Belantamab mafodotin monotherapy for relapsed or refractory multiple myeloma: a real-world observational study in the United States

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https://doi.org/10.3324/haematol.2024.285893

Received: May 20, 2024.
Accepted: October 8, 2024.
Early view: October 17, 2024.

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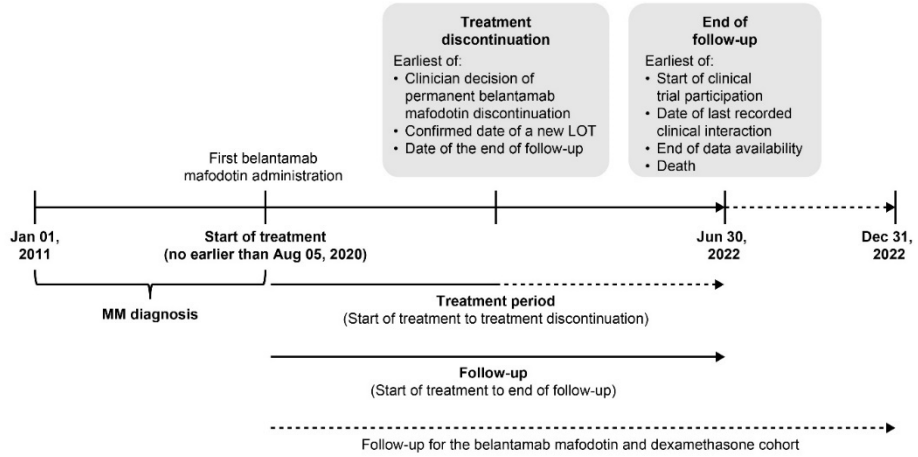
Supplement

Supplemental figures

Figure S1: Study design (A) and patient disposition (B)

A



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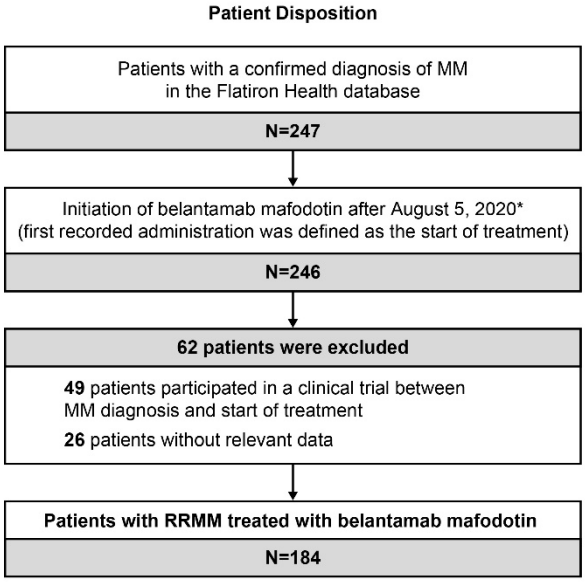

FDA, US Food and Drug Administration; LOT, line of therapy; MM, multiple myeloma; RRMM, relapsed and refractory multiple myeloma.

*Belantamab mafodotin administrations were assessed post belantamab mafodotin FDA approval date of August 5, 2020. One patient with a belantamab mafodotin initiation date of July 19, 2019, was omitted from the analysis.

Table S1: Patient demographics and clinical characteristics

Characteristics	Patients N=184
Time from MM diagnosis to belantamab mafodotin initiation, years, median (IQR) [mean ± SD]	5.1 (3.0, 7.0) [5.2 ± 2.5]
Demographics at start of treatment	
Age years, median [mean ± SD]	69.6 [68.7 ± 10.0]
Female, n (%)	86 (46.7)
Race/ethnicity, n (%)	
White	117 (63.6)
Black or African American	23 (12.5)
Hispanic or Latino	12 (6.5)
Asian/other	32 (17.4)
Practice type, n (%)	
Community	131 (71.2)
Academic	53 (28.8)
MM characteristics at start of treatment, n (%)	
ECOG performance status	
0–2	156 (84.8)
3–4	9 (4.9)
Unknown	19 (10.3)
Cytogenetic risk	154 (83.7)
High risk*	73 (39.7)
Standard risk†	81 (44.0)
Unknown	30 (16.3)
Class status,‡ n (%)	
Triple (immunomodulatory drug, anti-CD38 mAb, PI)	
Exposed	160 (87.0)
Refractory	151 (82.1)
Penta (bortezomib, carfilzomib, lenalidomide, pomalidomide, anti-CD38 mAb)	
Exposed	122 (66.3)
Refractory	58 (31.5)
MM treatment history	
Lines of therapy	
Median (IQR) [mean ± SD]	5.0 (4.0, 7.0) [5.4 ± 2.4]
Drugs and drug classes at MM diagnosis,‡ n (%)	184 (100)
Corticosteroid§	184 (100)
Immunomodulatory drugs	179 (97.3)
Lenalidomide	169 (91.8)
Pomalidomide	166 (90.2)
Thalidomide	22 (12.0)
Proteasome inhibitor	172 (93.5)
Bortezomib	158 (85.9)
Carfilzomib	145 (78.8)
Ixazomib	51 (27.7)
Monoclonal antibody	168 (91.3)

Daratumumab	166 (90.2)
Elotuzumab	55 (29.9)
Isatuximab	19 (10.3)
Chemotherapy	134 (72.8)
Cyclophosphamide	127 (69.0)
Doxorubicin	22 (12.0)
Etoposide	14 (7.6)
Cisplatin	11 (6.0)
Bendamustine	8 (4.3)
Melphalan	4 (2.2)
Targeted inhibitor	51 (27.7)
HDAC inhibitor[¶]	4 (2.2)
Other therapies	
Autologous stem cell transplant	89 (48.4)
Anti-BCMA	0 (0.0)
Pre-existing comorbidities,[#] n (%)	138 (75.0)
Cardiovascular disease	97 (52.7)
Renal disease	71 (38.6)
Cardiac disease	42 (22.8)
Peripheral neuropathy	36 (19.6)
Pulmonary disease	34 (18.5)
Belantamab mafodotin-related eye disease**	26 (14.1)
Diabetes	26 (14.1)
Ophthalmic health	
Patients in dataset with ≥1 BCVA score assessment at the start of treatment, n (%)	22 (12.0)
Patients in dataset with ≥1 BCVA score result between initial MM diagnosis and start of treatment, n (%)	125 (67.9)
BCVA, logMAR, median [mean ± SD]	0.1 [0.1 ± 0.2]
*Corneal diagnosis,** n (%)*	
Other corneal conditions	1 (0.5)
ISS stage, n (%)	
I	42 (22.8)
II	40 (21.7)
III	50 (27.2)
Unknown	52 (28.3)
Extramedullary disease, n (%)	39 (21.2)
Laboratory measurements	
Patients with >1 serum creatinine or creatinine clearance result, n (%)	183 (99.5)
Serum creatinine, mg/dL, median [mean ± SD]	1.0 [1.3 ± 0.9]
Creatinine clearance, mL/min, median [mean ± SD]	67.0 [72.5 ± 37.7]
Year of initial MM diagnosis, n (%)	
2011–2015	75 (40.8)
2016–2021	109 (59.2)
Progression on the last LOT before start of treatment, n (%)	66 (35.9)

anti-CD38 mAb, anti–CD–38 monoclonal antibody; BCMA, B-cell maturation antigen; BCVA, best corrected visual acuity; ECOG, Eastern Cooperative Oncology Group; HDAC, histone deacetylase; ICD-CM, International Classification of Diseases Clinical Modification; IQR, interquartile range; LogMAR, logarithm of the minimal angle of resolution; LOT, line of therapy; MM, multiple myeloma; PI, proteasome inhibitor; SD, standard deviation.

Parameters were assessed between initial MM diagnosis and the first belantamab mafodotin administration (start of treatment), unless otherwise stated. *Defined as presence of del[17p] (16.3%; n=30), t[4;14] (9.2%; n=17), t[14;16] (2.7%; n=5), t[14;20] (n=0), or 1q21 (26.1%; n=48) gains/amplifications identified by FISH or karyotyping; †defined as evidence of genetic testing but no documented presence of high-risk identifiers; ‡patients may have been included in more than one drug class; §corticosteroids included dexamethasone and prednisone; ¶HDAC inhibitors included panobinostat; #comorbidities, evaluated by ICD-10-CM and ICD-9-CM diagnosis codes, in >10% of patients are shown; **evaluated by ICD-10-CM codes H16 (keratitis), H17 (corneal scares and opacities), and H18 (other disorders of the cornea), and ICD-9-CM code 370 (keratitis), 371 (other disorders of the cornea); no keratitis or corneal scars/opacities were reported.

Table S2: Belantamab mafodotin treatment patterns and effectiveness

Belantamab mafodotin treatment patterns	Patients N=184
Treatment period, months, median (IQR) [mean ± SD]	2.0 (1.1, 4.5) [3.4 ± 3.5]
Administration	
First dose, mg/kg, n (%)	
1.9	12 (6.5)
2.5	167 (90.8)
Unknown	5 (2.7)
Administered dose,* mg, median [mean ± SD]	180.4 [189.5 ± 54.2]
Patients with 1 administration, n (%)	43 (23.4)
Patients with 2 administrations, n (%)	48 (26.1)
Cycle length, days, median [mean ± SD]	21.0 [23.1 ± 5.9]
Patients with 3 administrations, n (%)	30 (16.3)
Cycle length, days, median [mean ± SD]	21.0 [26.2 ± 10.7]
Patients with ≥4 administrations, n (%)	63 (34.2)
Cycle length, days, median [mean ± SD]	27.3 [32.6 ± 13.4]
Dose change,* n (%)	42 (22.8)
Time from start of treatment to first dose change, days, median [mean ± SD]	63.0 [77.1 ± 63.3]
Number of administrations prior to first dose change, median [mean ± SD]	2.0 [1.8 ± 1.0]
Patients with a dose increase from 1.9 to 2.5 mg/kg, n (%)	13 (7.1)
Patients with a dose decrease from 2.5 to 1.9 mg/kg, n (%)	41 (22.3)
Patients with a documented reason for dose change, n (%)	11 (6.0)
Reason for dose change, n (%)	
Toxic effect of therapy	6 (3.3)
Unknown	3 (1.6)
Cancer-related symptoms not due to therapy	1 (0.5)
Insufficient response[†]	1 (0.5)
Patient request	1 (0.5)
Treatment interruption/delay,[‡] n (%)	51 (27.7)
Time from start of treatment to first treatment interruption/delay, days, median [mean ± SD]	71.0 [95.4 ± 63.2]
Patients with a documented reason for dose interruption/delay, n (%)	39 (21.2)
Reason for dose interruption/delay, n (%)	
Toxic effect of therapy	33 (17.9)
Unknown	9 (4.9)
Non-cancer related medical issue	8 (4.3)
Cancer-related symptoms not due to therapy	2 (1.1)
Patient request	2 (1.1)
Concomitant medication use, n (%)	
Eye disease medication	118 (64.1)
Pulmonary disease medication	111 (60.3)
Non-belantamab mafodotin MM medication[§]	84 (45.7)
Bone disease medication	49 (26.6)
Cardiovascular medication	38 (20.7)

Diabetes medication	3 (1.6)
Treatment discontinuation, ¶ n (%)	111 (60.3)
Number of administrations prior to discontinuation, median [mean ± SD]	2.0 [3.2 ± 2.4]
Patients with 1 administration, n (%)	26 (14.1)
Patients with 2 administrations, n (%)	32 (17.4)
Patients with 3 administrations, n (%)	22 (12.0)
Patients with 4 administrations, n (%)	6 (3.3)
Patients with ≥5 administrations, n (%)	25 (13.6)
Time from start of treatment to discontinuation, days, median [mean ± SD]	49.0 [83.3 ± 81.4]
Patients with a documented reason for discontinuation, n (%)	104 (56.5)
Reasons for discontinuation, # n (%)	
Progression†	57 (31.0)
Toxic effect of therapy	38 (20.7)
Ocular	28 (15.2)
Other	14 (7.6)
Insufficient response§§	9 (4.9)
Cancer-related symptoms not due to therapy	4 (2.2)
Non-cancer related medical issue	4 (2.2)
Patient request	4 (2.2)
Financial	2 (1.1)
Unknown	13 (7.1)
Effectiveness	
Median rwOS, months	7.9
Median rwPFS, months	4.5
Cumulative OR, %	
1 month	6.7
6 months	25.5
12 months	27.4
Median TTNT from final administration, months	2.2

IQR, interquartile range; LOT, line of therapy; MM, multiple myeloma; OR, overall response; PR, partial response; rwOS, real-world overall survival; rwPFS, real-world progression-free survival; SD, standard deviation; TTNT, time to next treatment.

The treatment period was defined as between the first belantamab mafodotin administration (start of treatment) and the earliest of permanent discontinuation of belantamab mafodotin, the confirmed date of a new LOT, start of participation in a clinical trial, date of last recorded clinical interaction, end of data availability, or death. *Dose information was not available for 11 belantamab mafodotin administrations; †documented evidence of treatment status changes due to new sites of disease, increased diseases, and/or worsening disease burden; ‡defined as a ≥28–<90 day gap between belantamab mafodotin administrations; §included corticosteroids (n=73, 40%), proteasome inhibitors (n=13, 7%), immunomodulatory agents (n=12, 7%), chemotherapy (n=12, 7%), monoclonal antibodies (n=7, 4%), and targeted inhibitors (n=4, 2%); ¶defined as the first documented date of discontinuation (21 days after last belantamab mafodotin administration) or a switch to a new LOT; #reasons were not mutually exclusive and may add up to >100%; §§documented evidence that the treatment status changes due to the patient not having sufficient improvement in disease burden despite treatment.

RwOS was defined as the time from the first belantamab mafodotin administration (start of treatment) to the date of death due

to any cause. RwPFS was defined as the time from the start of treatment to the earliest of first documented disease progression or death. Cumulative OR was defined as percentage of patients with PR or better at a given time-point. Patients who did not experience the event were censored at the end of follow-up. Median time to event was defined as the time point when 50% of patients had the event.