日本人の去勢抵抗性前立腺癌患者に対するPSMA標的内用療法の治療経験

Experience of PSMA radioligand therapy in Japanese patients with metastatic castration-resistant prostate cancer

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Purpose: We have partnered with a medical team in Australia to perform ^{177}Lu-/^{225}Ac-PSMA radioligand therapy (RLT) for Japanese castration-resistant prostate cancer (CRPC) patients overseas. In this article, we report our initial experience with ^{177}Lu-/^{225}Ac-PSMA RLT in Japanese patients and discuss its efficacy and indications.

Patients and methods: Japanese patients with CRPC underwent treatment with the consent of the patient after prior review of indications with the Australian medical team. The PSMA RLT was performed every 8-10 weeks, and imaging with PSMA PET/CT was performed before each treatment. Blood tests were performed at 4 and 7 weeks post-treatment, and a video interview with the Australian physician was conducted at 5 weeks to assess efficacy and adverse events. Two to four cycles of treatment were administered until COVID-19 travel restrictions were initiated depending on efficacy.

Results:

Characteristics (n = 26), March 2018 – March 2020

		Median or N	Range
Age (years)		68	50 - 79
Gleason score		9	6 - 10
Time to induction (months)		40.9	5.8 - 150.3
PSA (ng/ml), initial		42.8	3.4 - 7504.0
PSA (ng/ml), at induction		69.4	0.0 - 3052.3
WBC (/μL), mean		6664	2960 - 13990
Hb (g/μL), mean		11.5	7.8 – 14.4
Plt (x10^4/μL), mean		22.6	12.5 – 37.1
ALP (U/L), mean		421	138 - 2644
LDH (U/L), mean		305	107 - 1379
Cr (mg/dL), mean		0.8	0.6 – 1.3
ECOG performance status	0	15 (57.7%)	
	1	10 (38.5%)	
	2	1 (3.8%)	
Metastases	Bone	26 (100%)	
	Lymph nodes	19 (73.1%)	
	Visceral	4 (15.4%)	
Prior treatment			
For prostate	RP	3 (1.2%)	
	Irradiation	11 (42.3%)	
	Others	1 (3.8%)	
	No	11 (42.3%)	
General	Hormone	26 (100%)	
	Chemo	17 (65.4%)	

Overview (n = 26)

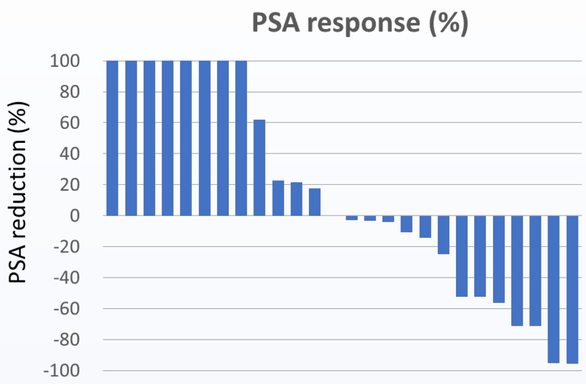
	Mean or N	Range
No. of cycle	2.0	1 - 7
Treatment nuclei		
^{177}Lu only	17 (65.4%)	
^{225}Ac only	3 (11.5%)	
^{177}Lu + ^{225}Ac	6 (23.1%)	
Target		
PSMA only	25 (96.1%)	
Dotatate only	0 (0%)	
PSMA + Dotatate	1 (3.8%)	

Conclusions: Although PSMA RLT is expected to be highly effective in Japanese CRPC patients, its efficacy in advanced cancers with already high PSA levels may be limited. Further investigation is warranted.

Results:

PSA response* (n = 26)

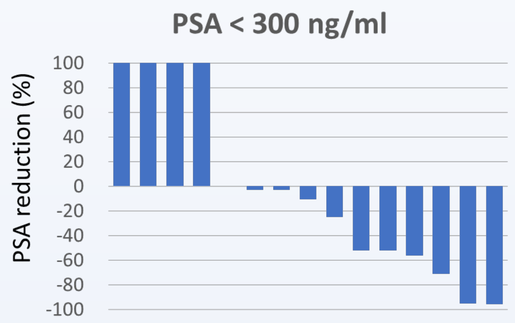
*PSA at 7 weeks after last PSMA RLT



PSA progression	12 (46.1%)
Stable	1 (3.8%)
PSA reduction	13 (50.0%)
50% PSA reduction	7 (26.9%)

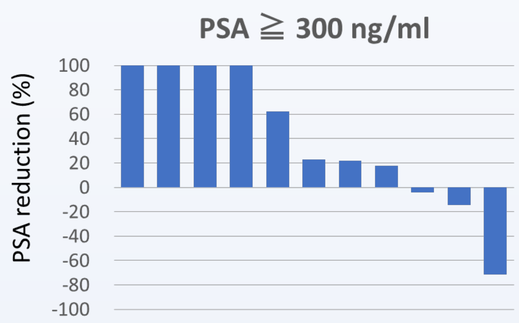
PSA response* in PSA group

*PSA at 7 weeks after last PSMA RLT



PSA < 300 ng/ml group (n=15)

Progression	4 (26.7%)
Stable	1 (6.7%)
Reduction	10 (66.7%)
50% PSA reduction	6 (40.0%)

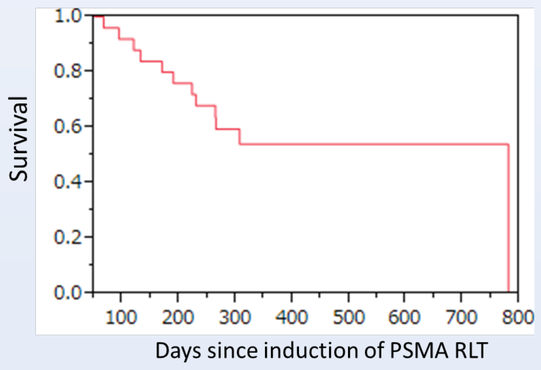


PSA ≧ 300 ng/ml group (n=11)

Progression	8 (72.7%)
Stable	0 (0%)
Reduction	3 (27.2%)
50% PSA reduction	1 (9.0%)

Survival

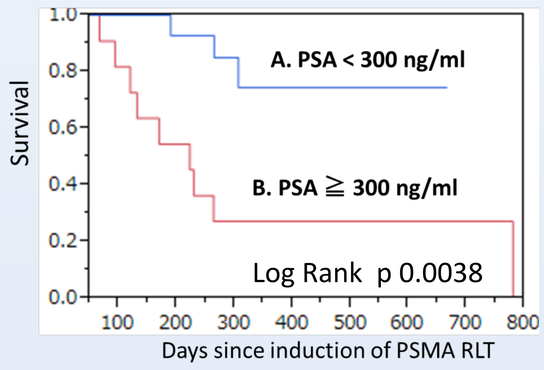
Overall (n = 26)



Average 509.6, SE 64.0

Median 780, 95% CI 229-780

PSA group



A.Median 222

B.Median -

Toxicity (latest 15 patients)

Toxicity	Grade 1	Grade 2	Grade 3	Grade 4
48 hrs				
Dry mouth	2 (13.3%)	0 (0%)	0 (0%)	0 (0%)
Nausea	1 (6.7%)	0 (0%)	0 (0%)	0 (0%)
Dry eyes	0 (0%)	0 (0%)	0 (0%)	0 (0%)
4 weeks				
Dry mouth	2 (13.3%)	0 (0%)	0 (0%)	0 (0%)
Nausea	1 (6.7%)	0 (0%)	0 (0%)	0 (0%)
Dry eyes	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Leukopenia	3 (2.0%)	0 (0%)	0 (0%)	0 (0%)
Thrombocytopenia	1 (6.7%)	0 (0%)	0 (0%)	0 (0%)
Anemia	4 (26.7%)	0 (0%)	0 (0%)	0 (0%)
Increased Cr	3 (2.0%)	0 (0%)	0 (0%)	0 (0%)

CTCAE v5.0

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ＣＯ Ｉ 開示

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演題発表内容に関連し、発表者らに開示すべきCOI関係にある企業などはありません。