

Long-term Outcomes of Clinical Node-Positive Prostate Cancer Patients Treated with Radical Prostatectomy as Part of a Multimodal Treatment: Patterns of Recurrence and Competing-Risk Mortality

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INTRODUCTION

Although curative-intent therapies such as radical (RP) have been proposed as prostatectomy therapeutic options in prostate cancer (PCa) patients with enlarged lymph nodes at imaging (cN1), no data is available on the long-term outcomes and patterns of recurrence of surgically managed cN1 patients.

MATERIALS AND METHODS

A total of 350 patients with cN1 PCa in the pelvis and/or retroperitoneum detected by conventional (namely, abdominal CT or MRI, 85%) or molecular imaging (namely Choline or PSMA PET scan, 15%) who received RP and pelvic \pm retroperitoneal lymph node dissection (LND) between 2005 and 2019 at three centers were identified. Clinical recurrence (CR) was defined as the onset of metastases detected by conventional imaging. The site of the first CR was stratified as follows: (i) local (prostatic fossa and regional nodes), (ii) retroperitoneal, and (iii) distant (skeletal and visceral metastases). Kaplan-Meier analyses assessed time to CR and cancer-specific mortality (CSM) after stratifying patients according to the first site of CR. Cox regression analyses assessed predictors of CR after adjusting for adjuvant treatments. Poisson smoothed cumulative incidence plots assessed 10-year CSM and other cause mortality (OCM) after stratifying patients according to a risk score based on pathologic features associated with CSM.

CONCLUSIONS

Up to one out of four patients with clinical lymphadenopathies treated with surgery in a multimodal setting experience CR in the prostatic fossa or pelvic nodes. These patients harbour more favourable outcomes as compared to those who experience retroperitoneal or distant metastases. Pathologic grade group and SVI are predictors of distant CR. When patients are stratified according to these parameters, men with a grade group 1-3 and no SVI are at substantially higher risk of dying from other causes than the disease itself. These data should be considered to counsel patients and avoid overtreatment.

PATIENTS CHARACTERISTICS

Variable	n=3
Age: median (IQR)	63 (58
PSA at diagnosis: median (IQR)	15 (7
Clinical Stage: n (%)	
- T1	84 (2
- T2	116 (3
- T3	150 (4
Biopsy ISUP grade group: n (%)	200 (5
Preoperative maging technique: n (%)	
- CT	116 (3
- MRI	181 (5
- Choline	44 (1
- PSMA	9 (2
Number of sospicious nodes at pre-operative imaging: median (IQR)	1 (1
Maximum diameter of sospicious node at pre-operative imaging, mm: median (IQR)	14 (10
Site of sospicious node at pre-operative imaging: n (%)	
- Pelvis	290 (8
- Retroperitoneum	60 (1
Neoadjuvant ADT: n (%)	176 (5
Pathologic ISUP grade group 4-5: n (%)	200 (5
Pathological stage: n (%)	
- pT2	72 (2
- pT3a	72 (2
- pT3b	175 (5
- pT4	31 (8
Number of pN+ patients	256 (7
Number of nodes removed: median (IQR)	20 (13
Number of positive nodes: median (IQR)	2 (1
Adjuvant ADT	213 (6
Adjuvant RT	75 (2

COX REGRESSION ANALYSIS PREDICTING DISTANT METASTASES

Variable	HR (95% CI)	P-
Pathologic grade group 1-3 4-5	2.12 (1.19-3.76)	<(
Seminal vesicle invasion at RP	1.41 (1.03-2.27)	(
Number of positive nodes	0.99 (0.98-1.02)	
Adjuvant therapies	1.25 (0.77-2.05)	

RESULTS

FIRST SITE OF CLINICAL RECURRENCE





8-YEARS CLINICAL RECURRENCE FREE- SURVIVAL RATE