
ECOG Performance Status, n/N (%)	
0	10/50 (20)
1	25/50 (50)
2	5/50 (10)
CrCl <30 mL/min, n (%)	9 (10)
ESRD on HD	2 (2)
Peripheral neuropathy, n (%)	35 (41)
R-ISS stage, n/N (%)	
I	13/51 (25)
II	31/51 (61)
III	7/51 (14)
Extramedullary plasmacytomas ≥1, n/N (%) <sup>a</sup>	30/79 (38)
High-risk cytogenetics, n (%) <sup>b</sup>	56/79 (71)
Median time since diagnosis (range), year	6.2 (0.7-29.2)
Median prior LOTs, n (IQR)	6 (4-8)
Prior autologous SCT, n (%)	53 (62)
Prior allogeneic SCT, n/N (%)	3 (3)
Prior BCMA exposure <sup>c</sup> , n (%)	32/86 (37)
Antibody-drug conjugate	19/32 (60)
BCMA bispecific antibody	3/32 (9)
CAR T cell therapy	21/32 (66)

ESRD, end-stage renal disease patients; HD, hemodialysis; SCT, stem cell transplant  
<sup>a</sup>Included soft-tissue plasmacytomas not associated with bone and extramedullary soft tissue.  
<sup>b</sup>del(17p), t(4;14), t(14;16), t(14;20), and/or gain or amp 1q.  
<sup>c</sup>Nine patients received ≥1 type of prior BCMA-directed therapy.

- The ORR was 61% for 77 response-evaluable patients, including 43% with VGPR or better
  - ORR for patients with prior BCMA-directed therapy was 43%
- Median time to first response was 1.3 months (IQR 0.9-2.6)
- After a median follow-up (mFU) of 9.5 months, 6-month PFS rate was 52.4% (95% CI 42.4-64.7%)
  - Median duration of response (DOR) has not been reached
- Compared to the recent initiators (N=52), early initiators (N=34) had significantly more prior LOT and higher proportion of patients with prior use of BCMA-directed therapy (Table 2)

- ORR for early initiators was 67% and 57% for recent initiators. 6-month PFS was similar between the two cohorts. 6-month DOR was 70.0% for early initiators and 82.1% for recent initiators

TABLE 2: Characteristics and outcomes of early initiators compared to recent initiators

Characteristics	Early initiators treated by March 31, 2023 N=34	Recent initiators treated after March 31, 2023 N=52
Median follow-up, mo (95%CI)	10.9 (9.8-11.7)	5.1 (3.9-6.6)
Median age (IQR), years	69 (63-77)	71 (65-78)
Male %	50	48
African American, %	15	17
HRCA <sup>a</sup> , n/N (%)	22/30 (73)	34/49 (69)
Extramedullary disease, n/N (%)	13/33 (39)	17/46 (37)
Median # prior LOT, n (IQR)	8 (5-9)*	5 (4-7)*
Prior BCMA therapy, n (%)	21 (62)*	11 (21)*
<b>Outcomes</b>		
Best ORR, n/N (%)	20/30 (67)	27/47 (57)
6-month PFS rate, % (95% CI)	53.3 (38.5-73.7)	52.3 (39.8-68.7)
6-month DOR rate, % (95% CI)	70.0 (52.5-93.3)	82.1 (67.7-99.7)

<sup>a</sup>High-risk cytogenetic abnormalities include 1q+, t(4;14), t(14;16), t(14;20), and del(17p) or monosomy 17.  
<sup>\*</sup>The differences are statistically significant (P < 0.05).

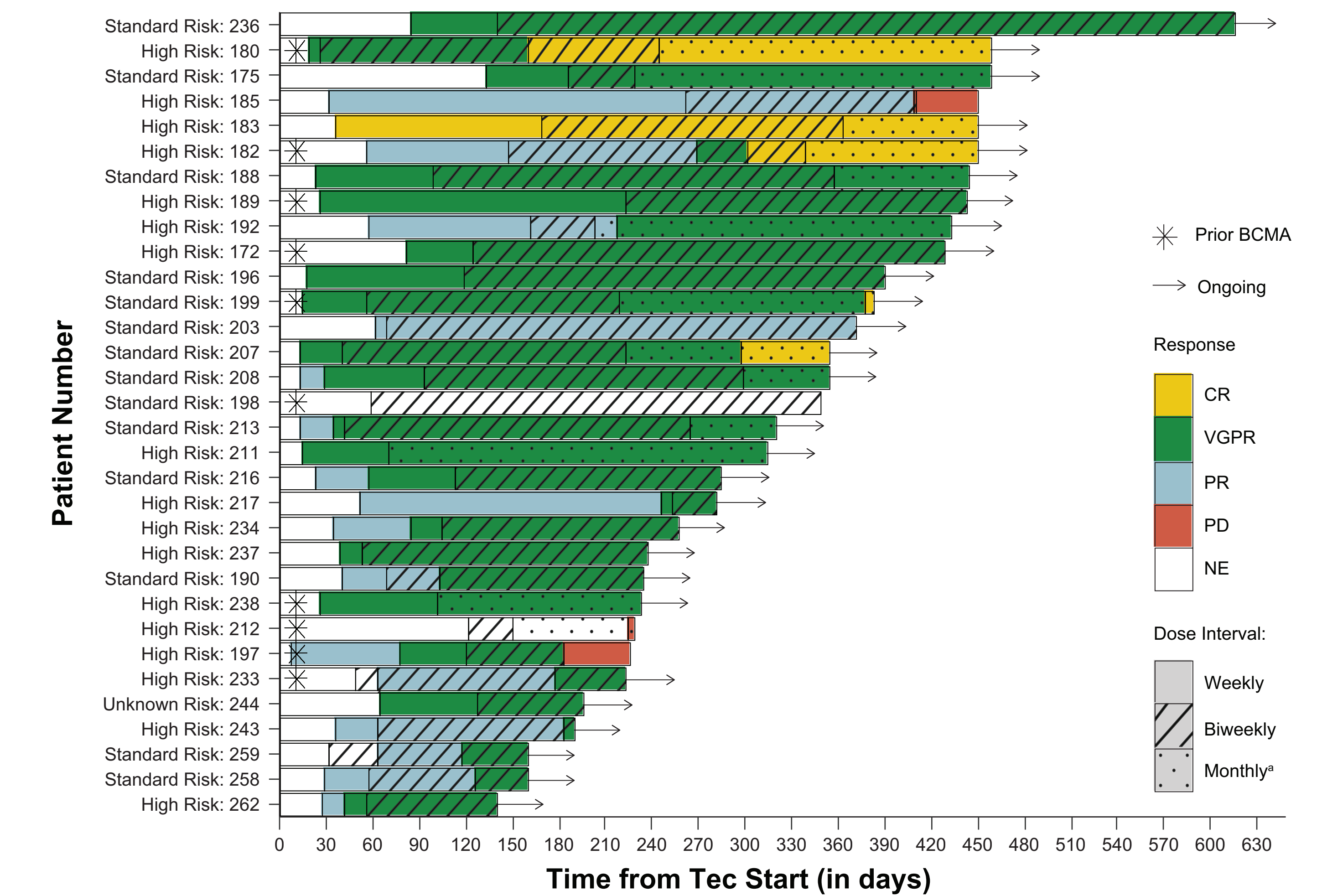
- At the analysis cut-off timepoint, 32 (37%) patients transitioned from QW Tec dosing to Q2W (N=30) or monthly (Q4W) dosing (N=2) (Table 3)
- Transition to less frequent dosing occurred after a median of 3.3 months from Tec initiation (95% CI, 1.9-4.3)
- Primary reasons for switching to less frequent dosing included achieving ≥PR (N=23) and/or safety management (N=14)
- Within this subgroup, median age was 70 (IQR 65-78); 34% had extramedullary disease; and 59% had HRCA
- 31% of patients with less frequent dosing received prior BCMA-directed therapy
- After mFU of 6.4 months since transitioning to less frequent dosing, 6-month PFS rate from the date of switch was 90.0% (95%CI 79.1-100%) with 28/32 patients still in response and ongoing treatment; 3 patients had progressed and 1 patient died from infection with active multiple myeloma

TABLE 3: Characteristics and outcomes of patients with less frequent dosing

Characteristics	Tec patients N = 32
Median follow-up, mo (95%CI)	6.4 <sup>a</sup> (5.5-8.7)
Median age (IQR), years	70 (65-78)
Male, %	38
African American, %	9
HRCA <sup>a</sup> , n/N (%)	17/29 (59)
Extramedullary disease, n/N (%)	10/29 (34)
Median # prior LOT, n (IQR)	6 (5-9)
Prior BCMA therapy, n (%)	10 (31)
<b>Outcomes</b>	
Best ORR, n/N (%)	29/31 (94)

<sup>a</sup>Length of follow-up since switch to less frequent dosing.  
<sup>\*</sup>High-risk cytogenetic abnormalities include 1q+, t(4;14), t(14;16), t(14;20), and del(17p) or monosomy 17.

FIGURE 1: Swimmer plot for patients who transitioned to less frequent dosing schedule showing time to switch and colored by treatment response



CR, complete response; NE, not evaluable; PD, progressive disease; PR, partial response; Tec, teclistamab; VGPR, very good partial response. Patients who have not undergone bone marrow biopsies were not able to confirm IMWG CR status and were categorized as a VGPR.  
<sup>\*</sup>Currently, 13 patients are receiving monthly dosing.

## Conclusions

- In this real-world analysis, patients treated with commercial Tec had multiple high-risk features but despite these disease characteristics, Tec demonstrated comparable ORR to MajesTEC-1
- A higher proportion of early initiators had prior BCMA-directed therapy and more prior LOTs as compared to recent initiators, but both cohorts yielded consistently high treatment response rates and 6-month DOR rates
- In patients who responded and/or for safety management, switching to less frequent dosing was feasible with a high 6-month PFS rate from the date of switch (90%)
- Future research will update effectiveness and safety outcomes with longer follow-up, including assessing the long-term impact of Tec given at a less frequent dosing schedule

## Disclosures

This abstract was accepted and previously presented at the 2024 American Society of Clinical Oncology (ASCO) Annual Meeting.

## References

- TECVAYL® US prescribing information. <https://www.janssenlabels.com/package-insert/product-monograph/prescribing-information/TECVAYL-pi.pdf>. Accessed April 1, 2024.
- Garfall AL, et al. ASCO Congress, May 31 - June 4, 2024, Chicago, IL.
- Banerjee R, et al. LL&M Congress, October 18-21, 2023; New York City, NY.
- Dima D, et al. *Transplant Cell Ther*. 2024 Mar;30(3):308.e1-308.e13.
- Kumar S, et al. *Lancet Oncol*. 2016 Aug;17(8):e328-e346.

## Acknowledgments

We would like to thank all the patients, their caregivers, and the clinical team who contributed data for this research. We would like to acknowledge the hard work of Tala Shekarkhand for collecting and organizing the data.

The QR code is intended to provide scientific information for individual reference, and the information should not be altered or reproduced in any way.  
Supported by Janssen Scientific Affairs, LLC, a Johnson & Johnson company  
<https://www.congresshub.com/Oncology/EHA2024/Teclistamab/Tan>  
For questions and comments, please contact the author at TanC4@mskcc.org

