

Online Supplementary Material

Central Nervous System–related Conditions and Associated Healthcare Resource Use Among Japanese nmCRPC Patients Based on Retrospective Claims Data. *JHEOR*. 2023;10(2):91-99. [doi:10.36469/jheor.2023.87550](https://doi.org/10.36469/jheor.2023.87550)

Figure S1: Number of Patients with CNS-related Conditions (a) 1 Year Before and After CRPC Diagnosis, and (b) 1 Year Before and After First Anti-androgen Treatment

Figure S2: Kaplan-Meier Curve of Metastatic Events for All Patients

Table S1: Demographic Characteristics of nmCRPC Patients With Seizure (n = 10)

Table S2: Period Prevalence of Concomitant CNS-related Conditions 1 Year Before and After First AA Treatment

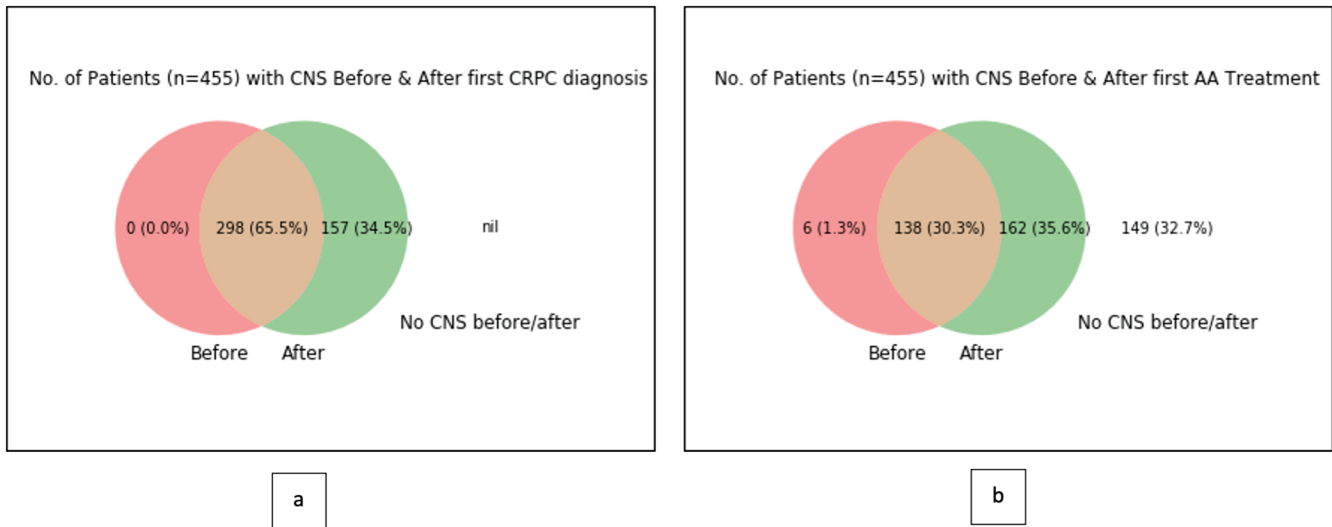
Table S3: Demographic Characteristics of nmCRPC Patients With Seizure (n = 10)

Table S4: Risk Factors for Concomitant CNS Disease Occurrence During CRPC Treatment in the Cohort

This supplementary material has been provided by the authors to give readers additional information about their work.



Figure S1. Patients with CNS-related Conditions (a) 1 Year Before and After CRPC Diagnosis, and (b) 1 Year Before and After First AA Treatment



Abbreviations: AA, anti-androgen; CNS, central nervous system; CRPC, castration-resistant prostate cancer.

Figure S2. Kaplan-Meier Curve of Metastatic Events for All Patients

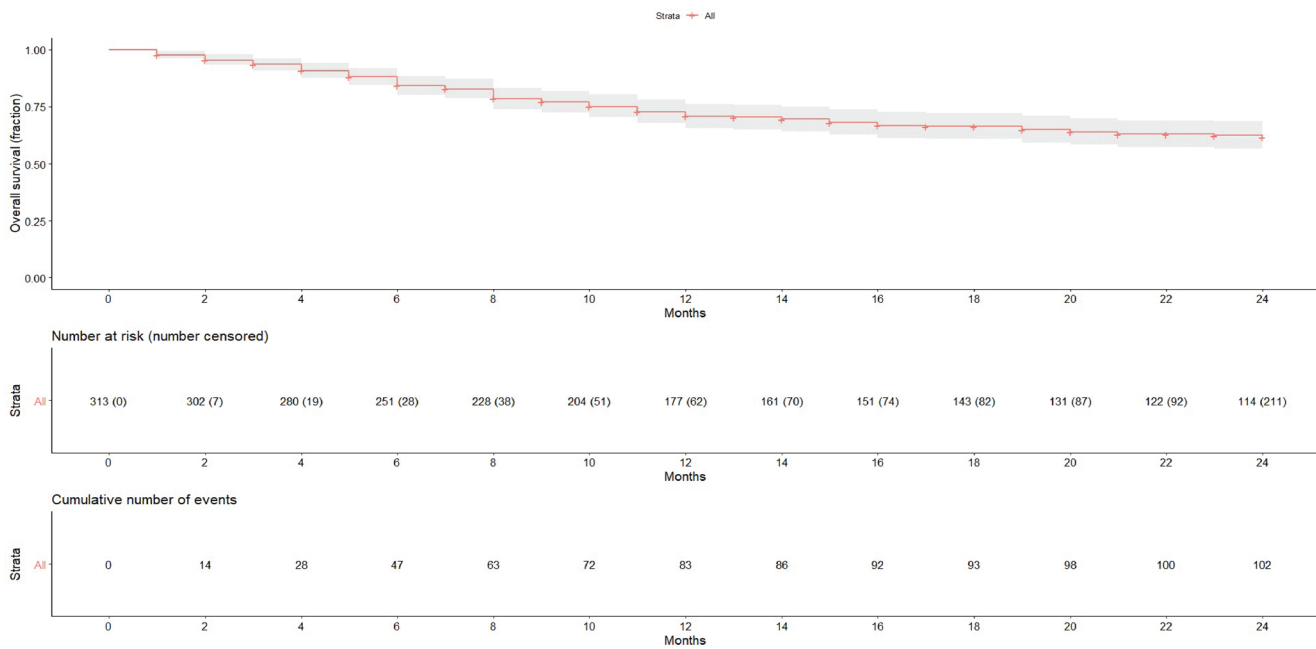


Table S1. Period Prevalence of Concomitant CNS-related Conditions 1 Year Before and After CRPC Diagnosis, and 1 Year Before and After First AA Treatment in the Cohort

Variable	1 Year Before CRPC Diagnosis		1 Year After CRPC Diagnosis		1 Year Before AA Treatment		1 Year After AA Treatment	
	No. of Events	%	No. of Events	%	No. of Events	%	No. of Events	%
Total	2792	100	4822	100	969	100	2802	100
Amnesia or memory impairment	11	0.40	7	0.10	11	1.10	11	0.40
Anxiety	62	2.20	90	1.90	27	2.80	41	1.50
Ataxia	0	0.00	2	0.00	2	0.20	0	0.00
Cognitive disorders	16	0.60	32	0.70	4	0.40	20	0.70
Confusion	0	0.00	0	0.00	0	0.00	0	0.00
Convulsions	0	0.00	0	0.00	0	0.00	0	0.00
Disturbance in attention	0	0.00	0	0.00	0	0.00	0	0.00
Dizziness	67	2.40	83	1.70	13	1.30	57	2.00
Falls	0	0.00	0	0.00	0	0.00	0	0.00
Fatigue asthenia	17	0.60	36	0.70	9	0.90	27	1.00
Hallucinations	0	0.00	0	0.00	0	0.00	0	0.00
Headaches	87	3.10	137	2.80	31	3.20	55	2.00
Insomnia	839	30.10	1166	24.20	312	32.20	787	28.10
Pain	1619	58.00	3167	65.70	543	56.00	1749	62.40
Paresthesia	2	0.10	8	-0.20	3	0.30	4	0.10
Seizures	69	2.50	89	1.80	14	1.40	50	1.80
Weakness	3	0.10	5	-0.10	0	0.00	1	0.00

Abbreviations: AA, anti-androgen; CRPC, castration-resistant prostate cancer.

Table S2. Period Prevalence of Concomitant CNS-related Conditions 1 Year Before and 1 Year After First AA Treatment

Variable	1 Year Before AA Treatment		1 Year After AA Treatment	
	No. (%) of Patients	No. (%) of Events	No. (%) of Patients	No. (%) of Events
Total	144 (100)	969 (100)	297 (100)	2802 (100)
Amnesia or memory impairment	2 (1.4)	11 (1.1)	2 (0.7)	11 (0.4)
Anxiety	4 (2.8)	27 (2.8)	6 (2.0)	41 (1.5)
Ataxia	1 (0.7)	2 (0.2)	0 (0.0)	0 (0.0)
Cognitive disorders	1 (0.7)	4 (0.4)	5 (1.7)	20 (0.7)
Confusion	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Convulsions	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Disturbance in attention	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Dizziness	3 (2.1)	13 (1.3)	11 (3.7)	57 (2.0)
Falls	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Fatigue/asthenia	1 (0.7)	9 (0.9)	5 (1.7)	27 (1.0)
Hallucinations	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Headaches	7 (4.9)	31 (3.2)	13 (4.4)	55 (2.0)
Insomnia	52 (36.1)	312 (32.2)	111 (37.4)	787 (28.1)
Pain	102 (70.8)	543 (56.0)	223 (75.1)	1749 (62.4)
Paraesthesia	2 (1.4)	3 (0.3)	3 (1.0)	4 (0.1)
Seizures	4 (2.8)	14 (1.4)	10 (3.4)	50 (1.8)
Weakness	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.0)

Abbreviation: AA, anti-androgen; CNS, central nervous system.

Table S3. Demographic Characteristics of nmCRPC Patients With Seizure (n = 10)

Variable	Seizure-Diagnosed Patients: Both Periods			Newly Diagnosed Seizure Patients After First AA Treatment			Seizure-Diagnosed Patients (All)			Overall Population		
	At CRPC Diagnosis (n = 4)	At 1-Year Endpoint (n = 4)	At 2-Year Endpoint (n = 1)	At CRPC Diagnosis (n = 6)	At 1-Year Endpoint (n = 6)	At 2-Year Endpoint (n = 3)	At CRPC Diagnosis (n = 10)	At 1-Year Endpoint (n = 10)	At 2-Year Endpoint (n = 4)	At CRPC Diagnosis (n = 455)	At 1-Year Endpoint (n = 455)	At 2-Year Endpoint (n = 313)
Age (y)												
No. of patients with data	4	4	1	6	6	3	10	10	4	455	455	313
Mean (SD)	79.5 (7)	80.5 (7)	84 (NA)	82 (5.1)	82.5 (5)	80.3 (5.1)	81 (5.7)	81.7 (5.6)	81.2 (4.6)	78.4 (7.6)	79.3 (7.6)	79.5 (7.6)
Median (IQR)	82.5 (78.75-83.25)	83.5 (79.75-84.25)	84 (84-84)	82.5 (79.75-84.5)	83 (79.75-85.5)	79 (77.5-82.5)	82.5 (79.75-83.75)	83.5 (79.75-84.75)	81.5 (78.25-84.5)	79 (73-84)	80 (74-85)	80 (75-85)
Range	69-84	70-85	84-84	74-89	75-89	76-86	69-89	70-89	76-86	54-98	55-99	55-98
Charlson Comorbidity Index score												
Mean (SD)	2.6 (2.6)	2.8 (2.8)	6 (NA)	1.5 (1.5)	1.9 (1.9)	2 (2)	1.9 (1.9)	2.1 (2.1)	2.2 (2.2)	1.8 (1.8)	1.9 (1.9)	2 (2)
Median (IQR)	3 (1.5-4.5)	3.5 (1.5-5.25)	6 (6-6)	2 (2-3.5)	3.5 (2.25-4.75)	3 (2-4)	2 (2-4)	3.5 (2-5)	4 (2.5-5.25)	1 (0-3)	2 (1-4)	2 (1-4)
Range	0-6	0-6	6-6	1-5	1-6	1-5	0-6	0-6	1-6	0-9	0-9	0-9

Abbreviations: CRPC, castration-resistant prostate cancer; IQR, interquartile range; nmCRPC, nonmetastatic castration-resistant prostate cancer.

Table S4. Risk Factors for Concomitant CNS Disease Occurrence During CRPC Treatment in the Cohort

Variable	Pain: Pseudo R ² = 0.554			Insomnia: Pseudo R ² = 0.715			Headache: Pseudo R ² = 0.204		
	OR	95% CI	p Value	OR	95% CI	p Value	OR	95% CI	p Value
Comorbidity									
Myocardial infarction	4.32	0.883, 23.23	.077	1.42	0.211, 7.916	.7016	0.11	0, 6.387	.4814
Congestive heart failure	0.374	0.126, 1.084	.0708	1.1	0.318, 3.407	.8753	0.727	0.077, 4.124	.7459
Peripheral vascular disease	1.62	0.442, 6.273	.4721	0.179	0.023, 1.094	.0806	2.68	0.294, 18.25	.3363
Cerebrovascular disease	1.24	0.504, 3.207	.642	0.359	0.084, 1.231	.1285	1.04	0.188, 4.205	.9636
Dementia	217	2.834, 336725	.0957	34.8	3.127, 621.563	.0061	0.133	0, 5.575	.4042
Chronic pulmonary disease	0.678	0.284, 1.646	.3827	1.38	0.504, 3.584	.5174	0.744	0.126, 3.154	.712
Connective tissue disease	0.231	0.037, 1.424	.1048	1.25	0.107, 10.369	.8462	4.95	0.237, 42.439	.1951
Peptic ulcer disease	0.601	0.283, 1.275	.1816	1.72	0.765, 3.769	.1782	2.72	0.816, 8.583	.0905
Mild liver disease	1.49	0.729, 3.151	.2838	0.772	0.332, 1.687	.5297	1.54	0.47, 4.565	.4517
Diabetes without end-organ damage	0.452	0.169, 1.227	.1142	0.659	0.183, 2.03	.4926	1.46	0.284, 5.947	.618
Diabetes with end-organ damage	1.11	0.207, 6.271	.9004	5.14	0.78, 28.058	.0676	0.311	0.005, 5.028	.4951
Hemiplegia	161000	0, NA	.9928	2.59E-06	NA, 1.469e+69	.9924	5.61E-07	NA, 1.050e+94	.9969
Moderate or severe renal disease	1.4	0.423, 4.819	.5862	3.74	0.953, 14.025	.0515	2.17	0.266, 11.669	.4083
Any malignancy except basal cell cancer of skin	0.888	0.416, 1.932	.7613	1.41	0.587, 3.254	.425	1.17	0.31, 3.817	.8006
Moderate liver disease	0.377	0.014, 18.328	.5806	0.889	0.004, 62.948	.9694	2.96E-07	NA, 2.968e+75	.996
Metastatic solid tumor	0.465	0.176, 1.232	.1208	1.47	0.518, 3.846	.4431	0.501	0.041, 2.739	.4972
Age (y)	0.967	0.926, 1.009	.1268	1.02	0.977, 1.073	.3266	1	0.935, 1.077	.9446
Prior CNS events (Y/N)									
Anemia or memory impairment	4E-09	NA, 1.285e+69	.9902	0.00555	0, 22.407	.6301	65.8	0.499, 53675.426	.1238
Anxiety	0.231	0.026, 1.915	.1669	3.42	0.15, 42.454	.3524	8.97E-08	NA, 8.765e+36	.993
Cognitive disorders	0.0341	0, 9.569	.2754	0.0384	0.001, 1.892	.1101	14.1	0.056, 812.041	.2372
Dizziness	0.519	0.09, 3.314	.4692	0.509	0.013, 6.973	.682	0.453	0.009, 6.898	.6293
Fatigue/esthenia	2.08	0.066, 95.6	.6905	97900000	0, NA	.9838	5.08E-09	NA, 4.088e+153	.9947
Headache	0.174	0.037, 0.794	.0239	0.49	0.039, 3.408	.5271	914	100.138, 38857	<.0001
Insomnia	0.0958	0.043, 0.2	<.0001	1470	281.625, 14816	<.0001	0.216	0.024, 1.039	.0966
Pain	72.2	27.123, 232.762	<.0001	0.208	0.092, 0.434	.0001	0.369	0.106, 1.091	.0865
Paresthesia	4.14E-09	NA, 5.695e+202	.9936	7.26E-07	NA, 1.106e+204	.9953	6.79E-08	NA, Inf	.998
Seizures	0.407	0.063, 3.038	.3533	0.136	0.004, 2.323	.2315	0.498	0.003, 9.95	.722
Weakness	161000000	0, NA	.9876	0.0873	0, 729.206	.8413	1.13E-06	NA, 1.562e+111	.9976

Abbreviations: CI, confidence interval; CNS, central nervous system; CRPC, castration-resistant prostate cancer; NA, not applicable; OR, odds ratio.