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Real-Life Outcomes in Patients With BCMA-Exposed Relapsed/Refractory Multiple Myeloma Treated With Standard of Care in the LocoMMotion and MoMMent Studies

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Key Takeaway

These real-world data provide the benchmark for new treatments in patients with TCE RRMM with prior exposure to BCMA-targeted therapy, complementing clinical trials; more homogeneous data from a larger sample size are needed to inform sequencing

Conclusions

- Prospective data from LocoMMotion and MoMMent offer valuable insights into real-world treatments and outcomes in BCMA-exposed patients
- There was no uniform SOC, and the observed real-life treatments consisting of the same drug classes in heavily pretreated and refractory patient populations resulted in poor response rates
- These poor outcomes in BCMA-exposed/refractory patients highlight the need for new agents, including those targeting GPRC5D

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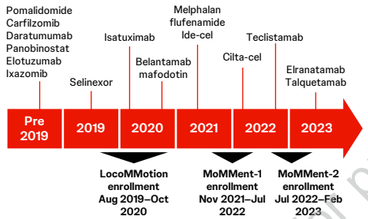
Introduction

- Previously, prospective real-world studies LocoMMotion and MoMMent have reported outcomes of standard of care (SOC) in patients with triple-class exposed (TCE) relapsed/refractory multiple myeloma (RRMM), serving as the benchmark for comparison for all novel treatments in RRMM[1]
  - Overall response rate (ORR): 31.8%; progression-free survival (PFS) and overall survival (OS): 4.6 and 14.5 months, respectively
- As the treatment landscape for RRMM is rapidly evolving (**Figure 1**), patients are exposed to B-cell maturation antigen (BCMA)-targeted treatments in later lines of therapy (LOT),[1,2] including antibody-drug conjugates (ADCs),[3] bispecific antibodies (BsAbs),[4–11] and chimeric antigen receptor (CAR)-T cell treatments[12–17]
- There are currently no prospective data assessing real-life treatments in clinical practice for BCMA-exposed patients[18]
- LocoMMotion is a completed, prospective, non-interventional, multinational study of real-life SOC treatments in patients with TCE RRMM who received ≥3 prior LOT
- MoMMent is an ongoing, prospective, non-interventional study of real-life SOC treatments in patients with RRMM that includes 2 consecutive periods of enrollment (MoMMent-1 and MoMMent-2)
- Here, we report real-life treatments used for BCMA-exposed patients and their outcomes from LocoMMotion and MoMMent

Figure 1: Evolving treatment landscape in MM[a]

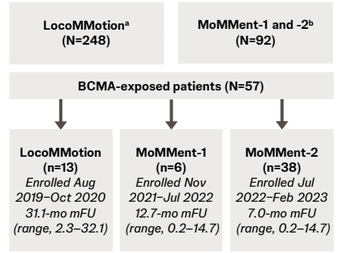


[a]Representative of initial regulatory approval across the US and EU. cilta-cel, ciltacabtagene autoleucel; ide-cel, idecabtagene vicleucel; MM, multiple myeloma.

Methods

- LocoMMotion and MoMMent have the same study design and data collection methods, with most patients enrolled from the same sites
  - MoMMent-2 was specifically planned to enroll additional BCMA-exposed patients (**Figure 2**)
- Both studies included:
  - Patients with ≥3 prior LOT (LocoMMotion allowed <3 prior LOT if patients were double refractory to a proteasome inhibitor [PI] and an immunomodulatory drug [IMiD])
  - TCE
  - Measurable disease since last LOT
  - Eastern Cooperative Oncology Group performance status (ECOG PS) of 0 or 1 at screening

Figure 2: Summary of analysis populations



Patients in LocoMMotion and MoMMent received SOC at the discretion of the treating physician. Patients could not participate in both studies. [a]LocoMMotion: final data. [b]MoMMent: cut-off Aug 18, 2023. mFU, median follow-up.

Results

Patients

- At median follow-up of 10.0 months, 57 patients from the LocoMMotion and MoMMent studies were BCMA-exposed (**Table 1**)
  - Baseline characteristics were similar between both studies
- Overall, 45 unique antimyeloma regimens were used (**Table 2**)
  - BCMA-targeted treatment, 28.1%
  - Combinations of ≥3 drugs, 64.9%

Table 1: Baseline characteristics of BCMA-exposed patients in LocoMMotion and MoMMent

Characteristic	Pooled (N=57)
Male, n (%)	40 (70.2)
Median age, years (range)	66.0 (42–86)
ECOG PS at baseline,[a] n (%)	
0	13 (22.8)
1	43 (75.4)
2	1 (1.8)
Years since MM diagnosis, median (range)	7.3 (2.1–22.8)
ISS stage at study entry, n (%)	
I	9 (22.0)
II	15 (36.6)
III	17 (41.5)
Missing	16 (39.0)
Presence of EMP, n (%)	7 (12.3)
Number of prior LOT, median (range)	7 (3–12)
Prior exposure, n (%)	
Triple-class[b]	57 (100.0)
Penta-drug[c]	50 (87.7)
GPRC5D-targeted BsAb	6 (10.5)
BCMA-targeted therapy[d]	57 (100.0)
Only ADC	22 (38.6)
Only CAR-T	10 (17.5)
Only BsAb	19 (33.3)
ADC and CAR-T	4 (7.0)
BsAb and CAR-T	1 (1.8)
ADC and BsAb	1 (1.8)
ADC, CAR-T, and BsAb	0
Refractory status, n (%)	
Triple-class	47 (82.5)
Penta-drug	20 (35.1)
BCMA-BsAb	21 (36.8)
BCMA-ADC	22 (38.6)
Pomalidomide and carfilzomib	36 (63.2)

[a]1 patient had ECOG PS 2 at baseline. All patients had ECOG PS 0–1 at screening. [b]≥1 each of PI + IMiD + anti-CD38 antibody. [c]≥2 PIs + IMiDs + ≥1 anti-CD38 monoclonal antibody (mAb). [d]Includes 10 patients treated with teclistamab, 4 patients treated with ide-cel, and 2 patients treated with belantamab mafodotin. EMP, extramedullary plasmacytoma; GPRC5D, G protein-coupled receptor class C group 5 member D; ISS, International Staging System; MM, multiple myeloma.

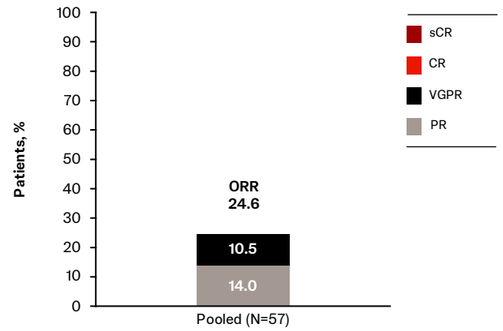
Table 2: SOC treatment regimens utilized the same classes of drugs patients were exposed to previously

Drug class/drug included in SOC antimyeloma regimen, n (%)	Pooled (N=57)
Alkylating agents	25 (43.9)
PI	22 (38.6)
IMiD	21 (36.8)
Anti-CD38 mAb	10 (17.5)
BCMA-targeted therapy	16 (28.1)
Teclistamab	10 (17.5)
Idecabtagene vicleucel	4 (7.0)
Belantamab mafodotin	2 (3.5)
Venetoclax	5 (8.8)
Panobinostat	2 (3.5)
Elotuzumab	1 (1.8)

Efficacy

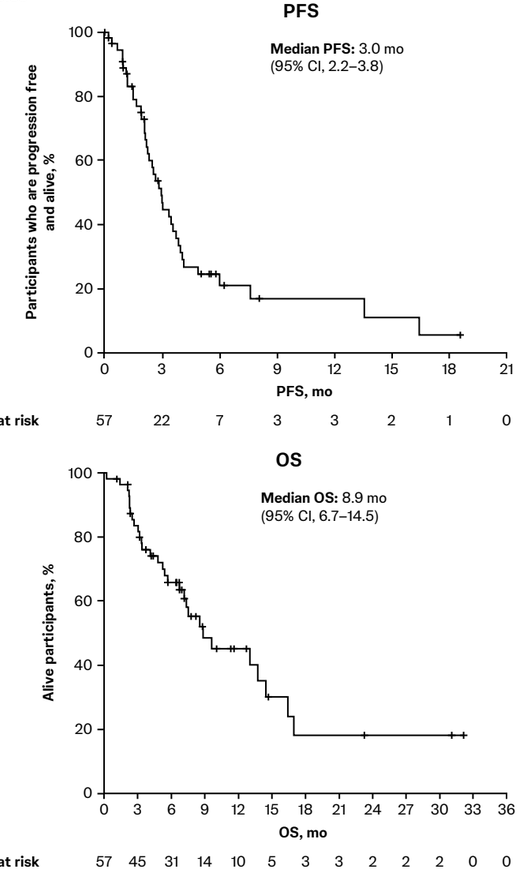
- ORR was 24.6% (**Figure 3**)
  - 4/10 (40.0%) patients responded to teclistamab
  - 1/4 (25.0%) patients responded to ide-cel
- PFS and OS were 3.0 months and 8.9 months, respectively (**Figure 4**)

Figure 3: ORR for BCMA-exposed/refractory patients who received SOC therapy



Responses and PD were assessed by an external review committee. CR, complete response, PD, progressive disease; PR, partial response; sCR, stringent complete response; VGPR, very good partial response.

Figure 4: Survival in BCMA-exposed/refractory patients treated with SOC therapies



Responses and PD were assessed by an external review committee.

Safety

- Treatment-emergent adverse events (TEAEs) occurred in 54 (94.7%) patients (grade 3/4, 36 patients [63.2%])
- TEAEs resulting in death occurred in 6 (10.5%) patients

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Multiple Myeloma

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