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Real-world Step-up Dosing Practice for Patients Who Initiated Talquetamab in US Hospitals: An Analysis of the All-payer US Hospital Administrative Premier Healthcare Database

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Key Takeaway

The majority of patients received talquetamab SUD in inpatient settings; however, outpatient and hybrid models for talquetamab SUD are emerging, with a decline in the mean inpatient length of stay

CRS events were less frequent than in the MonumenTAL-1 trial and the majority were grade 1, and tocilizumab was mainly used for the first 2 SUD administrations, suggesting that the proportion of patients who receive talquetamab SUD in the outpatient or hybrid settings may increase with time

Conclusions

In this real-world analysis, while the majority of patients with RRMM received talquetamab SUD in inpatient settings, outpatient and hybrid models are emerging, with a decline in the mean inpatient length of stay over time

The majority of reported CRS events were of low grade, with tocilizumab use most common for the first 2 SUD administrations

Future real-world research will provide further insights into long-term talquetamab dosing schedules and treatment outcomes

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Poster

https://www.congresshub.com/ASH2024/Oncology/Talquetamab/Banerjee-Real-World

Acknowledgments

This study was sponsored by Janssen Scientific Affairs, LLC. Medical writing and editorial support were provided by Jessica A Weaver, PhD, and Holly Clarke, PhD, of Lumanity Communications Inc., and were funded by Janssen Scientific Affairs, LLC.

Introduction

- Talquetamab is a newly approved GPRC5D-targeting bispecific monoclonal antibody indicated in the United States (US) for the treatment of patients with relapsed/refractory multiple myeloma (RRMM) with ≥4 prior lines of therapy and triple-class exposed to a proteasome inhibitor, an immunomodulatory drug, and an anti-CD38 monoclonal antibody[1]
- Following the phase 1/2 MonumenTAL-1 study (ClinicalTrials.gov Identifier: NCT03399799/NCT04634552), in which talquetamab demonstrated promising clinical efficacy in heavily pretreated patients with RRMM,[2,3] talquetamab was approved at 2 dosing schedules: a weekly (QW) schedule with 3 step-up doses (SUDs) followed by talquetamab 0.4 mg/kg QW, and a biweekly (every 2 weeks; Q2W) schedule with 4 SUDs followed by talquetamab 0.8 mg/kg Q2W[1]
- The prescribing information recommends that patients should be hospitalized for 48 hours after all doses within the SUD schedule to monitor for cytokine release syndrome (CRS)[1]
- There is limited evidence on real-world patterns of talquetamab SUD administration, inpatient length of stay, and dosing pattern. In a previous analysis, we presented data on real-world talquetamab SUD experiences and reported that patients mainly received SUD in the inpatient setting but that some patients received SUD in the outpatient setting[4]

Objective

- To investigate patterns of talquetamab SUD administration in real-world settings among US patients with RRMM using an all-payer US hospital administrative database

Methods

Study design

- This was a real-world, retrospective, observational study using de-identified data from the US hospital administrative Premier Healthcare Database

Study population

- Patients aged ≥18 years with multiple myeloma who had their first hospital encounter for talquetamab SUD (defined as first 3 mg/1.5 mL vial use) between the dates of August 9, 2023, and June 1, 2024 (last data cut) were included
  - Patients enrolled in clinical trials, or with talquetamab index administration before August 9, 2023 (US Food and Drug Administration approval date), were excluded
- The index hospitalization was defined as the earliest talquetamab hospital encounter; the index date was that of the earliest talquetamab administration

Study outcomes

- Patient demographic and clinical characteristics, SUD site of care, SUD dosing schedule and strength, inpatient length of stay (if applicable), rates of CRS, and tocilizumab use were reported

Data analysis

- Patient numbers and percentages were presented for categorical variables, and means and standard deviations (SDs) were reported for continuous variables
- Other outcomes were analyzed and reported descriptively

Results

Patient characteristics

- Overall, 108 patients with RRMM who received talquetamab and met inclusion criteria were identified (**Table 1**)
  - The mean (SD) age was 61.9 (10.6) years, 37 (34.3%) patients were female, 60 (55.6%) patients were White, and 10 (9.3%) patients were Hispanic

Table 1: Demographic and clinical characteristics

Characteristic	Patients with RRMM who received talquetamab (n=108)
Age at index	
Mean (SD), years	61.9 (10.6)
≥75 years, n (%)	13 (12.0)
Sex, n (%)	
Male	71 (65.7)
Female	37 (34.3)
Race, n (%)	
White	60 (55.6)
Black	27 (25.0)
Asian	8 (7.4)
Other/unknown	13 (12.0)
Payer, n (%)	
Medicare	63 (58.3)
Managed care	23 (21.3)
Medicaid	13 (12.0)
Commercial	8 (7.4)
Other	1 (0.9)
Hospital setting, n (%)	
Urban	108 (100.0)
Rural	0

RRMM, relapsed/refractory multiple myeloma; SD, standard deviation.

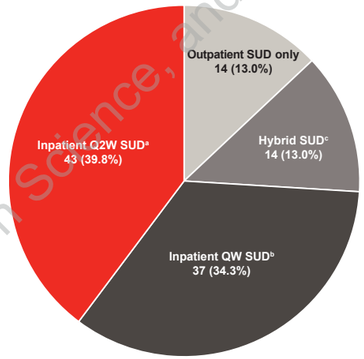
Talquetamab SUD setting and schedule

- Among 108 patients, 14 (13.0%) patients were administered SUD in the outpatient setting only, 37 (34.3%) received 3 inpatient doses (QW SUD), 43 (39.8%) received 4 inpatient doses (Q2W SUD), and 14 (13.0%) patients received SUD using a hybrid model consisting of both inpatient and outpatient administrations (**Figure 1**)

Inpatient length of stay by SUD schedule

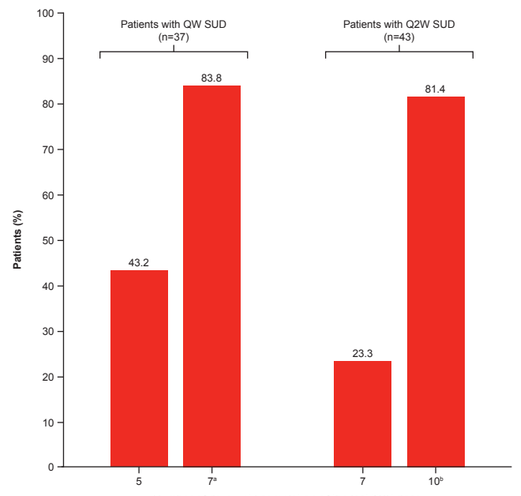
- Among the 37 patients who received inpatient QW SUD, 16 (43.2%) and 31 (83.8%) completed SUD in the inpatient setting within 5 and 7 days, respectively (**Figure 2**)
- Among the 43 patients who received inpatient Q2W SUD, 10 (23.3%) and 35 (81.4%) completed SUD in the inpatient setting within 7 and 10 days, respectively (**Figure 2**)
- The overall mean (median) inpatient length of stay was 8.9 (8) days (**Figure 3**)
  - Length of stay declined over time from a mean (median) of 9.0 (8) days between August 2023 and September 2023 to 8.0 (8) days between December 2023 and March 2024 (**Figure 4**)

Figure 1: Talquetamab setting of care and schedule of administration



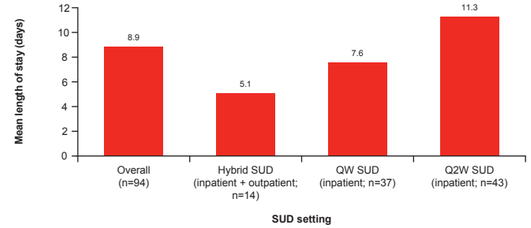
QW, weekly; Q2W, biweekly (every 2 weeks); SUD, step-up dosing.
[a]Includes patients who received 4 inpatient SUD doses.
[b]Includes patients who received 3 inpatient SUD doses.
[c]Includes patients who received a combination of inpatient and outpatient SUD doses.
Note: percentages may not sum to 100% due to rounding.

Figure 2: Length of SUD completion by SUD dosing schedule



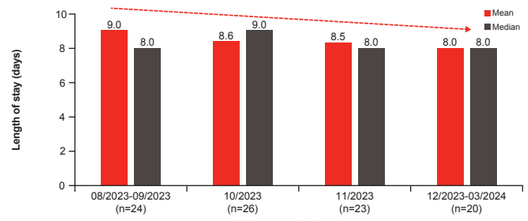
QW, weekly; Q2W, biweekly (every 2 weeks); SUD, step-up dosing.
[a]Those patients with QW SUD who completed their last dose within 5 days were also counted as having completed their last dose within 7 days.
[b]Those patients with Q2W SUD who completed their last dose within 7 days were also counted as having completed their last dose within 10 days.

Figure 3: Mean inpatient length of stay[a] by SUD setting



QW, weekly; Q2W, biweekly (every 2 weeks); SUD, step-up dosing.
[a]Length of stay was calculated as discharge data – index date.

Figure 4: Inpatient length of stay over time[a,b]



SUD, step-up dosing.
[a]The red dashed line represents the trajectory of the mean length of stay over the course of the study.
[b]One patient outlier was removed from this analysis.
[c]Grouping was selected to ensure there were sufficient patients in each interval.

Incidence of CRS and tocilizumab use

- Among all patients included in this study (n=108), 53 (49.1%) patients reported CRS, mostly grade 1 (**Table 2**)
  - Tocilizumab was administered to 48 (44.4%) patients during SUD and primarily during the first 2 SUD administrations

Table 2: Prevalence, severity, and tocilizumab treatment of CRS[a]

	Patients with RRMM who received talquetamab (n=108)
Patients experiencing CRS, n (%)	53 (49.1)
Grade 1	42 (38.9)
Grade 2	4 (3.7)
Grade 3	0
Grade 4	0
Grade 5	0
Grade unknown or unspecified	7 (6.5)
Patients administered tocilizumab, n (%)	48 (44.4)
SUD dose 1	15 (13.9)
SUD dose 2	25 (23.1)
SUD dose 3	8 (7.4)
SUD dose 4	1 (0.9)

CRS, cytokine release syndrome; RRMM, relapsed/refractory multiple myeloma; SUD, step-up dosing.
[a]If multiple grades were reported, the highest grade was chosen for reporting in this table.

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Multiple Myeloma

Presented by R Banerjee at the 66th American Society of Hematology (ASH) Annual Meeting and Exposition; December 7-10, 2024; San Diego, CA, USA