Patient-reported outcomes from the DREAMM-7 randomized phase 3 study comparing belantamab mafodotin, bortezomib, and dexamethasone vs daratumumab, bortezomib, and dexamethasone in patients with relapsed/refractory multiple myeloma

Digital poster — SCAN ME

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Plain language summary — SCAN ME

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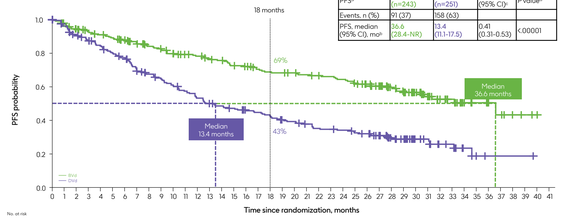
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Background

- Most patients with multiple myeloma (MM) have disease that becomes refractory to first-line triplet or quadruplet regimens and experience relapse; thus, there is an unmet need for novel, effective, targeted agents in the second-line setting[1-3]
- Belantamab mafodotin is a humanized, afucosylated, anti–B-cell maturation antigen monoclonal antibody conjugated to the microtubule inhibitor monomethyl auristatin-F by a protease-resistant cysteine linker; it acts through a multimodal mechanism, including direct cell killing and immune-mediated mechanisms[4-6]
- The global, phase 3, open-label, randomized DREAMM-7 trial (NCT04246047) investigated belantamab mafodotin, bortezomib, and dexamethasone (BVd) vs standard of care (daratumumab, bortezomib, and dexamethasone [DVd]) in patients with relapsed/refractory MM (RRMM) who had received ≥1 prior line of therapy[7]
  - In DREAMM-7, BVd demonstrated a statistically significant and clinically meaningful progression-free survival benefit vs DVd (primary endpoint; **Figure 1**).[7]
- Here, we describe patient-reported outcomes (PROs) with BVd vs DVd in DREAMM-7 based on data collected using several PRO assessments throughout the study

Figure 1. **PFS With BVd vs DVd in DREAMM-7**[7]

PFS[a]	BVd (n=243)	DVd (n=251)	HR (95% CI)[b]	*P* value[a]
Events, n (%)	91 (37)	158 (63)		
PFS, median (95% CI), mo[a]	36.6 (28.4-NR)	13.4 (11.1-17.5)	0.41 (0.31-0.53)	<.00001



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BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone; HR, hazard ratio; IT, intent to treat; NR, not reached; PFS, progression-free survival; R-ISS, Revised International Staging System.
[a] Two patients in the ITT population were randomized, untreated, rescreened, and rerandomized. They are counted as 4 unique patients in this subset. [b] CIs were estimated using the Brookmeyer-Crowley method.[c] HRs were estimated using a Cox proportional hazards model stratified by the number of lines of prior therapy (1 vs 2 or 3 vs 4), prior bortezomib, and R-ISS stage at screening (I vs II/III), with a covariate of treatment.[d] P value from 1-sided stratified log-rank test.

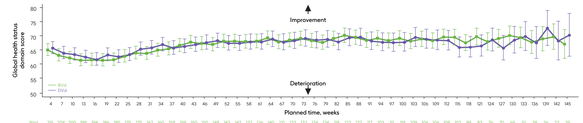
Methods

- In DREAMM-7, eligible patients were randomized 1:1 to receive BVd or DVd (**Figure 2**)
- Patients completed PRO measures electronically at baseline and throughout treatment
- Several PRO assessments were used in the study (**Table 1**), including: European Organisation for Research and Treatment of Cancer (EORTC) QLQ-C30 (Quality of Life Questionnaire–Core Module)[8]; EORTC QLQ-IL52 (Item Library 52)[9]; Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events (PRO-CTCAE)[10]; Ocular Surface Disease Index (OSDI) vision-related functioning (VRF)[11]; and Functional Assessment of Cancer Therapy – General Population, Item 5 (FACT-GP5)
- Assessments were collected every 3 weeks; after week 16, OSDI assessments were performed every 6 weeks (BVd) or every 12 weeks (DVd)
- EORTC QLQ-C30 and EORTC QLQ-IL52 scores were analyzed in the intent-to-treat (ITT) population, and PRO-CTCAE and OSDI scores were analyzed in the safety population
  - Results were summarized using descriptive statistics
  - Line charts with 95% confidence intervals are shown as appropriate (data are offset for visualization purposes)
  - Least squares means (LSM) were estimated by a restricted maximum likelihood-based mixed model adjusting for treatment group, visit, baseline value, treatment-by-visit interactions, and baseline value-by-visit interactions

Results

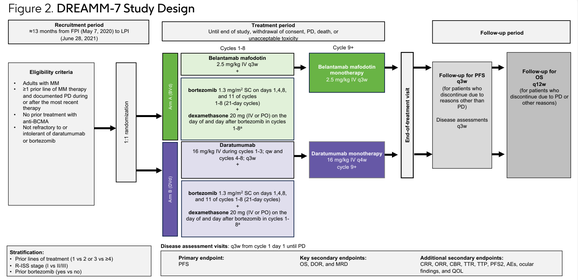
- Baseline characteristics and clinical characteristics were well balanced between arms
- Among 494 patients in the ITT population (BVd, n=243; DVd, n=251), adherence to PRO assessments was >90% for most visits
- EORTC QLQ-C30 global health status/quality of life was stable over time and comparable between arms (**Figure 3**)
  - Similarly, role functioning, physical functioning, fatigue, and pain were stable over time and consistent between arms (**Figures 4-7**)

Figure 3: **EORTC QLQ-C30 Global Health Status/Quality of Life Score (LSM)**



Interval represents 95% CIs around the mean at each planned time. Analysis was performed using a restricted maximum likelihood-based mixed model with covariates of treatment group, visit, baseline value, treatment-by-visit interactions, and baseline value-by-visit interactions. Two patients in the ITT population were randomized, untreated, rescreened, and rerandomized and are counted as 4 unique patients.
BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone; EORTC QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core Module; ITT, intent to treat; LSM, least-squares mean.

Figure 2. **DREAMM-7 Study Design**



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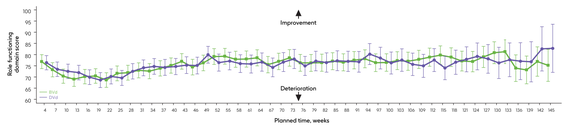
AE, adverse event; BVd, belantamab mafodotin, bortezomib, and dexamethasone; BCMA, B-cell maturation antigen; CBR, clinical benefit rate; CRR, complete response rate; DOR, duration of response; DVd, daratumumab, bortezomib, and dexamethasone; FPI, first patient in; IV, intravenous; LPI, last patient in; MM, multiple myeloma; MRD, minimal residual disease; ORR, overall response rate; OS, overall survival; PD, progressive disease; PFS, progression-free survival; PFS2, time from randomization to progression on next-line treatment or death from any cause; PO, oral; q2w, every 2 weeks; q3w, every 3 weeks; q12w, every 12 weeks; QOL, quality of life; qw, once weekly; R-ISS, Revised International Staging System; SC, subcutaneous; TTP, time to progression; TTR, time to response.
* Reduce starting dose of dexamethasone to 10 mg for patients aged ≥75 years who have a body mass index of <18.5 kg/m², previous unacceptable side effects associated with glucocorticoid therapy, or inability to tolerate the starting dose.

Table 1. **PRO Assessments**

Instrument	Purpose	Items	Scales/measures used in this study
EORTC QLQ-C30[8] (cancer QOL)	Assess key functional aspects of HRQOL in patients with cancer, regardless of tumor type	30	• Global health status/QOL scale • Role functioning • Physical functioning • Fatigue
EORTC QLQ-IL52[9] (pain items from the EORTC QLQ-MY20[9])	Assess disease symptoms in patients with multiple myeloma	7	Disease-related pain
PRO-CTCAE[10]	Characterize the frequency, severity, interference, and presence/absence of symptomatic toxicities	124	Symptomatic toxicities
OSDI[11]	Assess symptoms related to dry eye disease and their effect on vision	12	Vision-related functioning
FACT-GP5	Assess the impact of bothersome treatment side effects on patients with cancer	1	Overall impact of bothersome side effects

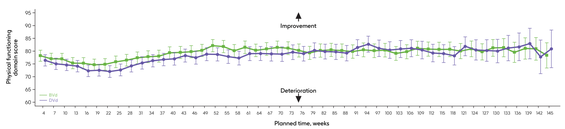
EORTC QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core Module; EORTC QLQ-IL52, European Organisation for Research and Treatment of Cancer Item Library 52; EORTC QLQ-MY20, European Organisation for Research and Treatment of Cancer Quality of Life Multiple Myeloma Questionnaire; FACT-GP5, Functional Assessment of Cancer Therapy – General Population, Item 5; HRQOL, health-related quality of life; OSDI, Ocular Surface Disease Index; PRO, patient-reported outcome; PRO-CTCAE, Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events; QOL, quality of life.
† EORTC QLQ-MY20 is a myeloma-specific QOL measurement.

Figure 4. **EORTC QLQ-C30 Role Functioning Domain Score (LSM)**



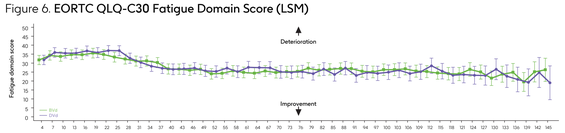
Interval represents 95% CIs around the mean at each planned time. Analysis was performed using a restricted maximum likelihood-based mixed model with covariates of treatment group, visit, baseline value, treatment-by-visit interactions, and baseline value-by-visit interactions. Two patients in the ITT population were randomized, untreated, rescreened, and rerandomized and are counted as 4 unique patients.
BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone; EORTC QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core Module; ITT, intent to treat; LSM, least-squares mean.

Figure 5. **EORTC QLQ-C30 Physical Functioning Domain Score (LSM)**



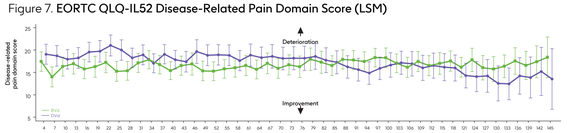
Interval represents 95% CIs around the mean at each planned time. Analysis was performed using a restricted maximum likelihood-based mixed model with covariates of treatment group, visit, baseline value, treatment-by-visit interactions, and baseline value-by-visit interactions. Two patients in the ITT population were randomized, untreated, rescreened, and rerandomized and are counted as 4 unique patients.
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Figure 6. **EORTC QLQ-C30 Fatigue Domain Score (LSM)**



Interval represents 95% CIs around the mean at each planned time. Analysis was performed using a restricted maximum likelihood-based mixed model with covariates of treatment group, visit, baseline value, treatment-by-visit interactions, and baseline value-by-visit interactions. Two patients in the ITT population were randomized, untreated, rescreened, and rerandomized and are counted as 4 unique patients.
BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone; EORTC QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core Module; ITT, intent to treat; LSM, least-squares mean.

Figure 7. **EORTC QLQ-IL52 Disease-Related Pain Domain Score (LSM)**



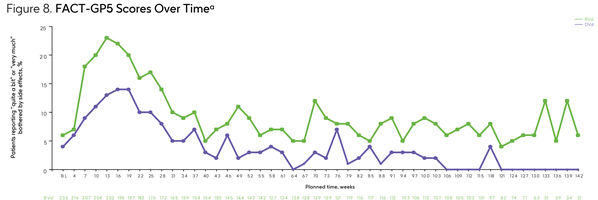
Interval represents 95% CIs around the mean at each planned time. Analysis was performed using a restricted maximum likelihood-based mixed model with covariates of treatment group, visit, baseline value, treatment-by-visit interactions, and baseline value-by-visit interactions. Two patients in the ITT population were randomized, untreated, rescreened, and rerandomized and are counted as 4 unique patients.
BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone; EORTC, European Organisation for Research and Treatment of Cancer Item Library 52; ITT, intent to treat; LSM, least squares mean.

- At each visit, the majority of patients in both arms reported no/low symptomatic adverse events or low severity, interference, and frequency of most symptomatic adverse events, as measured by the maximum PRO-CTCAE postbaseline score
- Patient-reported bother of the side effects, as measured by the FACT-GP5, peaked in the BVd arm at week 13, with 23% reporting being "quite a bit" or "very much" bothered compared with 14% reporting "quite a bit" or "very much" bothered in the DVd arm at both week 16 and 19
  - Additionally, between weeks 31 and 142, ≤12% in the BVd arm and ≤7% in the DVd arm reported being "quite a bit" or "very much" bothered by side effects overall (**Figure 8**)

Conclusions

- In patients with RRMM in the DREAMM-7 trial, patient-reported quality of life, role functioning, physical functioning, fatigue, and pain were stable over time, with no difference between arms
- The frequency of vision-related function problems increased in the initial period of treatment; however, this improved as dosing frequency was reduced, suggesting that eye-related side effects may be manageable with dose and schedule changes
- In patients who experienced a clinically meaningful deterioration in vision-related function, overall quality of life was comparable to that in all patients receiving DVd
- Overall, these results further support the use of BVd as a potential new standard of care in patients with RRMM

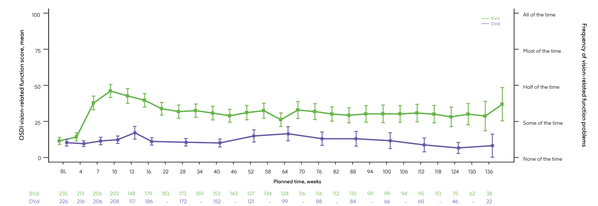
Figure 8. **FACT-GP5 Scores Over Time**[a]



BL, baseline; BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone.
[a] This analysis was performed on the safety analysis set. Data were not interpreted after week 142 as there were ≤25 participants in each arm.

- Higher deterioration in VRF in the BVd arm was initially observed, as demonstrated by the OSDI; however, this and the overall impact of treatment, as demonstrated by the FACT-GP5, were reduced over time (**Figure 9**)
- The mean time between doses of BVd increased over time, starting at 4.35 weeks in months 0-6, then increasing to 4.72 weeks in months 6-12 and then 7.32 weeks from month 12 onward
- The observed correlation between reduced dosing frequency and improved OSDI VRF indicate that VRF impacts can be mitigated by dose modifications
- EORTC QLQ-C30 global health status in patients in the BVd arm with a clinically meaningful deterioration in VRF (change from baseline of ≥12.5 points) was comparable to that of all patients in the DVd arm over time

Figure 9. **Mean OSDI Vision-Related Function Score by Visit**



Interval represents 95% CIs around the mean at each planned time.
BL, baseline; BVd, belantamab mafodotin, bortezomib, and dexamethasone; DVd, daratumumab, bortezomib, and dexamethasone; OSDI, Ocular Surface Disease Index

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Disclosures

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