Population-based Assessment of Treatment Patterns for High-Risk Localized Prostate Cancer

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KEY TAKEAWAYS

- Despite high rates of local SOC therapy, patients with High Risk/very High Risk (H/vHR) PCa progress to develop metastatic disease and CRPC on average within 3 years.
- These patients may benefit from intensified systemic therapy such as is being investigation in the phase 3 ATLAS (NCT02531516) and PROTEUS (NCT03767244) trials.

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CONCLUSIONS

- Overall treatment patterns are similar for patients with Intermediate Risk (IR) and H/vHR PCa despite significantly worse clinical outcomes for patients with H/vHR disease.
- These data highlight the potential for improved clinical outcomes in this patient population with the use of intensified systemic therapies including Androgen Receptor Pathway Inhibitors (ARPIs).
- Data analysis for this study is ongoing.

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INTRODUCTION

- Patients with high-risk localized prostate cancer, while a relatively small subset, have more aggressive disease biology.
- They experience substantial risk of disease recurrence after treatment, risk of metastases, and death.
- To date, treatment paradigms for these patients include radiotherapy with androgen deprivation therapy and radical prostatectomy with PLND.
- However, there is a growing body of evidence to support intensified therapy benefiting these patients. To contextualize this emerging clinical trial data, we sought to characterize real world treatment patterns for these patients.

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METHODS

- Retrospective population-based cohort study analysis using province-wide linked administrative data in Ontario, Canada.
- Patients with H/vHR prostate cancer on the basis of Gleason score, PSA, and tumor stage compared to those with intermediate disease risk.

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RESULTS

Treatment Patterns within 1 Year of Diagnosis by LPC Risk

- Between 2010-2021, 18,365 patients with IR and 13,206 patients with H/vHR PCa were identified
- Most received some local therapy, though this was more common for H/vHR (95.5%) than IR (81.6%) patients (p<0.001; stand diff 0.44) (Table 1)
- Intensified systemic therapy was rarely administered within 1 year of cancer diagnosis

		Total	Intermediate Risk	High- or Very High-Risk		Standardized Difference
Treatment		N=31,571	N=18,365	N=13,206	P Value	
Radical prostatectomy (RP)	n (%)	13,493 (42.7%)	7,286 (39.7%)	6,207 (47.0%)	<.0001	0.148
	Median time from diagnosis to treatment (Q1-Q3), months	3.4 (2.4-4.8)	3.5 (2.4-5.1)	3.3 (2.3-4.6)	<.0001	0.127
External beam radiotherapy (EBRT) with or without brachytherapy	n (%)	13,748 (43.5%)	7,427 (40.4%)	6,321 (47.9%)	<.0001	0.150
	Median time from diagnosis to treatment (Q1-Q3), months	4.2 (2.6-6.2)	3.4 (2.3-5.2)	5.1 (3.4-7.2)	<.0001	0.594
Chemotherapy	n (%)	77 (0.2%)	7 (0.0%)	70 (0.5%)	<.0001	0.093
	Median time from diagnosis to treatment (Q1-Q3), months	4 (2.7-7.1)	4.1 (3-6)	4 (2.6-7.3)	0.9083	0.047
ARPIs	n (%)	49 (0.2%)	*1-5	*44-48	NA	NA
	Median time from diagnosis to treatment (Q1-Q3), months	8.1 (4.7-10)	**NA	8.1 (4.7-10)	NA	NA

- 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.
- ** Any treatment including RP, EBRT, brachy therapy, ADT (including orchiectomy), chemotherapy, ARATs, PARPi and radium-223.

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RESULTS

Clinical outcomes for patients with intermediate and high risk localized prostate cancer

- Patients with H/vHR disease experienced worse oncologic endpoints including more frequent and earlier diagnosis of metastatic disease, CRPC, PCa events, and death (Table 2)

		Intermediate Risk	High- or Very High Risk		Standardized Difference
Outcome		N=18,365	N=13,206	P Value	
Time to diagnosis of metastatic disease	n (%)	5,435 (30%)	6,039 (46%)	<.0001	0.338
	Median (IQR) yrs	4.3 (1.2-7.1)	2.7 (0.5-5.7)	<.0001	0.307
Time to castration resistance (CRPC)	n (%)	285 (2%)	960 (7%)	<.0001	0.281
	Median (IQR) yrs	5.3 (3.5-7)	3.2 (2-5)	<.0001	0.767
Time to first mCRPC treatment	n (%)	149 (1%)	626 (5%)	<.0001	0.241
	Median (IQR) yrs	6 (2.2-7.7)	3.9 (2.5-5.9)	<.0001	0.717
Time to prostate cancer event†	n (%)	10,743 (58%)	9,525 (72%)	<.0001	0.289
	Median (IQR) yrs	0.3 (0.2-1.2)	0.5 (0.3-1.2)	<.0001	0.258
Overall mortality (time to death)	n (%)	3,343 (18%)	3,876 (29%)	<.0001	0.264
	Median (IQR) yrs	5.9 (3.5-8.2)	4.9 (2.7-7.2)	<.0001	0.258

† PC event including BCR, RT, or bone agents.

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