The 11th World Congress on CONTROVERSIES IN MULTIPLE MYELOMA (COMy)

Linvoseltamab in patients identifying as Black or African American with relapsed/refractory multiple myeloma (RRMM): Results from LINKER-MM1

Scan the QR code to view the poster, the supplementary information, and author disclosures.

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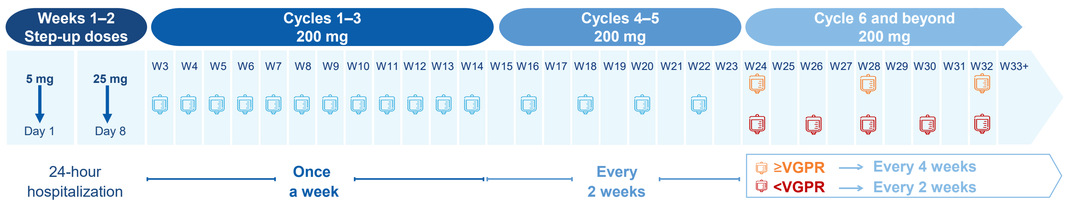
INTRODUCTION

- MM disproportionally affects a variety of patient groups, including Black/AA patients
  - In the USA, MM is more than twice as common in Black/AA individuals than people of other races/ethnicities[1,2]
- Real-world studies indicate that overall survival is similar, and potentially improved, in Black/AA versus White patients following the introduction of novel therapies (e.g., PIs, IMiDs)[3–5]
- However, data in Black/AA patients from clinical studies are limited, reflecting the notable underrepresentation of Black/AA individuals in MM trials and highlighting an unmet need for this population[6,7]
- Linvoseltamab, a BCMA×CD3 bispecific antibody, demonstrated high rates of durable response with a generally manageable safety profile in patients with RRMM in the Phase 1/2 LINKER-MM1 study (NCT03761108), including Black/AA patients[8]
  - ORR in Black/AA patients was 85.0% with linvoseltamab 200 mg[8]
- Here we report patient and disease characteristics, as well as updated efficacy and safety analyses of linvoseltamab, in Black/AA versus non-Black patients from LINKER-MM1

RESULTS

Figure 1. Phase 2 study design: intravenous linvoseltamab 200 mg (1 cycle = 28 days)



- An optimized dosing regimen was used that included premedication and step-up dosing to help mitigate the risk of CRS, with 24-hour hospitalization required after each step-up dose[8]
- From Week 3, linvoseltamab was administered weekly for 3 cycles, followed by Q2W dosing in Cycles 4–5; dosing frequency was then reduced to Q4W in Cycle 6 and beyond (at Week 24 or later) in patients who achieved ≥VGPR[9]

Key eligibility criteria for Phase 2:
- ≥3 prior lines of therapy and triple-class–exposed MM; or triple-class–refractory MM

Key Phase 2 endpoints:
- Primary: ORR by IRC (IMWG criteria)
- Secondary: Safety, DOR, PFS, MRD, and OS

Table 1. Patient demographics and disease characteristics

	Black/AA patients (n=20)	Non-Black patients (n=97)
Median age (range), years	67 (44–91)	70 (37–83)
≥75 years, n (%)	7 (35.0)	24 (24.7)
Male, n (%)	7 (35.0)	57 (58.8)
ISS stage, n (%)*		
I / II / III	8 (40.0) / 8 (40.0) / 4 (20.0)	41 (42.3) / 33 (34.0) / 17 (17.5)
ECOG PS, n (%)		
0 / 1	3 (15.0) / 17 (85.0)	29 (29.9) / 68 (70.1)
Extramedullary plasmacytomas per IRC, n (%)	2 (10.0)	17 (17.5)
High-risk cytogenetics, n (%)	8 (40.0)	38 (39.2)
BMPC percentage, n (%)*		
>0–<50% / ≥50%	11 (55.0) / 5 (25.0)	55 (56.7) / 23 (23.7)
Median leukocyte count (range), 10^9/L	5.28 (2.9–10.1)	5.00 (1.7–9.0)
Median neutrophil count (range), 10^9/L	2.47 (1.2–6.2)	3.04 (0.7–7.0)
Number of prior treatment lines, median (range)*	5.0 (3–13)	5.0 (2–16)
≥ Triple-class exposed / ≥ Triple-class refractory, n (%)	20 (100) / 18 (90.0)	97 (100) / 78 (80.4)
≥ Quad-class exposed / ≥ Quad-class refractory, n (%)	20 (100) / 14 (70.0)	92 (94.8) / 64 (66.0)
≥ Penta-class exposed / ≥ Penta-class refractory, n (%)	16 (80.0) / 5 (25.0)	74 (76.3) / 29 (29.9)
Refractory to line of therapy, n (%)	19 (95.0)	82 (84.5)

*ISS stage missing: n=6 (non-Black). BMPC percentage missing: n=4 (Black/AA); n=17 (non-Black). Patients with less than triple-class refractory or with missing data on refractory status: n=2 (Black/AA); n=19 (non-Black).

- The group of Black/AA patients included a greater proportion of females, patients aged ≥75 years, and those with ECOG PS of 1
- Both the Black/AA and non-Black groups had received a median of five prior lines of therapy

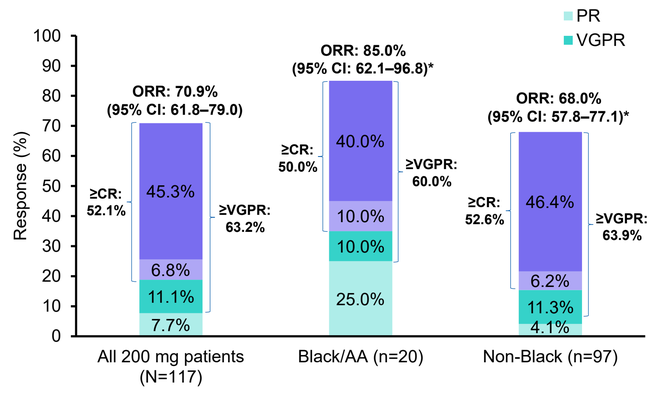
Table 2. Safety profile in Black/AA and non-Black patients

Event, n (%)	Black/AA patients (n=20)		Non-Black patients (n=97)	
	Any grade	Grade 3–4	Any grade	Grade 3–4
Any TEAE	20 (100)	17 (85.0)	97 (100)	69 (71.1)
Most common (≥30% in either subgroup) hematologic TEAEs				
Neutropenia*	13 (65.0)	13 (65.0)	38 (39.2)	37 (38.1)
Anemia*	9 (45.0)	8 (40.0)	38 (39.2)	28 (28.9)
Most common (≥30% in either subgroup) non-hematologic TEAEs				
CRS	5 (25.0)	0	49 (50.5)	1 (1.0)
Diarrhea	8 (40.0)	1 (5.0)	41 (42.3)	1 (1.0)
Cough	8 (40.0)	0	39 (40.2)	0
Fatigue	6 (30.0)	0	34 (35.1)	1 (1.0)
Arthralgia	3 (15.0)	0	35 (36.1)	2 (2.1)
Hypokalemia*	7 (35.0)	0	22 (22.7)	4 (4.1)
Pneumonia	6 (30.0)	5 (25.0)	15 (15.5)	14 (14.4)

*Composite terms.

- Median linvoseltamab exposure was 53.7 weeks (range 2–170) in Black/AA patients and 53.0 weeks (1–194) in non-Black patients
- ICANS was reported in 1 Black/AA patient (5%; event was Grade [Gr] 2) and in 8 non-Black patients (8.2%; Gr 3–4, 3.1%)
- The most common infections in Black/AA patients were pneumonia (any Gr, 30%; Gr ≥3, 25%), URTI (20%; 5%), UTI (20%; 0%), and CMV reactivation (20%; 10%) vs COVID-19 (26%; 11%), URTI (22%; 1%), and pneumonia (15%; 14%) in non-Black patients
- TEAEs led to death in 3 Black/AA patients (15.0%) and 14 non-Black patients (14.4%) (**Suppl. Table 1**)

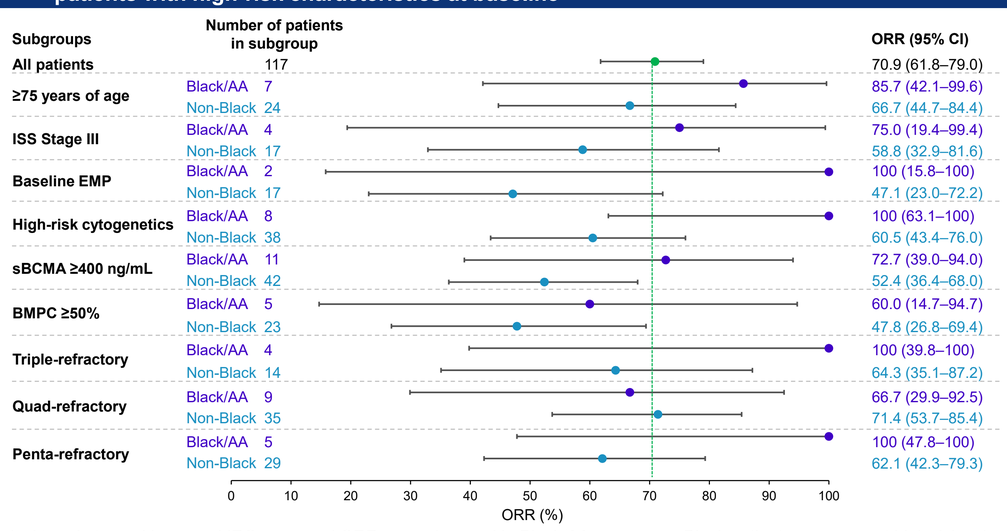
Figure 2. Responses in the overall 200 mg population and in Black/AA and non-Black patients by IRC



A numerical trend toward improved IRC-assessed ORR was observed in Black/AA versus non-Black patients

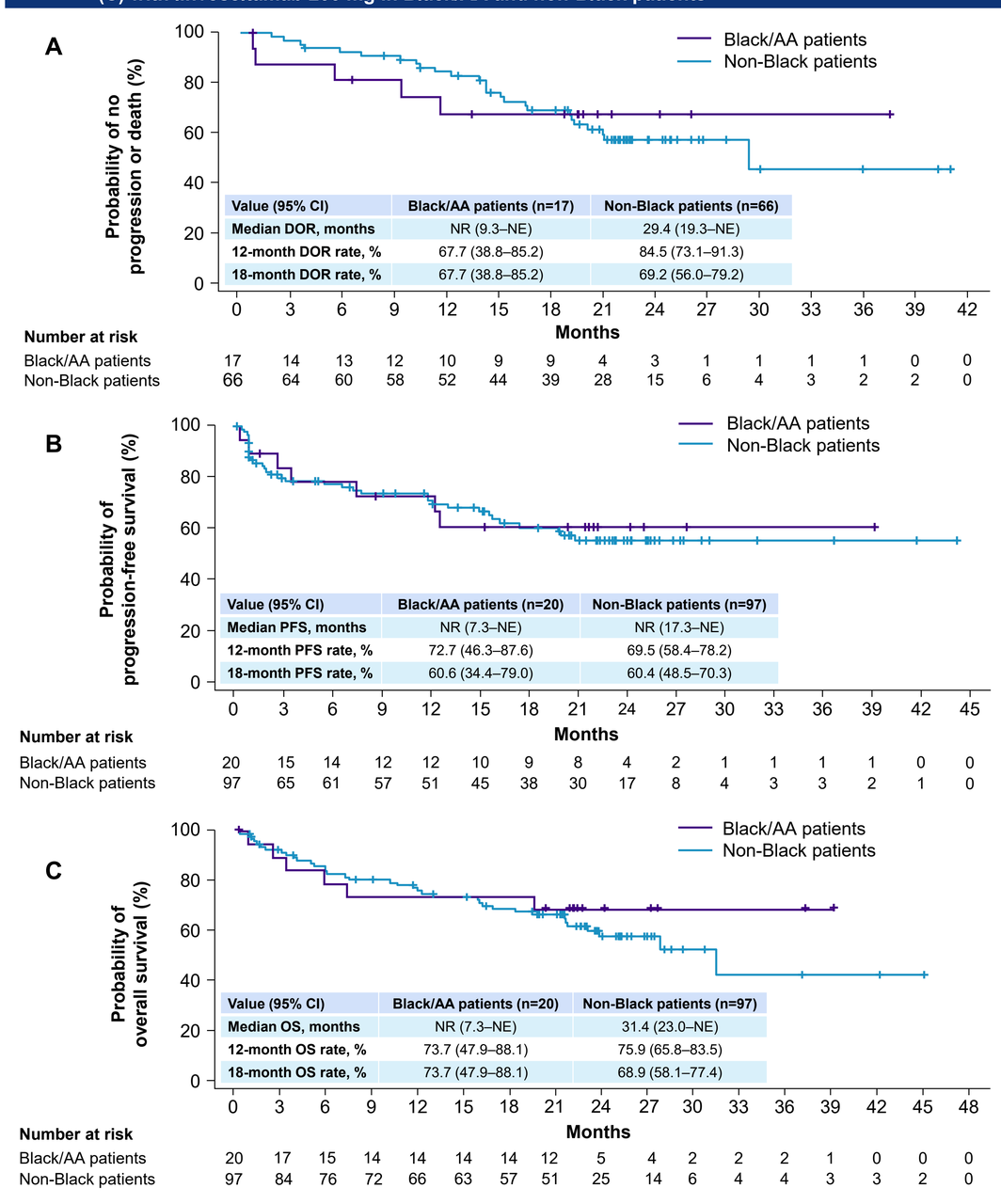
*Response not evaluable/missing: n=1 (Black/AA); n=5 (non-Black).

Figure 3. ORR (BOR of ≥PR by IRC) in the overall 200 mg population, and across Black/AA and non-Black patients with high-risk characteristics at baseline



- Numerical trends toward improved IRC-assessed ORR were observed in Black/AA versus non-Black patients across most high-risk subgroups
- Response rate was high across non–high-risk subgroups, and numerically greater in Black/AA versus non-Black patients for most subgroups assessed (**Suppl. Figure 1**)

Figure 4. Duration of response in patients with BOR of ≥PR (A), progression-free survival (B), and overall survival (C) with linvoseltamab 200 mg in Black/AA and non-Black patients



CONCLUSIONS

- **LINKER-MM1 enrolled a proportion of Black/AA patients broadly consistent with US demographic representation**
- **ORR was numerically higher in Black/AA patients versus non-Black patients**
  - ORR: 85.0% (95% CI 62.1–96.8) in Black/AA patients; 68.0% (95% CI 57.8–77.1) in non-Black patients
  - ≥CR: 50.0% (95% CI 27.2–72.8) in Black/AA patients; 52.6% (95% CI 42.2–62.8) in non-Black patients
- **PFS and OS were similar in Black/AA and non-Black patients**
- **Numerical differences in the rates of some TEAEs were apparent between Black/AA and non-Black patients (e.g., neutropenia and pneumonia were higher in Black/AA patients), but overall toxicity was similar**
- **These results suggest that linvoseltamab is similarly beneficial among Black/AA and non-Black patients with RRMM**

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ABBREVIATIONS

AA, African American; ANC, absolute neutrophil count; BCMA, B-cell maturation antigen; BMPC, bone marrow plasma cell; BOR, best overall response; CD, cluster of differentiation; CI, confidence interval; CMV, cytomegalovirus; CR, complete response; CRS, cytokine release syndrome; DOR, duration of response; ECOG PS, Eastern Cooperative Oncology Group performance status; EMP, extramedullary plasmacytoma; ICANS, immune effector cell-associated neurotoxicity syndrome; IMiD, immunomodulatory drug; IMWG, International Myeloma Working Group; IRC, independent review committee; ISS, International Staging System; MM, multiple myeloma; MRD, minimal residual disease; NE, not evaluable; NR, not reached; ORR, objective response rate; OS, overall survival; PFS, progression-free survival; PI, proteasome inhibitor; PR, partial response; Q2W, once every 2 weeks; Q4W, once every 4 weeks; RRMM, relapsed/refractory multiple myeloma; sBCMA, soluble B-cell maturation antigen; sCR, stringent complete response; TEAE, treatment-emergent adverse event; URTI, upper respiratory tract infection; UTI, urinary tract infection; VGPR, very good partial response; W, week.

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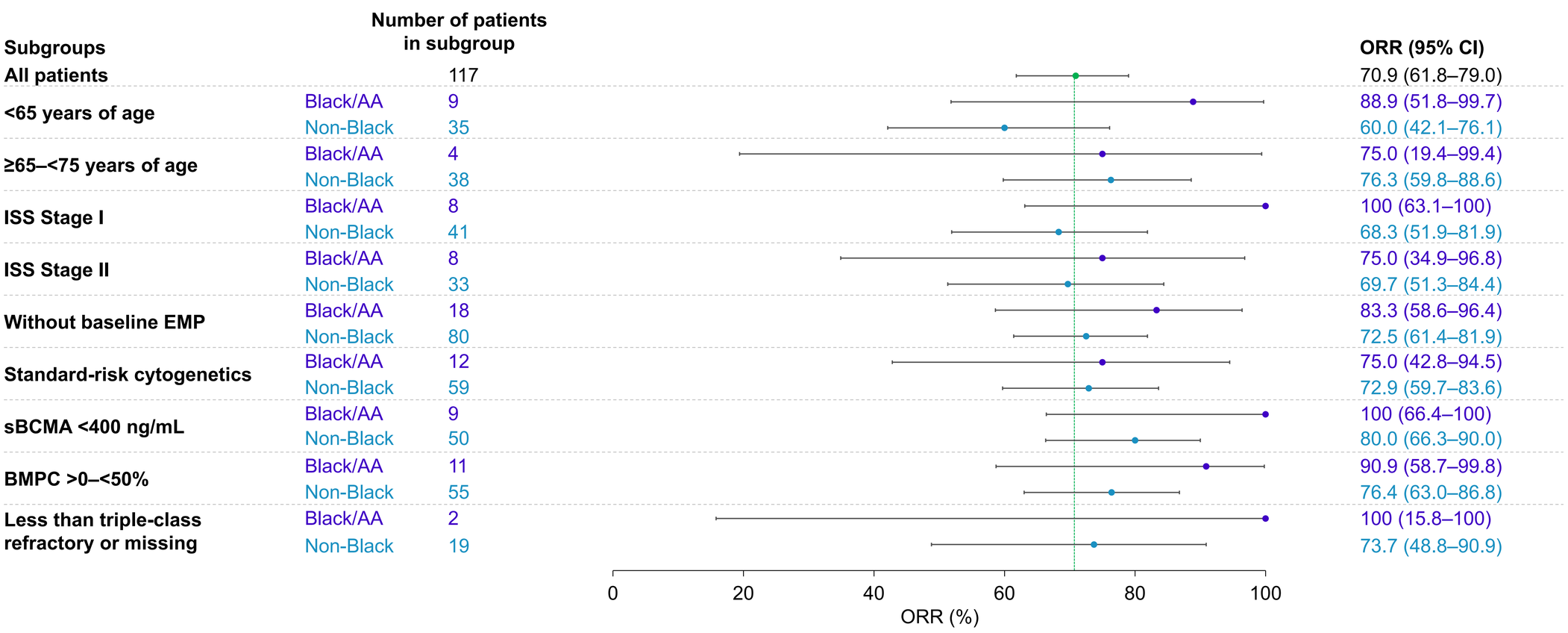
SUPPLEMENTAL DATA

Suppl. Table 1. TEAE overview in Black/AA and non-Black patients

n (%)	Black/AA patients (n=20)	Non-Black patients (n=97)
Patients with any TEAE	20 (100)	97 (100)
Patients with any Grade ≥3 TEAE	20 (100)	83 (85.6)
Patients with any serious TEAE	17 (85.0)	74 (76.3)
Patients who discontinued treatment due to TEAEs	5 (25.0)	19 (19.6)
Patients with any TEAE leading to dose interruption/delay	17 (85.0)	73 (75.3)
Patients with any TEAE leading to dose reduction	1 (5.0)	20 (20.6)
Patients with any TEAE resulting in death	3 (15.0)	14 (14.4)

- TEAEs leading to death:
  - Black/AA patients: respiratory failure (n=1); chronic kidney disease (n=1); septic shock (n=1)
  - Non-Black patients: COVID-19 (n=3); PJP (n=1); progressive multifocal leukoencephalopathy (n=2); encephalopathy (n=1); influenzal pneumonia (n=1); pseudomonal sepsis (n=1); pancreatic adenocarcinoma (n=1); *Escherichia* sepsis (n=1); *Hemophilus* sepsis (n=1); infection (n=1); septic shock (n=1)

Suppl. Figure 1. ORR (BOR of ≥PR by IRC) in the overall 200 mg population, and across Black/AA and non-Black patients with non–high-risk characteristics at baseline



ABBREVIATIONS

AA, African American; BOR, best overall response; BMPC, bone marrow plasma cell; CI, confidence interval; EMP, extramedullary plasmacytoma; IRC, independent review committee; ISS, International Staging System; PJP, *Pneumocystis jirovecci* pneumonia; PR, partial response; ORR, overall response rate; sBCMA, soluble B-cell maturation antigen; TEAE, treatment-emergent adverse event.

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DISCLOSURES

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