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Outcomes of Outpatient Step Up Dosing (SUD) of Teclistamab (Tec) and Talquetamab (Tal) in Relapsed/Refractory Multiple Myeloma (RRMM): Findings from Academic and Community Practices in the USA

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Key Takeaway

Tec and Tal OP SUD is feasible and can be implemented safely while offering a practical approach to broaden patient access and reduce HCRU

Conclusions

Among varying practice settings, CRS and ICANS rates were similar across Tec and Tal OP and IP SUD settings, with most events being Grade 1 or 2

Median length of stay of first admission was numerically shorter for Tec and Tal OP and HY SUD than for IP SUD in both Community and Consortium cohorts

Introduction

- Tec and Tal are standard-of-care bispecific T-cell engagers approved in the US for RRMM.[1,2]
- Tec and Tal are initiated using a SUD approach to mitigate the risk of cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS).
- Historically, United States (US) Prescribing Information (USPI) guidance for Tec and Tal was inpatient (IP) administration of SUD including the first treatment dose (FTD).
- The US Food and Drug Administration (FDA) removed the recommendation for hospitalization after the FTD of Tec, providing flexibility for administration in outpatient (OP) settings.
- To expand access and reduce healthcare resource utilization (HCRU), SUD is increasingly initiated in fully OP or hybrid (HY; a mix of IP and OP SUD doses) settings.
- This real-world study evaluated safety outcomes and HCRU among patients initiating Tec and Tal SUD across OP, IP, and HY settings.

Methods

- This retrospective multicenter study included adult patients with RRMM who initiated Tec (after Oct 2022) or Tal (after Aug 2023) as monotherapy at a center belonging to the eMMpower consortium (Consortium cohort; a collaborative initiative including US academic and community centers) or at OneOncology (Community cohort; a large network of US community oncology practices).
- This study used clinically rich, real-world patient chart data.
- Patients were categorized by SUD setting into:
  - OP: patients planned to receive all SUD in OP setting.
  - HY: Consortium cohort: patients planned to receive some SUD doses in hospitalization; Community cohort: patients received SUD in OP setting and then were admitted for a 48-hour IP observation period following each dose.
  - IP: patients planned to receive all SUD administrations in one or more hospitalizations.
- Baseline characteristics were captured during the time from initial MM diagnosis up until, and including, the index date (the date of the first recorded dose of Tec or Tal).
- Outcomes studied:
  - Rates of CRS and ICANS (not adjudicated by immune effector cell-associated encephalopathy [ICE] scores).
    - Frequency and severity of events within 14 days of the index date.
  - HCRU - All-cause hospitalization, median length of stay (LOS) for first IP admission, readmission rates (Consortium: data on HCRU collected until end of SUD phase; Community: data on HCRU collected for 14 days from index date).
- Data are summarized descriptively for all patients with follow-up data available until a data-cutoff of April 2026 (Consortium) and December 2025 (Community).

Results

Patient and clinical characteristics

- This analysis included 463 patients (Consortium cohort, n=312; Community cohort, n=151).

Tec:

- Median age across OP/IP/HY was comparable (Consortium: 73/69/70 years; Community: 73.5/73/74 years, respectively) (**Table 1**). The IP group had the highest proportion with ECOG PS ≥2. Patients in the Consortium cohort had more prior lines of therapy than patients in the Community cohort (**Table 1**).
- All OP and IP Tec SUD was completed. In the HY setting, 94% of Community Tec SUD was completed (1 patient discontinued due to infection and 1 patient discontinued due to ICANS).

Tal:

- Patients in the Consortium cohort generally had more prior lines of therapy than patients in the Community cohort (**Table 1**).
- All HY and IP Tal SUD was completed. In the OP setting, 95% of Community Tal SUD was completed (1 patient transitioned to hospice care).

Safety outcomes

Tec:

- CRS events were Grade 1 or 2 except for in 1 patient in the IP setting (Grade 3), which resolved without treatment discontinuation (**Table 2**).
- In the Consortium cohort, prophylactic tocilizumab for CRS was used in 12%, 7% and 6% of the OP, IP and HY groups, respectively. Prophylactic dexamethasone for CRS was used in 3%, 6%, and 0%, respectively. No CRS prophylaxis beyond USPI recommended premedications was utilized in the Community cohort.
- One patient had a reported Grade 4 ICANS (IP group, Community cohort; **Table 2**), and continued Tec treatment. ICANS events were not adjudicated by ICE score (which may lead to overreporting in the real-world, as some age-related symptoms [mild tremor, confusion, etc.] may be misclassified).

Tal:

- Most CRS events were Grade 1 or 2. Grade 3 CRS occurred in 3 patients (2 IP group, Consortium cohort; 1 OP group, Community cohort; **Table 2**), all resolved without treatment discontinuation. All ICANS events were Grade 1 or 2.
- In the Consortium cohort, no patient received prophylactic tocilizumab for CRS in any setting. Prophylactic dexamethasone for CRS were used in 22%, 6%, and 0% of the OP, IP and HY groups, respectively. No CRS prophylaxis beyond USPI recommended premedications was utilized in the Community cohort.

Table 2: CRS and ICANS frequency with teclistamab and talquetamab

Characteristics	SUD setting					
	OP		IP		HY	
Teclistamab	Consortium (n=34)	Community (n=22)	Consortium (n=153)	Community (n=46)	Consortium (n=17)	Community (n=33)
Patients with CRS within 14 days of index date, n (%)	6 (18)	10 (45)	78 (51)	18 (39)	8 (47)	18 (55)
Highest Grade CRS within 14 days of index date, n (%)						
Grade 1	3 (9)	5 (23)	53 (35)	14 (30)	7 (41)	2 (6)
Grade 2	3 (9)	5 (23)	24 (16)	4 (9)	1 (6)	16 (48)
Grade 3	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Unknown	0 (0)	0 (0)	0 (0)	3 (7)	0 (0)	0 (0)
Patients with ICANS within 14 days of index date, n (%)	0 (0)	1 (5)	16 (11)*	2 (4)	0 (0)	3 (9)
Hospitalization for symptoms of ICANS, n (%)	0 (0)	0 (0)	4 (3)	0 (0)	0 (0)	0 (0)
Highest Grade ICANS within 14 days of index date, n (%)						
Grade 1	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	1 (3)
Grade 2	0 (0)	1 (5)	1 (1)	0 (0)	0 (0)	1 (3)
Grade 3	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Grade 4	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)
Unknown	0 (0)	0 (0)	6 (4)	0 (0)	0 (0)	1 (3)
Talquetamab	Consortium (n=18)	Community (n=19)	Consortium (n=64)	Community (n=14)	Consortium (n=26)	Community (n=17)
Patients with CRS within 14 days of index date, n (%)	6 (33)	9 (47)	39 (61)	9 (64)	16 (62)	11 (65)
Highest Grade CRS within 14 days of index date, n (%)						
Grade 1	5 (28)	7 (37)	28 (44)	9 (64)	13 (50)	9 (53)
Grade 2	1 (6)	1 (5)	9 (14)	0 (0)	3 (12)	2 (12)
Grade 3	0 (0)	1 (5)	2 (3)	0 (0)	0 (0)	0 (0)
Unknown	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Patients with ICANS within 14 days of index date, n (%)	1 (6)	0 (0)	6 (9)*	1 (7)	4 (15)*	3 (18)
Hospitalization for symptoms of ICANS, n (%)	0 (0)	0 (0)	1 (2)	0 (0)	1 (4)	0 (0)
Highest Grade ICANS within 14 days of index date, n (%)						
Grade 1	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (18)
Grade 2	1 (6)	0 (0)	0 (0)	1 (7)	0 (0)	0 (0)
Grade 3	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Grade 4	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Unknown	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)

*ICANS grading was not available for all patients who had an ICANS event. CRS, cytokine release syndrome. HY, hybrid. ICANS, immune effector cell-associated neurotoxicity syndrome. IP, inpatient. OP, outpatient.

Table 1: Patient and clinical characteristics of patients treated with teclistamab and talquetamab

Characteristics	SUD setting					
	OP		IP		HY	
Teclistamab	Consortium (n=34)	Community (n=22)	Consortium (n=153)	Community (n=46)	Consortium (n=17)	Community (n=33)
Age, median (Q1, Q3)	73.0 (65.0, 76.0)	73.5 (66.5, 77.0)	69.0 (63.0, 76.0)	73.0 (66.0, 78.0)	70.0 (64.0, 75.0)	74.0 (61.0, 77.0)
Age ≥75 years, n (%)	13 (38)	10 (45)	50 (33)	17 (37)	5 (29)	16 (48)
Male gender, n (%)	21 (62)	11 (50)	84 (55)	26 (57)	10 (59)	20 (61)
Race, n (%)						
White	23 (68)	17 (77)	113 (74)	34 (74)	15 (88)	22 (67)
Black	9 (27)	4 (18)	28 (18)	6 (13)	2 (12)	8 (24)
Asian	0 (0)	0 (0)	6 (4)	1 (2)	0 (0)	0 (0)
Other[a]	0 (0)	0 (0)	4 (3)	1 (2)	0 (0)	2 (6)
Unknown	2 (6)	1 (5)	2 (1)	4 (9)	0 (0)	1 (3)
ECOG PS, n (%)						
0-1	30 (88)	17 (77)	99 (65)	22 (48)	13 (76)	21 (64)
≥2	2 (6)	2 (9)	49 (32)	9 (20)	4 (24)	5 (15)
Unknown	2 (6)	3 (14)	5 (3)	15 (33)	0 (0)	7 (21)
High cytogenetic risk, n (%)[b]	10 (29)	8 (36)	45 (29)	13 (28)	2 (12)	7 (21)
Prior LOT, median (Q1, Q3)	4.5 (4, 7)	4 (3, 5)	5 (4, 7)	4 (4, 5)	5 (4, 7)	3 (3, 5)
Talquetamab	Consortium (n=18)	Community (n=19)	Consortium (n=64)	Community (n=14)	Consortium (n=26)	Community (n=17)
Age, median (Q1, Q3)	69.5 (59.0, 78.0)	68.0 (65.5, 73.0)	66.0 (59.5, 71.0)	67.5 (63.0, 72.5)	61.5 (56.0, 68.0)	67.0 (59.0, 75.0)
Age ≥75 years, n (%)	7 (39)	4 (21)	10 (16)	2 (14)	2 (8)	5 (29)
Male gender, n (%)	10 (56)	11 (58)	42 (66)	9 (64)	15 (58)	9 (53)
Race, n (%)						
White	10 (56)	14 (74)	51 (80)	8 (57)	19 (73)	12 (71)
Black	3 (17)	4 (21)	8 (13)	4 (29)	0 (0)	5 (29)
Asian	0 (0)	0 (0)	2 (3)	0 (0)	0 (0)	0 (0)
Other[a]	2 (11)	0 (0)	2 (3)	0 (0)	5 (19)	0 (0)
Unknown	3 (17)	1 (5)	1 (2)	2 (14)	2 (8)	0 (0)
ECOG PS, n (%)						
0-1	14 (78)	13 (68)	40 (63)	10 (71)	24 (92)	15 (88)
≥2	4 (22)	4 (21)	22 (34)	1 (7)	1 (4)	2 (12)
Unknown	0 (0)	2 (11)	2 (3)	3 (21)	1 (4)	0 (0)
High cytogenetic risk, n (%)[b]	9 (50)	5 (26)	24 (38)	5 (36)	11 (42)	6 (35)
Prior LOT, median (Q1, Q3)	5.5 (3, 7)	4 (3, 5)	6 (4, 7.5)	5 (4, 6)	6 (4, 6)	6 (5, 6)

[a]Includes American Indian/Alaskan, Hawaiian/Pacific Islander, multi-race. [b]High cytogenetic risk was defined as t(4;14), t(14;16), and/or del(17p). ECOG PS, Eastern Cooperative Oncology Group performance status. HY, hybrid. IP, inpatient. LOT, lines of therapy. OP, outpatient. SUD, step-up dosing.

HCRU

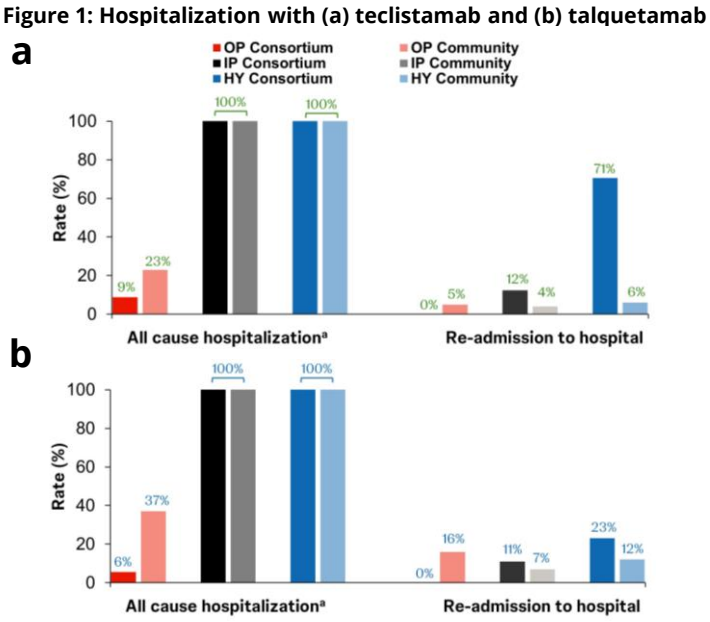
Tec:

- Hospitalization re-admission rates were generally numerically lower in the OP group than the IP or HY groups (**Figure 1a**).
- Median LOS for first IP admission was numerically shorter in OP and HY settings (Consortium OP, 5; IP, 9; HY, 3 days. Community OP, 2; IP, 9; HY, 2 days).

Tal:

- Hospitalization re-admission rates were low irrespective of SUD setting (**Figure 1b**).
- Median LOS for first IP admission was numerically shorter in OP and HY settings (Consortium OP, 8; IP, 9.5; HY, 6 days. Community OP, 4; IP, 10; HY, 2 days).

Figure 1: Hospitalization with (a) teclistamab and (b) talquetamab



[a]Hospitalization rate was collected within 14 days post-index (Community), or until the end of the SUD phase (Consortium). HY, hybrid. IP, inpatient. OP, outpatient.

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LR has served on a steering committee for Pfizer and as a consultant for Amgen. **SB** discloses husband is Founder/CEO of All4Cure and is a shareholder of P1 Trials, LLC. **JK** has served in advisory and consulting roles for Johnson & Johnson, Prothena, Legend Biotech, Kite, Ascentage, Karyopharm, and GPCR. **DS** conducts research with Pfizer and Regeneron; has served in advisory and consulting roles with Sanofi, Johnson & Johnson, GSK, Bristol Myers Squibb, Opna Bio, Pfizer, Arcellx, Regeneron, and Legend Biotech. **BD** has received research funding from Arcellx, Bristol Myers Squibb, C4 Therapeutics, Caribou Biosciences, CARsgen, Gracell, Johnson & Johnson, Menarini and Sanofi; received honoraria from Bristol Myers Squibb, Johnson & Johnson, and Karyopharm; served on advisory boards for Arcellx, Bristol Myers Squibb, Genentech, GSK, Johnson & Johnson, Karyopharm, Kite, Menarini, Pfizer and Sanofi. **DO** has received research funding from Johnson & Johnson. He has served on the speaker's bureau for Johnson & Johnson and has consulted via advisory board for Johnson & Johnson, Pfizer, and via steering committee for Bristol Myers Squibb. **JA** is a patient advocate advisor for Johnson & Johnson, Pfizer, Bristol Myers Squibb, Sanofi, and Regeneron. **RVB** has been a speaker and consultant for Johnson & Johnson. **JR** has been a consultant and served on advisory boards for Janssen. **MP** has received research funding from AbbVie, AstraZeneca, Bristol Myers Squibb/Celgene, C4Therapeutics, CellCentric, GlaxoSmithKline, Johnson & Johnson, Kite, Pfizer, Regeneron, Sanofi-Aventis; served on advisory boards or performed consulting activity for AstraZeneca, Bristol Myers Squibb/Celgene, GlaxoSmithKline, Johnson & Johnson, Karyopharm, Kite, Oncopeptides, Pfizer, Regeneron, Sanofi. **AA** reports participation on the speakers' bureau for Johnson & Johnson. **CV** has received research funding from Arcellx, K36, and Johnson & Johnson; served on advisory boards for Johnson & Johnson. **GK, TLB, JH, EC,** and **YZ** are employees of Johnson & Johnson and may own shares/stock options in Johnson & Johnson. **MD** was an employee of Johnson and Johnson during the conduct of this study and may own shares and/or stock options in Johnson and Johnson. **DP** is a contracted employee of Johnson & Johnson and has no other conflicts to disclose. **JA, CB, KM, BS, VM,** and **BB** report no conflict of interest.

References

1. Baines et al. FDA approval summary: teclistamab–a bispecific CD3 T-cell engager for patients with relapsed or refractory multiple myeloma. Clin Cancer Research 2024; 30: 5515-5520.
2. U.S. Food & Drug Administration (2023). Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/fda-grants-accelerated-approval-talquetamab-tgvs-relapsed-or-refractory-multiple-myeloma

Multiple Myeloma