Management Strategies and Patient Outcomes among Localized Prostate Cancer Patients with Persistently Positive PSA after Radical Prostatectomy

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KEY TAKEAWAYS

- Patients with pPSA after RP represent a small number of LPCa patients. It however is key that this patients are identified and managed properly.

- This population have a significantly higher risk of metastasis, progression to CRPC and PC-specific death.

- Alternative treatment strategies are required to manage disease progression in this population.

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CONCLUSIONS

- ✓ Patients who do not achieve a PSA<0.1 ng/ml after radical prostatectomy have a worse prognosis.

- ✓ LPCa patients should be monitored closely after RP to identify the sub-population with persistent PSA that could benefit from additional therapies intensified systemic therapies including Androgen Receptor Pathway Inhibitors (ARPIs).

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INTRODUCTION

- Patients (pts) with localized high-risk/very high-risk prostate cancer (PCa) have an elevated risk of metastases and Prostate Cancer (PCa)-specific death following local therapy.

- This risk is significantly higher for patients with a persistently positive PSA (pPSA) after Radical Prostatectomy (RP). We aim to better understand the current management strategies for this population using real world data.

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METHODS

- A retrospective population-based cohort study using province-wide linked administrative data from 2010-2022, in ON, CA and patterns of patient management in the intermediate (IR)/High-/very high risk (h/vHR) LPCa patients who underwent RP with persistently elevated PSA>=0.1 ng/ml were analyzed.

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RESULTS

Baseline Characteristics by Next Line of Therapy among Patients with +Persistently Positive PSA after RP

Variable		Total N=207	RT N=76	**Next Line of Therapy ADT N=26	RT + ADT N=105	P Value
Age at PC diagnosis	Median (Q1-Q3)	63 (58-67)	61 (57-66)	67 (63-69)	64 (60-67)	0.0035
PSA value	Median (Q1-Q3)	10 (7-15)	9 (6-12)	12 (7-18)	10 (7-15)	0.2819
PC best stage	Stage II, n (%)	75 (36.2%)	38 (50.0%)	8 (30.8%)	29 (27.6%)	0.0069
	Stage III, n (%)	132 (63.8%)	38 (50.0%)	18 (69.2%)	76 (72.4%)	
Gleason score	Score <= 6, n (%)	13 (6.3%)	6 (7.9%)	0 (0.0%)	7 (6.7%)	0.0113
	Score = 7, n (%)	131 (63.3%)	57 (75.0%)	18 (69.2%)	56 (53.3%)	
	Score >=8, n (%)	63 (30.4%)	13 (17.1%)	8 (30.8%)	42 (40.0%)	
Charlson comorbidity index (CCI)	CCI=0, n (%)	55 (26.6%)	*16-20	*7-11	28 (26.7%)	0.5741
	CCI=1-2, n (%)	32 (15.5%)	*8-12	*1-5	*15-19	
	CCI>=3, n (%)	6 (2.9%)	*1-5	*1-5	*1-5	
	CCI: Missing, n (%)	114 (55.1%)	43 (56.6%)	14 (53.8%)	57 (54.3%)	

+Persistently positive PSA: Patients who Underwent RP and after Surgery never had PSA Measured at <0.1 while Having 1+ PSA Test.
* Sample size is compressed due to the small # for the difference between this group and the group for brachy, or between this cohort of patients aged 66+ and the overall cohort patients.
**Note: The groups of next line therapy in this table are mutually exclusive. They were based on the patients who received treatments: 1). RT + ADT: receiving both RT and ADT after RP (overlapping or not); 2). RT: receiving RT only; and 3). ADT: receiving ADT only. (Patients may only be in one of the 3 groups).

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Management of Patients with Persistently Positive PSA after

Management	Label (Sample size)	Total N=314	Intermediate Risk N=127	High- or Very High Risk N=187	P Value	Standardized Difference
Next line therapy						
Radiotherapy (RT)	n (%)	147 (46.8%)	43 (33.9%)	104 (55.6%)	0.0001	0.448
ADT	n (%)	127 (40.4%)	22 (17.3%)	105 (56.1%)	<.0001	0.880
RT + ADT	n (%)	68 (21.7%)	12 (9.4%)	56 (29.9%)	<.0001	0.533
	n (%)	162 (51.6%)	43 (33.9%)	119 (63.6%)	<.0001	0.624
PSA value immediately preceding start of next line of therapy	Mean (SD)	27.46 (127.11)	40.44 (172.54)	22.76 (106.61)	0.4361	0.123
	Median (IQR)	1.0 (0.3-5.5)	1.5 (0.3-6.9)	0.9 (0.2-5.0)	0.2821	0.194

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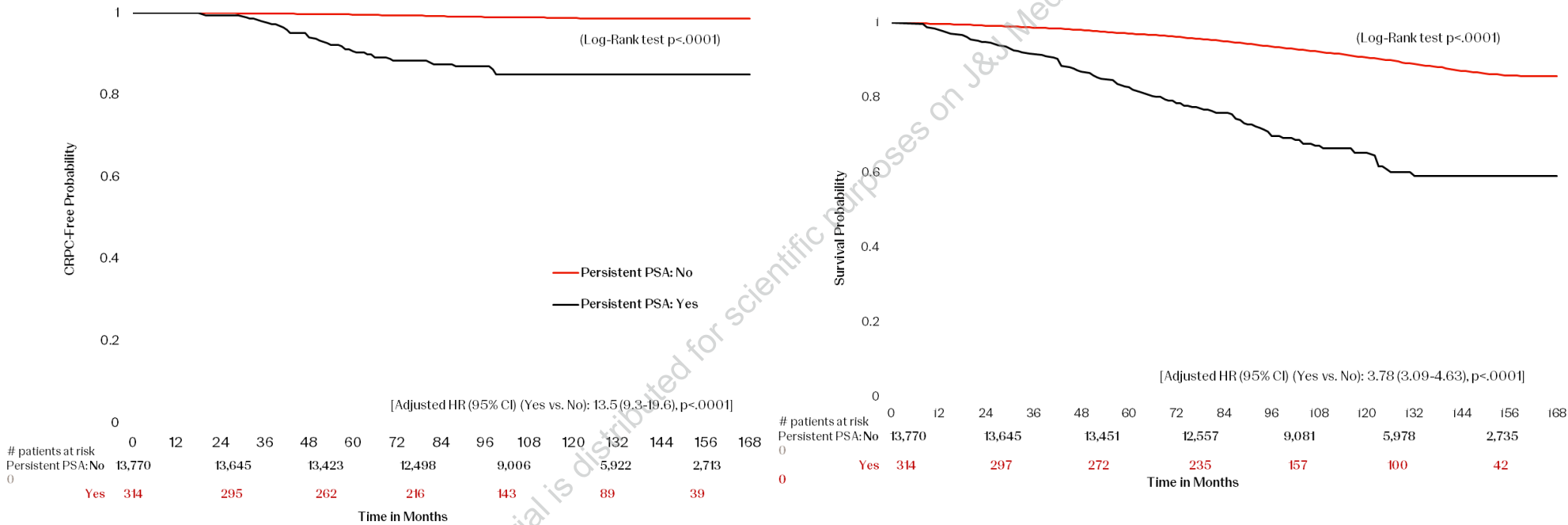
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RESULTS

Time to Progression to CRPC, PCa Event and Mortality by Persistently positive PSA Status among Patients with RP

Variable			Persistent PSA		P Value
			No	Yes	
		N=207	N=13,770	N=314	
Time to CRPC	n (%)	186 (1.3%)	148 (1.1%)	38 (12.1%)	<.0001
	Median (IQR), Years	9.1 (7-11.3)	9 (7-11.3)	7.4 (5.2-10)	<.0001
Time to PC event	n (%)	6,001 (42.6%)	5,744 (41.7%)	257 (81.8%)	<.0001
	Median (IQR), Years	6.7 (1.9-3.6)	6.8 (1.5-10)	0.8 (0.4-4)	<.0001
PSA value before RP (PSA test closest to RP)	Median (IQR), ng/ml	6.7 (5.1-9.6)	6.7 (5.0-9.6)	9.0 (5.9-12.8)	<.0001

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NAVIGATION

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KM Curve of CRPC and Survival among Patients with RP by Persistent PSA Status

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