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Pooled Efficacy and Safety of Teclistamab in 217 Patients With Triple-Class Exposed Relapsed/Refractory Multiple Myeloma From 3 Registrational Clinical Studies

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Key Takeaway

In the largest globally represented clinical cohort to date (N=217), teclistamab as a weight-based dosing regimen has demonstrated clinically meaningful benefits across a diverse range of patients, encompassing various weight categories and racial backgrounds. With a median follow-up of 29.2 months, teclistamab induced deep and durable responses with a manageable safety profile in patients with triple-class exposed RRMM, with <5% of patients discontinuing due to AEs

Conclusions

ORR was 66.4% with 49.8% of patients achieving ≥CR; median DOR and PFS were 26.7 months and 15.1 months, respectively, in the Global cohort, and median DOR was not reached in those achieving ≥CR

Infection management improved with increased use of Ig over time, aligned with International Myeloma Working Group guidelines[8]

More than 14,000 patients worldwide have been treated with teclistamab. Increased physician understanding and experience further support physician confidence and optimal patient management and outcomes in clinical practice

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Poster

Supplementary material

https://www.congresshub.com/ASH2024/Oncology/Teclistamab/Martin

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Introduction

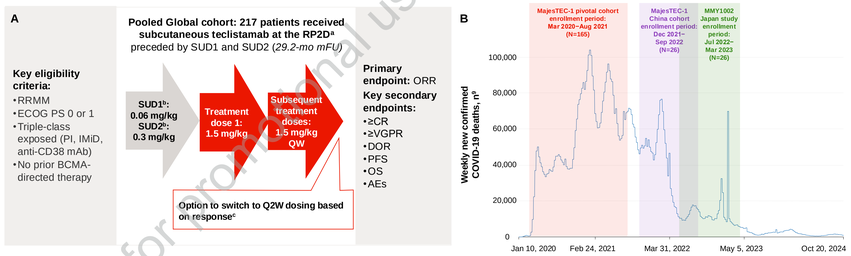
- Teclistamab is the first approved B-cell maturation antigen (BCMA) × CD3 bispecific antibody (BsAb) for the treatment of patients with triple-class exposed relapsed/refractory multiple myeloma (RRMM), with weight-based dosing and the longest study follow-up of any BsAb in multiple myeloma (30.4 months)[1-4]
- Teclistamab has demonstrated rapid, deep, and durable responses with a manageable safety profile in 3 registrational studies/cohorts: the pivotal MajesTEC-1 cohort, the China cohort of MajesTEC-1, and the Japan phase 1/2 (MMY1002) study[4-7]
- Here, we present pooled data of 217 patients treated with teclistamab at the recommended phase 2 dose (RP2D)

Methods

- Global cohort (N=217) includes: 165 patients from the pivotal MajesTEC-1 study with median follow-up (mFU) of 30.4 mo (NCT03145181/NCT04557098), 26 patients from the MajesTEC-1 China cohort with mFU of 15.3 mo, and 26 patients from phase 2 of the Japan study with mFU of 14.3 mo (MMY1002, NCT04696809) (**Figure 1**)
- The Asian cohort (N=52[a]) includes patients from the China cohort and Japan study
- The MajesTEC-1 study design was previously described[3]

[a]3 patients with Asian ethnicity in the pivotal MajesTEC-1 were not included in the Asian cohort analysis.

Figure 1: Study design (A) and enrollment periods relative to COVID-19 pandemic (B)



[a]1.5 mg/kg subcutaneously QW. [b]2–4 days were allowed between SUD1, SUD2, and treatment dose 1. [c]Switch was permitted in the MajesTEC-1 study if patients achieved ≥PR after ≥4 cycles (phase 1) or ≥CR for ≥6 months (phase 2) and was permitted in the Japan (MMY1002) study if patients achieved ≥PR for ≥6 months. AE, adverse event; CR, complete response; DOR, duration of response; EGOG PS, Eastern Cooperative Oncology Group performance status; IMiD, immunomodulatory drug; mAb, monoclonal antibody; ORR, overall response rate; OS, overall survival; PFS, progression-free survival; PI, proteasome inhibitor; PR, partial response; Q2W, every other week; QW, weekly; SUD, step-up dose; VGPR, very good partial response.

Results

Study population

- Baseline characteristics were generally similar between cohorts (**Table 1**); the Asian cohort had lower average body weight, a higher percentage of patients with high-risk disease features, and a lower percentage of patients with triple- or penta-drug refractory status

Table 1: Patient baseline demographics and characteristics

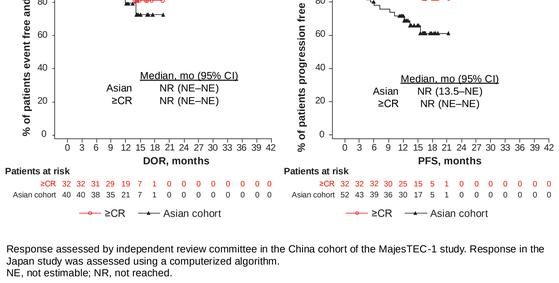
Characteristic	Global cohort (N=217)	Asian cohort (n=52)
Male, n (%)	117 (53.9)	21 (40.4)
Age, years, median (range)	65 (33–84)	67 (42–84)
Race, n (%)		
Asian	55 (25.3)	52 (100.0)
Black or African American	21 (9.7)	0
White	134 (61.8)	0
Other	7 (3.2)	0
Weight, kg, median (range)	69 (37.5–138.9)	58 (37.5–86.4)
Extramedullary plasmacytomas ≥1, n (%)	41 (18.9)	13 (25.0)
ECOG PS at baseline, n (%)		
0	79 (36.4)	24 (46.2)
≥1	138 (63.6)	28 (53.8)
ISS stage at study entry,[a] n (%)		
I	110 (51.4)	25 (48.1)
II	74 (34.6)	17 (32.7)
III	30 (14.0)	10 (19.2)
High-risk cytogenetics,[b] n (%)	58 (29.0)	20 (38.5)
Number of prior LOT, median (range)	5 (2–14)	5 (3–12)
Prior exposure, n (%)		
Triple-class	217 (100.0)	52 (100.0)
Penta-drug	142 (65.4)	26 (50.0)
Refractory status, n (%)		
Triple-class	161 (74.2)	33 (63.5)
Penta-drug	59 (27.2)	9 (17.3)

[a]Global cohort, n=214. [b]Global cohort, n=200.
ISS, International Staging System; LOT, line of therapy.

Efficacy

- ORR was high and responses were deep across the Global and Asian cohorts, a trend for improved outcomes was observed in the Asian cohort vs the Global cohort (≥VGPR, 76.9% vs 63.6% respectively; **Figure 2**)
  - 88 patients (65, 10, and 13 in the pivotal cohort, China cohort, and Japan study, respectively) in the Global cohort switched to less frequent dosing per study protocol
- DOR and PFS for the Global and Asian cohorts are shown in **Figure 3**; OS in Global and Asian cohorts is shown in the **Supplemental Figure**
- Estimated 15-mo DOR, PFS, and OS were comparable in the Global and Asian cohorts (**Table 2**)
- PFS was longer in patients who received ≤3 prior LOT in the Global cohort (**Table 2**)

Figure 2: ORR[a,b]



[a]Response assessed by independent review committee in the MajesTEC-1 study. [b]Response in the Japan study was assessed using a computerized algorithm. [c]mFU, 29.2 months. [d]mFU, 14.9 months.
sCR, stringent complete response.

Figure 3: DOR and PFS

Response assessed by independent review committee in the China cohort of the MajesTEC-1 study. Response in the Japan study was assessed using a computerized algorithm.
NE, not estimable; NR, not reached.

Table 2: DOR, PFS, and OS

	Global cohort (N=217)	Asian cohort (N=52)
mFU, mo	29.2	14.9
DOR,[a] %		
Median DOR	26.7	NR
Estimated 15-mo DOR	66.0	73.0
Median DOR in ≤3 prior LOT[b]	26.7	NR
Median DOR in >3 prior LOT[c]	25.6	NR
PFS, %		
Median PFS	15.1	NR
Estimated 15-mo PFS	50.3	65.5
Median PFS in ≤3 prior LOT[d]	22.2	NR
Median PFS in >3 prior LOT[e]	10.8	NR
OS, %		
Median OS	26.3	NR
Estimated 15-mo OS	62.0	74.9
Median OS in ≤3 prior LOT[d]	NR	NR
Median OS in >3 prior LOT[e]	21.9	NR

[a]Global cohort, n=144 and Asian cohort, n=40. [b]Global cohort, n=44 and Asian cohort, n=12. [c]Global cohort, n=100 and Asian cohort, n=28. [d]Global cohort, n=57 and Asian cohort, n=14. [e]Global cohort, n=160 and Asian cohort, n=38.
NR, not reached.

Safety

- In the Global cohort, the most frequent treatment-emergent adverse events (TEAEs) were cytokine release syndrome (CRS), cytopenias, and infections (**Table 3**)
  - Discontinuations occurred in 9/217 (4.1%) patients, 5/9 (2.3%) due to infections
  - Grade 5 COVID-19 occurred in 8.3% of patients (all from the pivotal cohort which enrolled during the first peak of the COVID-19 pandemic)
- In the Asian cohort, which was enrolled post the pivotal MajesTEC-1 cohort, there was increasing use of immunoglobulin (Ig); 91.3% of patients with hypogammaglobulinemia received ≥1 dose of intravenous or subcutaneous Ig
  - No discontinuations due to infections; and only 1 grade 5 infection (pneumonia in the setting of ongoing COVID-19 in China)

Table 3: Most common TEAEs

Most common[a] TEAE, n (%)	Global cohort (N=217)		Asian cohort (N=52)	
	Any Grade	Grade 3/4	Any Grade	Grade 3/4
CRS	165 (76.0)	1 (0.5)	46 (88.5)	0
Infection	175 (80.6)	115 (53.0)	45 (86.5)[b]	24 (46.2)[c]
COVID-19	68 (31.3)	49 (22.6)	20 (38.5)	14 (26.9)
Neutropenia	162 (74.7)	147 (67.7)	44 (84.6)	39 (75.0)
Lymphopenia	94 (43.3)	88 (40.6)	34 (65.4)	31 (59.6)
Anemia	121 (55.8)	82 (37.8)	30 (57.7)	20 (38.5)
Leukopenia	58 (26.7)	32 (14.7)	25 (48.1)	17 (32.7)
Thrombocytopenia	86 (39.6)	46 (21.2)	17 (32.7)	8 (15.4)
Hypogammaglobulinemia	64 (29.5)	4 (1.8)	28 (53.8)	1 (1.9)
Hypokalemia	45 (20.7)	17 (7.8)	20 (38.5)	9 (17.3)
Hypoalbuminemia	24 (11.1)	1 (0.5)	20 (38.5)	0
Diarrhea	75 (34.6)	9 (4.1)	18 (34.6)	3 (5.8)

[a]Any-grade TEAEs occurring in ≥30% of patients in at least one cohort. [b]Any-grade infection occurred in 96.2% in the China cohort (73.1% due to COVID-19) and 69.2% in the Japan cohort. [c]Grade 3/4 infection occurred in 69.2% in the China cohort (53.8% due to COVID-19) and 11.5% in the Japan cohort.

References
1. TECVAYLI® (teclistamab). Summary of product characteristics. Leiden, Netherlands: Janssen Biologics BV; 2022. 2. TECVAYLI® (teclistamab-cqyv). Prescribing information. Horsham, PA: Janssen Biotech, Inc; 2022. 3. Moreau P, et al. *New Engl J Med* 2022;387:495-505. 4. Garfall AL, et al. Presented at ASCO; May 31–June 4, 2024; Chicago, IL, USA & Virtual. Poster #7540. 5. Cai Z, et al. Presented at EHA; June 13–16, 2024; Madrid, Spain. Abstract #PB2717. 6. Clinicaltrials.gov identifier, NCT04696809. 7. Iida S, et al. Presented at JSH; October 11–13, 2024; Kyoto, Japan. 8. Raje NS, et al. *Lancet Haematol* 2022;9:e143-61. 9. Mathieu E, et al. Coronavirus pandemic (COVID-19). Accessed November 4, 2024. Available at: https://ourworldindata.org/coronavirus.

Multiple Myeloma

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