

Selinexor (multiple myeloma, ≥ 1 prior therapy)

Addendum to Project A22-100 (dossier assessment)¹

ADDENDUM

Project: A23-09 Version: 1.0 Status: 24 February 2023

¹ Translation of addendum A23-09 Selinexor (multiples Myelom ≥ 1 Vortherapie) – Addendum zum Projekt A22-100 (Dossierbewertung). Please note: This translation is provided as a service by IQWiG to Englishlanguage readers. However, solely the German original text is absolutely authoritative and legally binding.

Publishing details

Publisher

Institute for Quality and Efficiency in Health Care

Topic

Selinexor (multiple myeloma, ≥ 1 prior therapy) – Addendum to Project A22-100

Commissioning agency

Federal Joint Committee

Commission awarded on

7 February 2023

Internal Project No.

A23-09

Address of publisher

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Addendum A23-09 Version 1.0

Selinexor – Addendum to Project A22-100

24 February 2023

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Keywords

Selinexor, Multiple Myeloma, Benefit Assessment, NCT03110562

Table of contents

baseline

Appendix B

Appendix C

Supplementary presentation on peripheral neuropathies 12

Complete/incomplete resolution of a cataract...... 15

List of tables

Pag	,e
Table 1: Patients with more than 8 cycles of bortezomib – RCT, direct comparison:selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone	3
Table 2: Data on first subsequent antineoplastic therapy (≥ 2 patients in at least one treatment arm) – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone (BOSTON study)	4
Table 3: Subgroups – time to treatment switching in the comparator arm	6
Table 4: Selinexor + bortezomib + dexamethasone – probability and extent of added benefit	9
Table 5: Characteristics of patients with and without stem cell transplant at baseline 1	.1
Table 6: Peripheral neuropathies of any severity grade – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone	.2
Table 7: Data provided by the company on different subpopulations on peripheral neuropathies (Table 1 from subsequently submitted data)	.3
Table 8: Data provided by the company on different subpopulations on peripheral neuropathies (Table 2 from subsequently submitted data)	.4
Fable 9: Cataract – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone	.5

List of abbreviations

Abbreviation	Meaning
AE	adverse event
AESI	adverse event of special interest
CMQ	Customized Medical Dictionary for Regulatory Activities Queries
CSR	clinical study report
G-BA	Gemeinsamer Bundesausschuss (Federal Joint Committee)
IQWiG	Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen (Institute for Quality and Efficiency in Health Care)
RCT	randomized controlled trial
R-ISS	Revised International Staging System
SGB	Sozialgesetzbuch (Social Code Book)

1 Background

On 7 February 2023, the Federal Joint Committee (G-BA) commissioned the Institute for Quality and Efficiency in Health Care (IQWiG) to conduct supplementary assessments on Commission A22-100 (Selinexor – Benefit Assessment according to § 35a Social Code Book V) [1].

The commission comprises the assessment of the additional data submitted by the pharmaceutical company (hereinafter referred to as the "company") in the commenting procedure [2] as well as in the follow-up to the oral hearing, taking into account the information provided in the dossier [3]:

- Information on prior stem cell transplants and subsequent therapies (for total population)
- Proportion of patients treated with bortezomib for more than 8 cycles
- Analyses of crossover in selected (relevant) subgroups
- Analysis of peripheral neuropathies of any severity grade
- Proportion of patients with peripheral neuropathy (grade 3–4), separated according to study arm, who
 - received > 8 cycles of bortezomib in the BOSTON study,
 - received bortezomib retreatment after < 12 months, and/or
 - already had grade 1–2 peripheral neuropathy before.
- Proportion of patients with cataract who had complete or incomplete resolution of cataract.
- Presentation of the subsequent therapies for the total population separately according to study arms.

The responsibility for the present assessment and the assessment result lies exclusively with IQWiG. The assessment is forwarded to the G-BA. The G-BA decides on the added benefit.

Addendum A23-09 Version 1.0

Selinexor - Addendum to Project A22-100

24 February 2023

2 Assessment

The randomized controlled trial (RCT) BOSTON was used for the benefit assessment of selinexor + bortezomib + dexamethasone. A detailed description of the study can be found in dossier assessment A22-100 [1].

In accordance with the commission, the data subsequently submitted by the company in the commenting procedure and after the oral hearing are assessed below. It is not clear from the subsequently submitted documents of the company which data cut-off the data refer to. The company only described that the data on mortality refer to the data cut-off of 15 February 2021, and the analyses of peripheral neuropathy to the safety data cut-off of 5 June 2022. In deviation from this, the benefit assessment used the data on overall survival at the later data cut-off of 22 March 2022.

2.1 Data presented by the company

Proportion of patients with prior stem cell transplant

The benefit assessment of selinexor + bortezomib + dexamethasone assessed the transferability of the BOSTON study to the German health care context as limited due to the low proportion of patients who had previously received a stem cell transplant [1]. In the commenting procedure, the company provided the patient characteristics separately for patients with or without stem cell transplant. The data presented describe the characteristics of the patients at the start of the BOSTON study and are not suitable for assessing potential eligibility for stem cell therapy in an earlier line of therapy (the present research question refers to patients with ≥ 1 prior therapy). The data presented by the company therefore do not allow for a more extensive assessment compared with the dossier (see Appendix A).

Proportion of patients treated with bortezomib for more than 8 cycles

According to the approval, bortezomib should be administered in combination with dexamethasone for a maximum of 8 cycles [4]. In the comparator arm of the BOSTON study, treatment with bortezomib + dexamethasone could be administered for more than 8 cycles. At the time of the benefit assessment, no information was available on the proportion of patients who received more than 8 cycles of bortezomib + dexamethasone. These data were subsequently submitted by the company (see Table 1).

Addendum A23-09 Version 1.0

Selinexor - Addendum to Project A22-100

24 February 2023

Table 1: Patients with more than 8 cycles of bortezomib – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone

Study	Selinexor + bortezomib + dexamethasone	Bortezomib + dexamethasone		
	N = 195	N = 207		
BOSTON				
Patients with more than 8 cycles of bortezomib, n (%)	77 (39)	135 (65) ^a		
a. The proportion also includes patients with treatment switching to a selinexor-containing therapy. The proportion of patients who received the combination of bortezomib + dexamethasone for more than 8 cycles and did not switch to selinexor-containing therapy is 34%.				
N: number of randomized patients; RCT: randomized co	ntrolled trial			

The proportion of patients treated with more than 8 cycles was higher in the comparator arm than in the intervention arm. However, these data also include those patients from the comparator arm who switched to bortezomib-containing therapy in the intervention arm (approximately 31% at the data cut-off of 15 February 2021). This means that not only did notably more patients in the comparator arm receive a longer-lasting bortezomib-containing therapy, but almost 1 third of the patients received bortezomib again as subsequent therapy in the context of treatment switching (see also the section on subsequent therapies).

Data subsequently submitted with reference to the interpretability of the results on overall survival

Subsequent therapies for the total population separately according to study arms

At the time of the benefit assessment, no information was available on subsequent antineoplastic therapies. In addition to the high proportion of patients who switched from the comparator arm to the intervention arm in the sense of treatment switching, the missing data on subsequent therapies led to uncertainties in the interpretability of the results on overall survival [1]. The company subsequently submitted the data on subsequent therapies for both treatment arms after the oral hearing (see Table 2). However, it is not clear from the data which data cut-off the data subsequently submitted refer to. It is assumed that the data on subsequent therapies, like the mortality data, refer to the data cut-off of 15 February 2021.

Table 2: Data on first subsequent antineoplastic therapy (≥ 2 patients in at least one treatment arm) – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone (BOSTON study)

Study	Patients with subsequent therapy n (%) ^a			
Regimen	Selinexor + bortezomib + dexamethasone N = 195	Bortezomib + dexamethasone N = 207		
BOSTON				
Total	87 (44.6)	129 (62.3)		
Selinexor + bortezomib + dexamethasone	NA	64 (30.9) ^b		
Selinexor + dexamethasone	NA	13 (6.3)		
Bendamustine	2 (1.0)	0 (0)		
Cyclophosphamide + dexamethasone	2 (1.0)	1 (< 1.0)		
Chemotherapy	6 (2.9)	0 (0)		
Daratumumab (monotherapy)	2 (1.0)	2 (1.0)		
Daratumumab + pomalidomide + dexamethasone	2 (1.0)	2 (1.0)		
Daratumumab + lenalidomide + dexamethasone	8 (4.1)	6 (2.9)		
Daratumumab + bortezomib + dexamethasone	2 (1.0)	2 (1.0)		
Ixazomib + lenalidomide + dexamethasone	3 (1.5)	1 (< 1.0)		
Carfilzomib + dexamethasone	4 (2.1)	1 (< 1.0)		
Carfilzomib + lenalidomide + dexamethasone	3 (1.5)	2 (1.0)		
Pomalidomide + dexamethasone	8 (4.1)	5 (2.4)		
Lenalidomide	3 (1.5)	4 (1.9)		
Radiotherapy	3 (1.5)	0 (0)		
Lenalidomide + cyclophosphamide + dexamethasone	2 (1.0)	1 (< 1.0)		
Lenalidomide + dexamethasone	16 (8.2)	12 (5.8)		
Thalidomide + cyclophosphamide + dexamethasone	2 (2.3)	1 (< 1.0)		
Bortezomib + cyclophosphamide + dexamethasone	2 (1.0)	0 (0)		
Bortezomib + dexamethasone	2 (1.0)	0 (0)		
Bortezomib + lenalidomide + dexamethasone	2 (1.0)	2 (1.0)		

a. Institute's calculation of the percentages related to the randomized patients.

In the comparator arm, the majority of patients received selinexor-containing therapy (selinexor + bortezomib + dexamethasone) as the first subsequent therapy due to the high

b. The data provided by the company on the first subsequent therapy were supplemented by the treatment switching from the comparator arm to selinexor-containing therapy. This information refers to the data cut-off of 15 February 2021. At the data cut-off of 22 March 2022, 66 (31.9%) patients had switched to selinexor + bortezomib + dexamethasone, and 14 (6.8%) had switched to selinexor + bortezomib.

n: number of patients with subsequent therapy; N: number of randomized patients; NA: not applicable; RCT: randomized controlled trial

Selinexor - Addendum to Project A22-100

24 February 2023

proportion of treatment switching. In addition, the dual combination of lenalidomide and dexamethasone was the most frequently used first subsequent therapy in both arms. The used treatment regimens mainly corresponded to approved treatment options in recurrence therapy [5].

However, the benefit of switching to a new bortezomib-containing therapy as a direct subsequent therapy after progression under bortezomib is questionable, especially against the background of other available treatment options. This was already discussed in the oral hearing [6].

The uncertainties in the interpretability of the results on overall survival addressed in the benefit assessment are not eliminated by the data on the subsequent therapies subsequently submitted by the company. Rather, the interpretation in the present situation is complicated by the fact that, in connection with the switch to the therapy of the intervention arm, a high proportion of patients in the comparator arm received a bortezomib-containing therapy again after a bortezomib-containing therapy and thus potentially a therapy component that was no longer effective and possibly associated with adverse events. In the intervention arm, in contrast, treatments that did not contain bortezomib were mainly used as subsequent therapy.

Treatment change in selected (relevant) subgroups

In the company's dossier, information on the proportion of patients with treatment switching (from the comparator arm to treatment with selinexor) was only available on the basis of the total population, but not for the subgroups. Information on the time point of treatment switching was also not available. The relevant subgroup characteristics presented in the benefit assessment were sex (men/women), age (< 65/≥ 65 years) and Revised International Staging System (R-ISS) stage (stage I and stage II/stage III) [1]. For the subgroup characteristic of age, there was a statistically significant effect modification in overall survival. The benefit assessment rated the results of overall survival on the basis of the total population as not being interpretable with certainty. At the time point of the benefit assessment, it was not possible on the basis of the data available in the dossier to determine whether an effect modification by the characteristic of age could explain existing uncertainties in the interpretability of the data on overall survival, for example the crossing Kaplan-Meier curves.

In the commenting procedure, the company submitted data on the proportion of patients with treatment switching and the median time to treatment switching for various subgroup characteristics. Table 3 shows the data for the total population as well as for the relevant subgroup characteristics of sex, age and R-ISS stage.

Selinexor – Addendum to Project A22-100

24 February 2023

Table 3: Subgroups – time to treatment switching in the comparator arm

Study Outcome Characteristic		eatment switching to nexor + bortezomib+ dexamethasone	Tre	Treatment switching to selinexor + dexamethasone		al treatment switching
Subgroup	N	Median time to treatment switching in months [minimum; maximum]	N	Median time to treatment switching in months [minimum; maximum]	N	Median time to treatment switching in months [minimum; maximum]
		Patients with treatment switching n (%)		Patients with treatment switching n (%)		Patients with treatment switching n (%)
BOSTON						
Total	204	7.2 [1.0; 28.9] 64 (31.4)	204	9.9 [3.5; 27.9] 13 (6.4)	204	7.2 [1.0; 28.9] 77 (37.8)
Sex						
Female	91	7.0 [1.7; 28.9] 28 (30.8)	91	12.09 [5.3; 27.9] 5 (5.5)	91	7.1 [1.7; 28.9] 33 (36.3)
Male	113	7.3 [1.0; 18.0] 36 (31.9)	113	8.20 [3.5; 24.0] 8 (7.1)	113	7.33 [1.0; 24.0] 44 (38.9)
Age						
< 65 years	75	8.2 [1.0; 28.9] 30 (40.0)	75	8.2 [5.3; 17.1] 8 (10.7)	75	8.20 [1.0; 28.9] 38 (50.7)
≥ 65 years	129	5.5 [1.4; 18.0] 34 (26.4)	129	18.9 [3.5; 27.9] 5 (3.9)	129	6.47 [1.4; 27.9] 39 (30.2)
R-ISS						
l or II	174	6.9 [1.0; 18.0] 57 (32.8)	174	8.2 [3.5; 27.9] 12 (6.9)	174	6.9 [1.0; 27.9] 69 (39.7)
III	16	6.6 [4.9; 8.5] 4 (25.0)	16	_ 0	16	6.6 [4.9; 8.5] 4 (25.0)
Unknown	14	15.7 [11.7; 28.9] 3 (21.4)	14	24.0 [–] 1 (7.1)	14	19.8 [11.7; 28.9] 4 (28.6)

CI: confidence interval; HR: hazard ratio; n: number of patients with event; N: number of analysed patients; RCT: randomized controlled trial; R-ISS: Revised International Staging System

The data subsequently submitted show that patients in the total population as well as in the subgroups switched from the comparator arm to the intervention arm already at an early time point. The proportion of patients < 65 years of age who switched to a selinexor-containing therapy is approximately 20 percentage points higher than in the age group of \geq 65 years. Overall, however, the proportion of patients who switched treatment was high in both age groups and the treatment switching took place at a very early point in time, so that the subgroup results are still not interpretable, especially due to the early treatment switching.

Summary of the interpretability of overall survival on the basis of the subsequently submitted data

Also on the basis of the subsequently submitted data, there are still uncertainties in the interpretability of the results on overall survival, both for the total population and for effect modification by the characteristic of age. As stated in the dossier assessment, an effect modification by the characteristic of age might have explained any existing uncertainties in the interpretability of the results on overall survival.

Due to the additional information now available on the already very early treatment switching (median of 7.2 months) from the comparator arm to selinexor-containing treatment, the results on overall survival are still assessed as not interpretable at the level of the total population. For the subgroups, it cannot be ruled out with certainty that the effects by the characteristic of age in the present situation are mainly due to the high proportion of patients with treatment switching. The results of the subgroup analyses are therefore also still assessed as not interpretable.

In addition to the early treatment switching from the comparator arm to a selinexorcontaining treatment, switching to another bortezomib-containing treatment as a direct subsequent therapy after progression is also viewed critically. As already described, it is questionable whether patients benefit from bortezomib treatment immediately following a progression under bortezomib.

In summary, the subsequently submitted data cannot resolve the existing uncertainties in the interpretability of the results on overall survival.

Analyses on peripheral neuropathies

The benefit assessment described that the results for the adverse event (AE) of peripheral neuropathies (severe AEs) were not interpretable due to incomprehensible discrepancies in event rates between the dossier [3] and the clinical study report (CSR) [7]. The company described in its comments that these discrepancies were due to different operationalizations of the AEs in the CSR and in the dossier. According to the company, the CSR operationalized peripheral neuropathies by a Synonym Recoded Preferred Term, whereas the dossier contained a coding using Dictionary-Derived Terms. The company provided neither a sufficient description of the 2 different methods nor an adequate explanation of why it deviated from the operationalization according to the study documents and decided on a different classification post hoc. Furthermore, it was not possible to compare the event rates in the dossier at the safety data cut-off of 5 June 2022 with data from the CSR because the CSR contained only results of the outcome category of side effects at the data cut-off of 15 February 2021. Irrespective of the aspect of operationalization, the 2 tables provided by the company without further explanation on different so-called subpopulations (proportion of

patients with peripheral neuropathies (grade 3–4) separated by study arm who received > 8 cycles of bortezomib in the BOSTON study, received bortezomib retreatment after < 12 months and/or already had grade 1–2 peripheral neuropathies) are incomprehensible. While the company stated that it presented different subpopulations, it did not provide information on the size of these subpopulations, nor is it possible to recognize the reasons for the differences between the 2 tables. Without further explanation, the results presented in the tables are incomprehensible. The subsequently submitted data on peripheral neuropathies of any severity grade, as well as the tables provided by the company on the subpopulations, are presented as supplementary information in Appendix B.

Proportion of patients with cataract who had complete or incomplete resolution of cataract

The AE of cataract (Preferred Term, severe AEs) was presented as a specific AE in the benefit assessment. Following the oral hearing, the company subsequently submitted information on the proportion of patients with complete/incomplete resolution of cataract.

The company did not provide any information on the operationalization or data cut-off of the data presented. It is assumed that these are the event rates of any severity grade at the final safety data cut-off of 5 June 2022. In the data subsequently submitted, 48 patients in the intervention arm had a cataract event, compared with 16 patients in the comparator arm. These event rates differ from those in the dossier at the data cut-off of 5 June 2022 for common AEs of any severity grade (43 versus 14). In addition, Module 4 contains the figures 46 versus 16 for the adverse event of special interest (AESI) operationalized as Customized Medical Dictionary for Regulatory Activities Queries (CMQ). It is not clear from the submitted documents of the company what caused these differences. The analyses presented are shown in Appendix C. Overall, as described in the dossier assessment, there is a hint of greater harm from selinexor for the operationalization of severe cataracts.

2.2 Summary

The data subsequently submitted by the company in the commenting procedure do not change the conclusion drawn in dossier assessment A22-100 on the added benefit of selinexor + bortezomib + dexamethasone.

The following Table 4 shows the result of the benefit assessment of selinexor + bortezomib + dexamethasone under consideration of dossier assessment A22-100 and the present addendum.

Table 4: Selinexor + bortezomib + dexamethasone – probability and extent of added benefit

Therapeutic indication	ACT ^a	Probability and extent of added benefit
Adult patients with multiple myeloma who have received at least one previous treatment ^{b, c}	 Bortezomib in combination with pegylated liposomal doxorubicin bortezomib in combination with dexamethasone lenalidomide in combination with dexamethasone elotuzumab in combination with lenalidomide and dexamethasone carfilzomib in combination with lenalidomide and dexamethasone carfilzomib in combination with lenalidomide and dexamethasone daratumumab in combination with lenalidomide and dexamethasone or daratumumab in combination with lenalidomide and dexamethasone or 	Added benefit not proven
	 daratumumab in combination with bortezomib and dexamethasone 	

a. Presented is the ACT specified by the G-BA. In cases where the ACT specified by the G-BA allows the company to choose a comparator therapy from several options, the respective choice of the company is printed in bold.

ACT: appropriate comparator therapy; G-BA: Federal Joint Committee

The G-BA decides on the added benefit.

b. It is assumed that high-dose chemotherapy with stem cell transplantation is not an option for the patients at the time point of their current treatment.

c. It is assumed that the special situation of refractory patients is taken into account when choosing the ACT.

3 References

- 1. Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen. Selinexor (multiples Myelom ≥ 1 Vortherapie) Nutzenbewertung gemäß § 35a SGB V; Dossierbewertung [online]. 2022 [Accessed: 15.02.2023]. URL: https://www.iqwig.de/download/a22-100_selinexor_nutzenbewertung-35a-sgb-v_v1-0.pdf.
- 2. Stemline Therapeutics. Stellungnahme zum IQWiG-Bericht Nr. 1480. Selinexor (multiples Myelom ≥ 1 Vortherapie) Nutzenbewertung gemäß § 35a SGB V; Dossierbewertung. [Soon available under: https://www.g-ba.de/bewertungsverfahren/nutzenbewertung/886/#beschluesse in the document "Zusammenfassende Dokumentation"].
- 3. Stemline Therapeutics. Selinexor (Nexpovio); Dossier zur Nutzenbewertung gemäß § 35a SGB V [online]. 2022 [Accessed: 12.01.2023]. URL: https://www.g-ba.de/bewertungsverfahren/nutzenbewertung/886/#dossier.
- 4. Medac. Bortezomib medac 3,5 mg Pulver zur Herstellung einer Injektionslösung [online]. 2021 [Accessed: 15.02.2023]. URL: https://www.fachinfo.de/suche/fi/022999.
- 5. Leitlinienprogramm Onkologie. S3-Leitlinie Diagnostik, Therapie und Nachsorge für Patienten mit monoklonaler Gammopathie unklarer Signifikanz (MGUS) oder Multiplem Myelom [online]. 2022 [Accessed: 15.02.2023]. URL: https://www.leitlinienprogramm-onkologie.de/fileadmin/user-upload/Downloads/Leitlinien/Multiples-Myelom/LL Multiples-Myelom Langversion 1.0.pdf.
- 6. Gemeinsamer Bundesausschuss. Mündliche Anhörung gemäß § 35a Absatz 3 Satz 2 SGB V; hier: Wirkstoff Selinexor (D-863 + D-864) [online]. 2023 [Accessed: 15.02.2023]. URL: https://www.g-ba.de/downloads/91-1031-886/2023 02 06 Wortprotokoll Selinexor D-863.pdf.
- 7. Karyopharm Therapeutics. A Phase 3 randomized, controlled, open-label study of Selinexor, Bortezomib, and Dexamethasone (SVd) versus Bortezomib and Dexamethasone (Vd) in patients with relapsed or refractory multiple myeloma (RRMM); Clinical Study Report KCP-330-023 [unpublished]. 2021.
- 8. Martín Andrés A, Silva Mato A. Choosing the optimal unconditioned test for comparing two independent proportions. Computat Stat Data Anal 1994; 17(5): 555-574. https://dx.doi.org/10.1016/0167-9473(94)90148-1.

Appendix A Characteristics of patients with and without stem cell transplant at baseline

Table 5: Characteristics of patients with and without stem cell transplant at baseline

Study	No prior stem	Prior stem cell	Total
Characteristic	cell transplant	transplant	(2) (20)
Category	(N = 263)	(N = 139)	(N = 402)
BOSTON			
Age [years], mean (SD)	68 (10)	62 (8)	66 (9)
Sex [F/M], %	45/55	38/62	43/57
ECOG PS, n (%)			
0	79 (30)	67 (48)	146 (36)
1	151 (57)	69 (50)	220 (55)
2	33 (13)	3 (2)	36 (9)
R-ISS stage, n (%)			
1	109 (41)	90 (65)	199 (50)
II	101 (38)	38 (27)	139 (35)
III	53 (20)	11 (8)	64 (16)
Chromosomal abnormalities, n (%)			
High risk	124 (47)	68 (49)	192 (48)
Standard risk	139 (53)	71 (51)	210 (52)
Frailty, n (%)			
Frail	114 (43)	16 (12)	130 (32)
No frail	149 (57)	123 (88)	272 (68)
Prior therapies, n (%)			
1	136 (52)	62 (45)	198 (49)
2	73 (28)	56 (40)	129 (32)
3	54 (21)	21 (15)	75 (19)
Type of prior therapy, n (%)			
Prior PI	191 (73)	116 (84)	307 (76)
Prior bortezomib	171 (65)	108 (78)	279 (69)
Prior lenalidomide	89 (34)	65 (47)	154 (38)
Lenalidomide refractory	63 (24)	43 (31)	106 (26)

ECOG PS: Eastern Cooperative Oncology Group Performance Status; F: female; M: male; n: number of patients in the category; N: number of randomized patients; PI: proteasome inhibitor; RCT: randomized controlled trial; R-ISS: Revised International Staging System; SD: standard deviation

Appendix B Supplementary presentation on peripheral neuropathies

Table 6: Peripheral neuropathies of any severity grade – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone

Study Characteristic Category	Selinexor + bortezomib + dexamethasone N = 195	Bortezomib + dexamethasone N = 204	Selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone
		vith event (%)	RR [95% CI]; p-value ^a
BOSTON			
Synonym Recoded Preferred Term			
Neuropathy peripheral	66 (33.8)	99 (48.5)	0.70 [0.55; 0.89]; 0.003
Dictionary-Derived Term			
Neuropathy peripheral	38 (19.5)	61 (29.9)	0.65 [0.46; 0.9]; 0.017
Peripheral motor neuropathy	1 (0.5)	0 (0)	3.14 [0.13; 76.59]; 0.367
Peripheral sensorimotor neuropathy	0 (0)	1 (0.5)	0.35 [0.01; 8.51]; 0.515
Peripheral sensory neuropathy	19 (9.7)	26 (12.7)	0.76 [0.44; 1.34]; 0.530
Polyneuropathy	12 (6.2)	14 (6.9)	0.90 [0.43; 1.89]; 0.815
Toxic neuropathy	0 (0)	1 (0.5)	0.35 [0.01; 8.51]; 0.515

a. Institute's calculation, effect estimate RR and 95% CI asymptotic; p-value unconditional exact test, (CSZ method according to [8]).

CI: confidence interval; CSZ: convexity, symmetry, z-score; n: number of patients in the category; N: number of analysed patients; RCT: randomized controlled trial; RR: relative risk

Table 7: Data provided by the company on different subpopulations on peripheral neuropathies (Table 1 from subsequently submitted data)

Table: Number and proportion of patients with peripheral neuropathy (grade 3-4) in subpopulations; bortezomib retreatment is operationalized as prior bortezomib therapy < 12 months (prior bortezomib therapy with less than 365 days to study start)

		SVd (N = 195)		VD (N = 204)	
Peripheral neuropathy (PN), (grade 3-4)		n	%	n	%
	Grade 3-4	9	100	18	100
	Thereof > 8 cycles of bortezomib received	4	44.4	10	55.6
PN Synonym Recoded	Thereof prior bortezomib therapy < 12 months	0	0	1	5.6
Preferred Term (corresponding	Thereof PN grade 1-2 at baseline	1	11.1	2	11.1
to CSR presentation)	Thereof > 8 cycles of bortezomib received OR prior bortezomib therapy < 12 months OR PN grade 1-2 at baseline	4	44.4	11	61.1
	Grade 3-4	6	100	13	100
	Thereof > 8 cycles of bortezomib received	3	50	7	53.8
PN Dictionary- Derived Term (corresponding to dossier presentation)	Thereof prior bortezomib therapy < 12 months	0	0	1	7.7
	Thereof PN grade 1-2 at baseline	0	0	1	7.7
	Thereof > 8 cycles of bortezomib received OR prior bortezomib therapy < 12 months OR PN grade 1-2 at baseline	3	50	7	53.8

Table 8: Data provided by the company on different subpopulations on peripheral neuropathies (Table 2 from subsequently submitted data)

Table: Number and proportion of patients with peripheral neuropathy (grade 3-4) in subpopulations; bortezomib retreatment is operationalized as subsequent bortezomib therapy, without consideration of crossover; previous PN grade 1-2 are PN that started at least 1 day before PN grade 3-4

Section 11 (grade)		SVd (N	I = 195)	VD (N = 204)	
Peripheral neuropathy (PN), (grade 3-4)		n	%	n	%
	Grade 3-4	9	100	18	100
	Thereof > 8 cycles of bortezomib received	4	44.4	10	55.6
PN Synonym Recoded	Thereof bortezomib retreatment after < 12 months	0	0	0	0
Preferred Term (corresponding	Thereof PN grade 1-2	8	88.9	14	77.8
to CSR presentation)	Thereof > 8 cycles of bortezomib received OR bortezomib treatment after < 12 months OR previous PN grade 1-2	8	88.9	15	83.3
	Grade 3-4	6	100	13	100
	Thereof > 8 cycles of bortezomib received	3	50	7	53.8
PN Dictionary- Derived Term (corresponding to dossier presentation)	Thereof bortezomib retreatment after < 12 months	0	0	0	0
	Thereof PN grade 1-2	6	100	9	69.2
	Thereof > 8 cycles of bortezomib received OR bortezomib treatment after < 12 months OR previous PN grade 1-2	6	100	10	76.9

Appendix C Complete/incomplete resolution of a cataract

Table 9: Cataract – RCT, direct comparison: selinexor + bortezomib + dexamethasone vs. bortezomib + dexamethasone

Study		Patients with event n (%)		
	Selinexor + bortezomib + dexamethasone	Bortezomib + dexamethasone		
	N = 195	N = 204		
BOSTON				
Total	48 (100)	16 (100)		
Complete resolution	33 (68.8)	10 (62.5)		
Incomplete resolution	15 (31.3)	6 (37.5)		
n: number of patients in the category; N: number of analysed patients; RCT: randomized controlled trial				