Podium Session 4: Oncology–Bladder, Kidney, Other
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POD 4.1

Primary retroperitoneal lymph node dissection in marker-positive clinical stage II testicular cancer

Ahmad Mousa[1], Julian Chavarriaga[1], Zacharia Burrafato[1], Sanchit Kaushal[1], Eshetu Atenafu[2], Carley Langleben[1], Lynn Anson-Cartwright[1], Padraig Warde[3], Peter Chung[3], Philippe Bedard[3], Di Maria Jiang[4], Martin O'Malley[3], Susan Prendeville[5], Michael Jewett[1], Robert J. Hamilton[1]

[1]Division of Urology, Princess Margaret Cancer Centre, Toronto, Canada; [2]Department of Statistics, Princess Margaret Cancer Centre, Toronto, Canada; [3]Department of Radiation Oncology, Princess Margaret Cancer Centre, Toronto, Canada; [4]Department of Medical Oncology, Princess Margaret Cancer Centre, Toronto, Canada; [5]Department of Pathology & Laboratory Medicine, Princess Margaret Cancer Centre, Toronto, Canada

Introduction: Most guidelines recommend chemotherapy as opposed to primary retroperitoneal lymph node dissection (pRPLND) for clinical stage (CS) II testicular germ cell tumors (TGCTs) with elevated serum tumor markers (STMs) because of the risk of systemic disease. Contrary to this, we have offered primary retroperitoneal lymph node dissection (pRPLND) to select patients with CS II disease with elevated STMs, believing a substantial portion can be cured with surgery alone.

Methods: A retrospective analysis using data from our prospectively maintained eCancerCare Testis database was performed. Patients who underwent primary robotic and open pRPLND between 1983 and 2022 were included. The primary endpoint was relapse-free survival (RFS). Secondary endpoints were location of relapse, cancer-specific survival (CSS), and perioperative outcomes, including operative time, length of stay (LOS), estimated blood loss (EBL), and surgical complications. RFS and CSS were calculated using the Kaplan-Meier product-limit method, and log-rank test was used to assess the impact of marker-positive vs. marker-negative status at the time of surgery.

Results: We identified 208 patients who underwent pRPLND at our institution, 173 (83.2%) open and 35 (16.8%) robotic, with median followup of 4.7 years. All patients had non-seminomatous germ cell tumors (NSGCT); 46.1% were diagnosed with CS I disease with relapse as CS II and 53.9% with initial CS II. A total of 66 (31.7%) patients had elevated STMs. STM elevation was associated with a higher risk of relapse; RFS at five years was 93% (95% CI 86.5–96.5) vs. 75.9% (95% CI 62.6–85) in patients with negative vs. positive STMs (p=0.0004). CSS at five years was 100% vs. 96.1% (95% CI 85.3–99) in patients with negative vs. positive STMs (p=0.0044). Of the five cancer-specific deaths observed, two were associated with somatic transformation, two were in patients who were advised to receive upfront chemotherapy but were non-compliant, and one due to febrile illness during salvage chemotherapy. Elevation in one and/or both STMs was associated with increased relapse risk, whereas only the degree of AFP elevation was associated with worse CSS. There were no differences observed in surgical complications.

Conclusions: This is the largest, single-center study of patients with marker-positive testicular cancer undergoing pRPLND. Although elevated STMs are associated with an increased risk of relapse and cancer-specific mortality when compared with patients with negative STMs, pRPLND can be curative in up to 74% of patients, and the majority of those who relapse can be effectively salvaged if compliant with care. pRPLND in patients with marker-positive status should be discussed with patients in a multidisciplinary fashion, balancing the increased risk of relapse and morbidity of salvage chemotherapy against the long-term effects of primary chemotherapy.

POD 4.2

Comparative analysis of apixaban vs. enoxaparin for thromboprophylaxis following radical cystectomy for bladder cancer

Cory S. Macklin[1], Gabrielle Reznik[1], Martin E. Gleave[1], Miles P. Mannas[1], Peter C. Black[1], Marie-Pier St-Laurent[1]

[1]Department of Urologic Sciences, University of British Columbia, Vancouver, Canada

Introduction: Radical cystectomy (RC) is the standard treatment for muscle-invasive and high-risk non-muscle-invasive bladder cancer (BCa). Venous thromboembolism (VTE) is a common postoperative complication. While extended thromboprophylaxis with low-molecular-weight heparin is recommended, direct-acting oral anticoagulants (e.g., apixaban) may offer an effective alternative, as demonstrated in other surgical fields. This study evaluated the safety and efficacy of apixaban vs. enoxaparin for extended VTE prophylaxis following RC for BCa.

Methods: We conducted a single-center, retrospective analysis of patients who underwent RC for BCa between October 2021 and August 2024 and received 28 days of post-discharge enoxaparin or apixaban. Primary outcomes were VTE rates within 30 and 90 days. Secondary outcomes were 30-day emergency room (ER) visits, readmissions, and bleeding. Multivariable logistic regression was adjusted for sex, age, smoking, body mass index, diversion type, node count, length of stay, and preoperative antiplatelet use.

Results: Of 294 cases, 102 enoxaparin and 83 apixaban patients met inclusion criteria. Median age was 70 (IQR 64.00, 75.00) and 80.4% were male. Patient characteristics were comparable (Table 1). No significant differences were found in 30-day VTE rates (0% apixaban vs. 2.9% enoxaparin, p=0.254) and 90-day VTE rates (0% apixaban vs. 1.0% enoxaparin, p=1.0), ER visits (36.1% apixaban vs. 27.5% enoxaparin, p=0.268), readmissions (24.1% apixaban vs. 18.6% enoxaparin, p=0.468), or bleeding (1.2% apixaban vs. 3.9% enoxaparin, p=0.382). Multivariable analysis confirmed no significant differences in 30-day bleeding rates.

Conclusions: Apixaban demonstrated a safety and efficacy profile comparable to enoxaparin for extended VTE prophylaxis following RC for BCa. These findings support the potential use of apixaban as an alternative to enoxaparin. Prospective studies are needed to validate these findings and establish apixaban as standard of care.

POD 4.3

What is the importance of the proportion of high-grade tumor involvement in Ta bladder tumors? A single-center, retrospective analysis.

Francis Simard[1], Paul J. Toren[1], Michele Lodde[1], Chantal Attalah[3], Marie-Maxime Lacombe[3], Edouard Cazes[1], Charles-Antoine Garneau[1], Jade St-Amour-Bédard[2]

[1]Division of Urology, CHU de Québec-Université Laval, Quebec , Canada; [2]Faculty of Medicine, Université Laval, Quebec, Canada; [3]Department of Pathology, CHU de Québec-Université Laval, Quebec, Canada

Introduction: High-grade Ta bladder cancer (HG Ta) shows variability in its intrinsic aggressiveness. According to Canadian guidelines for non-muscle-invasive bladder cancer, HG Ta disease can be classified as either intermediate- or high-risk. Consequently, not all patients receive BCG treatment, and progression can vary. In this study, we evaluated the heterogeneity in the proportions of high-grade (HG) and low-grade (LG) elements and their effect on prognosis.

Methods: A retrospective chart review was performed of all patients diagnosed with HG Ta from 2013–2020 at our institution. Demographic data, tumor characteristics, BCG treatments, re-resections, and recurrence/progression events were collected. All slides were re-reviewed by our study genitourinary pathologists, with attention to classifying the proportion of high- and low-grade carcinoma in the tumor. Kaplan-Meier survival curves were used to assess progression-free survival based on pathologic heterogeneity.

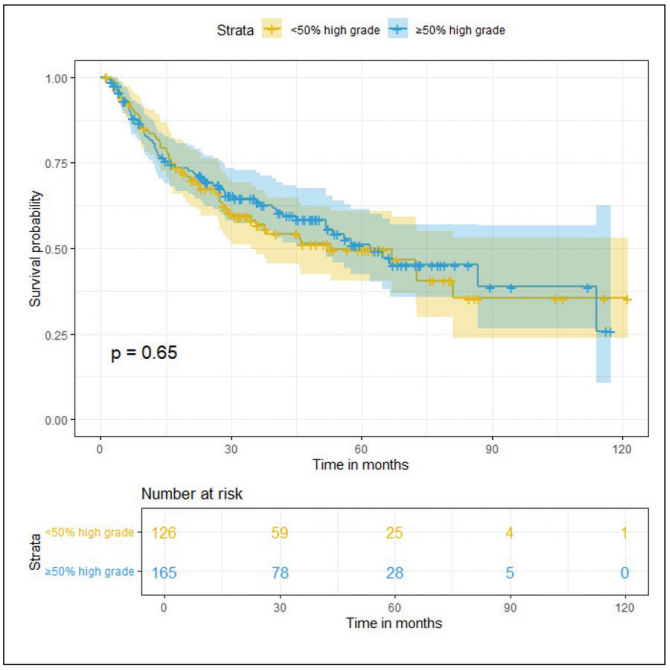
POD 4.2. Table 1. Baseline characteristics

		Overall	Enoxaparin	Apixaban	P value
n		185	102	83	
Sex, n (%)	Female	42 (22.7)	20 (19.6)	22 (26.5)	0.3481
	Male	143 (77.3)	82 (80.4)	61 (73.5)	
Age (Median [IQR])		70.00 [64.00, 76.00]	70.00 [64.00, 75.00]	71.00 [65.00, 77.00]	0.5731
BMI (Median [IQR])		26.60 [23.63, 29.92]	27.08 [24.22, 31.24]	26.18 [22.24, 28.45]	0.0221
Charlson Index (Median [IQR])		5.00 [4.00, 6.00]	5.00 [4.00, 7.00]	5.00 [3.00, 6.00]	0.3851
History of DVT/PE, n (%)		3 (1.6)	3 (2.9)	0 (0.0)	0.3222
NAT, n (%)		70 (37.8)	40 (39.2)	30 (36.1)	0.7832
Smoking status, n (%)	Never	70 (37.8)	34 (33.3)	36 (43.4)	0.2132
	Former	89 (48.1)	55 (53.9)	34 (41.0)	
	Current	26 (14.1)	13 (12.7)	13 (15.7)	
Clinical TNM stage, n (%)	≤cT1	80 (43.2)	43 (42.2)	37 (44.6)	0.3062
	cT2	87 (47.0)	46 (45.1)	41 (49.4)	
	≥cT3	18 (9.7)	13 (12.7)	5 (6.0)	
Type of urinary diversion, n (%)	Ileal Conduit	143 (77.3)	79 (77.5)	64 (77.1)	0.9942
	Indiana Pouch	5 (2.7)	3 (2.9)	2 (2.4)	
	Neobladder	35 (18.9)	19 (18.6)	16 (19.3)	
	Other	2 (1.1)	1 (1.0)	1 (1.2)	
EBL, mL (Median [IQR])		500.00 [350.00, 700.00]	500.00 [400.00, 700.00]	400.00 [300.00, 700.00]	0.0811
Tranexamic acid, n (%)		53 (28.6)	29 (28.4)	24 (28.9)	11
LNs removed (median [IQR])		14.00 [8.00, 20.00]	15.00 [9.00, 22.00]	14.00 [8.00, 17.50]	0.1762
Histology, n (%)	UC (with or without subtype)	176 (95.1)	98 (96.1)	78 (94.0)	0.2071
	Pure Squamous	4 (2.2)	3 (2.9)	1 (1.2)	
	Pure ADK	5 (2.7)	1 (1.0)	4 (4.8)	
pTNM, n (%)	≤pT1	50 (27.2)	26 (25.7)	24 (28.9)	0.9841
	≤ypT1	39 (21.2)	22 (21.8)	17 (20.5)	
	pT2	16 (8.7)	10 (9.9)	6 (7.2)	
	ypT2	8 (4.3)	4 (4.0)	4 (4.8)	
	≥pT3	46 (25.0)	25 (24.8)	21 (25.3)	
	≥ypT3	25 (13.6)	14 (13.9)	11 (13.3)	
pN positive, n (%)		35 (18.9)	22 (21.6)	13 (15.7)	0.4061
Post-operative transfusion, n (%)	pRBC	32 (17.3)	22 (21.6)	10 (12.0)	0.1341
	pRBC and albumin	17 (9.2)	10 (9.8)	7 (8.4)	
	Albumin	28 (15.1)	18 (17.6)	10 (12.0)	
Hb at discharge (median [IQR])		99.00 [88.00, 110.00]	98.00 [85.50, 110.75]	100.00 [90.00, 109.50]	0.3632

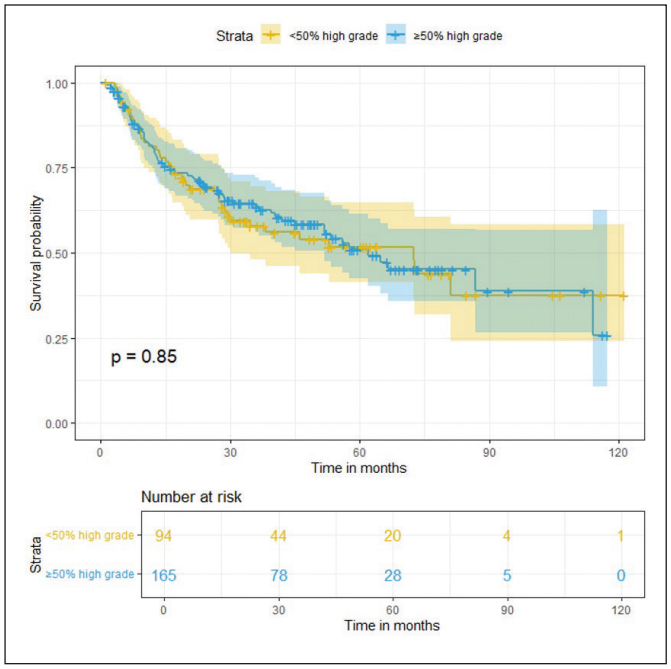
Results: A total of 466 patients with HG Ta were included in the study. The pathology review reclassified 50 patients as having exclusively LG disease and 166 patients with exclusively HG disease. Of those with a mix of both HG and LG disease, 58 had <5% HG, 52 had 5–10% HG, 18 had 10–25% HG, 19 had 25–50% HG, and 41 had >50% HG. Sixty patients could not have a grade re-assessed, with two reclassified as CIS. Survival analysis revealed a significant difference in progression-free survival between patients with 100% HG and those with mixed proportions of HG, but no difference in recurrence-free survival. Additionally, no significant progression-free or recurrence-free survival difference was observed between the various proportions of mixed HG and 100% LG groups (Figures 1-5).

Conclusions: In our study, patients with confirmed 100% HG disease had a significantly increased risk of progression compared to those with various mixed proportions of LG and HG disease. Larger cohort sizes are needed to ascertain whether differences in the relative proportion of HG disease impacts clinical outcomes of recurrence and progression.

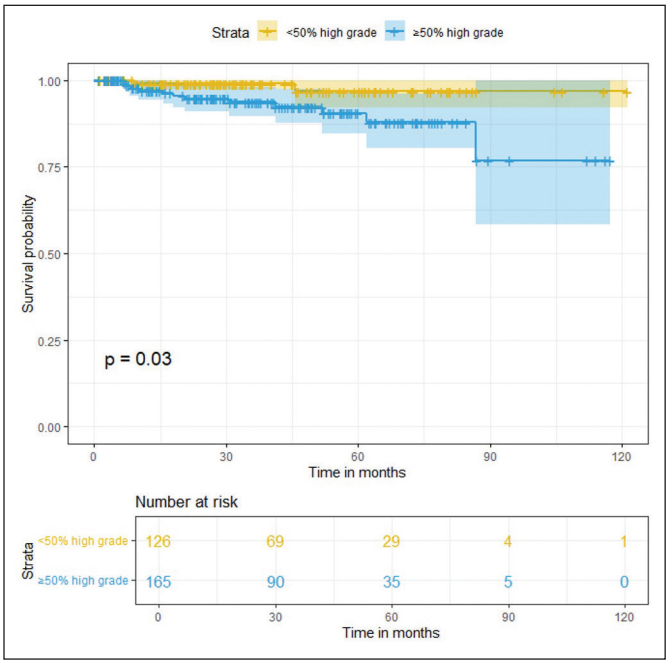
Acknowledgements: Supported by a research scholarship from the Fondation du Centre de recherche du CHU de Québec, to whom authors express their sincere gratitude for the generous support.



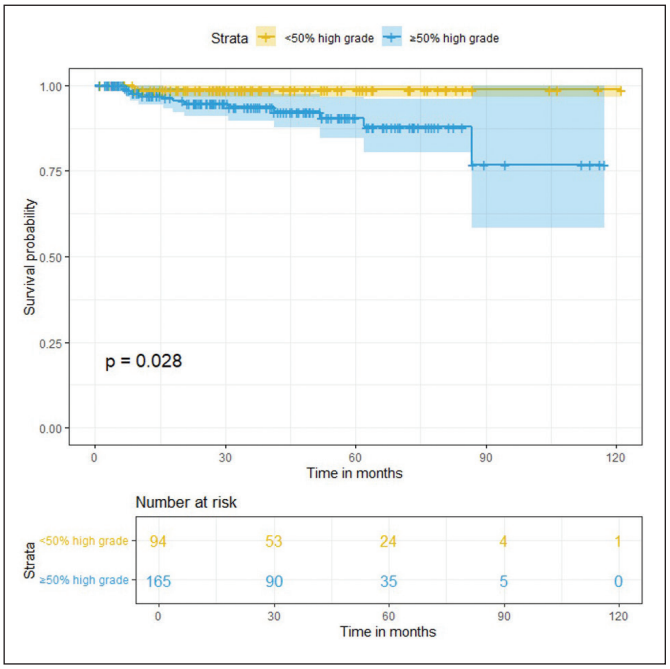
POD 4.3. Figure 1. Recurrence-free survival based on HG proportion in pathology.



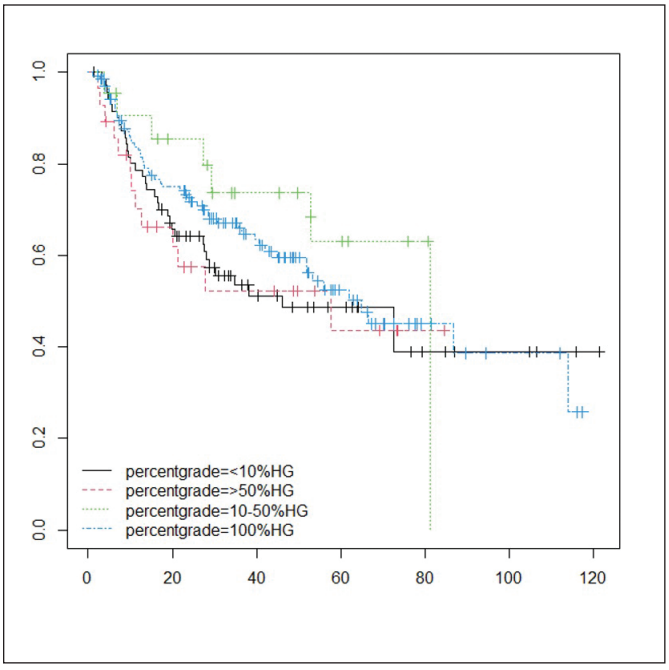
POD 4.3. Figure 2. Recurrence-free survival based on HG proportion in pathology.



POD 4.3. Figure 3. Progression-free survival based on HG proportion in pathology



POD 4.3. Figure 4. Progression-free survival based on HG proportion in pathology.



POD 4.3. Figure 5. Recurrence-free survival based on HG proportion in pathology

POD 4.4

Bladder cancer stage at diagnosis in rural vs. urban patients in Canada: Results from the Canadian Bladder Cancer information system

Michael Morra[1], David Chung[1], Wassim Kassouf[2], Peter C. Black[3], Raman Agnihotram[4], Rodney H. Breau[5], Girish S. Kulkarni[6], Peter Chung[7], Adrian Fairey[8], Michele Lodde[9], Jean-Baptiste Lattouf[10], Eric Hyndman[11], Nimira Alimohamed[12], Claudio Jeldres[13], Ricardo A. Rendon[14], Jasmir Nayak[1]

[1]Section of Urology, University of Manitoba, Winnipeg, Canada; [2]Division of Urology, McGill University Health Center, Montreal, Canada; [3]Department of Urologic Sciences, University of British Columbia, Vancouver, Canada; [4]Research Institute, McGill University Health Center, Montreal, Canada; [5]Division of Urology, University of Ottawa, Ottawa, Canada; [6]Division of Urology, University Health Network, Toronto, Canada; [7]Department of Radiation Oncology, University Health Network, Toronto, Canada; [8]Division of Urology, University of Alberta, Edmonton, Canada; [9]Division of Urology, University of Laval, Quebec City, Canada; [10]Division of Urology, University of Montreal, Montreal, Canada; [11]Section of Urology, University of Calgary, Calgary, Canada; [12]Department of Medical Oncology, University of Calgary, Calgary, Canada; [13]Division of Urology, Universite de Sherbrooke, Sherbrooke, Canada; [14]Department of Urology, Dalhousie University, Halifax, Canada

Introduction: Bladder cancer ranks as the fifth most common cancer in Canada, with a significant number of patients residing in rural areas, often distant from specialized medical care. Patients in rural locations may encounter more barriers to accessing care, leading to poorer cancer-related outcomes.

Methods: This study used the Canadian Bladder Cancer information system (CBCIS), a prospective nationwide database of bladder cancer patients, to identify patients diagnosed with urothelial bladder cancer through pathology specimens as of January 9, 2024. Rural areas were defined using a remoteness index of ≥0.15, as established by Census Canada. Statistical analyses included rank-sum tests for continuous variables and Chi-square tests for comparing proportions. Kaplan-Meier curves were employed to assess survival rates.

Results: A total of 2762 patients met the inclusion criteria, with 71.1% classified as urban and 28.9% rural. Rural patients were more likely to present with higher-grade and stage tumors or metastatic disease. Only 49.8% of rural patients with muscle-invasive bladder cancer (MIBC) underwent cystectomy compared to 56.7% of urban patients (p=0.013). There was no significant difference in the time from diagnosis to cystectomy between rural and urban patients (165 vs. 183 days, p=0.680); however, rural patients experienced higher 90-day mortality rates post-cystectomy (11.9% vs. 9.2%, p=0.040), with similar rates of complications observed in both groups. Overall five-year mortality rate was higher in rural patients at 59%, compared to 53% in urban patients (p=0.013). The stratified analysis revealed that rural patients with MIBC had an increased overall mortality rate of 83%, compared to 72% in the urban cohort (p=0.036).

Conclusions: Rural patients had a higher rate of advanced-stage of bladder cancer and experienced worse cancer-related outcomes. Rural patients with MIBC had similar time to cystectomy, however, fewer rural patients underwent cystectomy despite fewer comorbidities and younger age.

Acknowledgements: This abstract has been accepted for presentation as a moderated poster at AUA 2025.

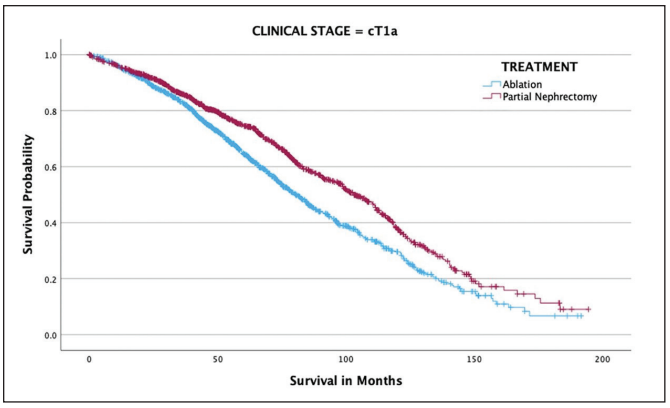
POD 4.5

Impact on survival with nephron-sparing procedures in stage I renal cancer among octogenarians: Partial nephrectomy vs. ablation techniques

Arjun Pon Avudaiappan[1], Pushan Prabhakar[1], Benjamin Fleischmann[1], Manuel Ozambela Jr.[1], Christopher Gomez[1], Murugesan Manoharan[1]

[1]Department of Urologic Oncology, Miami Cancer Institute, Baptist Health South Florida, Miami, United States

Introduction: Nephron-sparing procedures are the preferred first-line treatment for stage I renal tumors. Guidelines suggest partial nephrectomy (PN) and ablation as viable options. With advancing age, the natural decline in functional renal units makes it crucial to preserve healthy renal parenchyma to enhance functional and survival outcomes. Limited studies have investigated survival outcomes comparing PN and ablation in elderly populations. Using the National Cancer Database, we compared the survival outcomes between PN and ablation among octogenarians with stage I disease.



POD 4.5. Figure 1. Comparison of overall survival between partial nephrectomy and ablation in matched octogenarians with cT1a tumors

Methods: Patients aged ≥80 years with stage I renal tumors (cT1a-bN0M0) diagnosed from 2004–2018 were stratified based on treatment into two groups: the PN group, comprising patients who underwent partial nephrectomy, and the ablation group, which included cryotherapy, laser ablation, or thermal ablation. A 1:1 propensity score matching was conducted using sex, race, ethnicity, facility type, comorbidity index, clinical T stage, tumor grade, histology, and tumor size. Kaplan-Meier and Cox regression analysis were performed to compare the survival outcomes.

Results: Of 371 500 patients with T1 renal tumors, 6222 met our selection criteria. Among them, 3381 (54.3%) underwent PN, and 2841 (45.7%) received ablation. Within the ablation group, 1878 (66.1%) had cryoablation, 763 (26.9%) had thermal ablation, and 200 (7.0%) had laser ablation. After matching, each group had 1661 patients. In T1a tumors, the median OS with PN was 103.1 months and with ablation was 80.5 months, while for T1b tumors, it was 85.7 months and 55.5 months, respectively (p<0.001) (Figure 1). Multivariate Cox regression showed a reduced risk of mortality with PN (HR 0.69, 95% CI 0.63–0.75).

Conclusions: Our study showed that PN had better OS than ablation in stage I renal tumors (i.e., in T1a and T1b tumors) among octogenarians. Therefore, renal preservation through PN after careful risk stratification could offer better survival outcomes in this population subset.

POD 4.6

Lower urinary tract recurrence rates after nephroureterectomy for upper tract urothelial carcinoma with variant histology: An institutional experience

Betty Wang[1], Devika Nandwana[1], Nima Almassi[1], Christopher Weight[1], Samuel Haywood[1], Steven Campbell[1], Rebecca Campbell[1], Mohit Sindhani[1], Robert Abouassaly[1], Reza Alaghehbandan[1], Laura Bukavina[1]

[1]Glickman Urologic Institute, Cleveland Clinic, Cleveland, United States

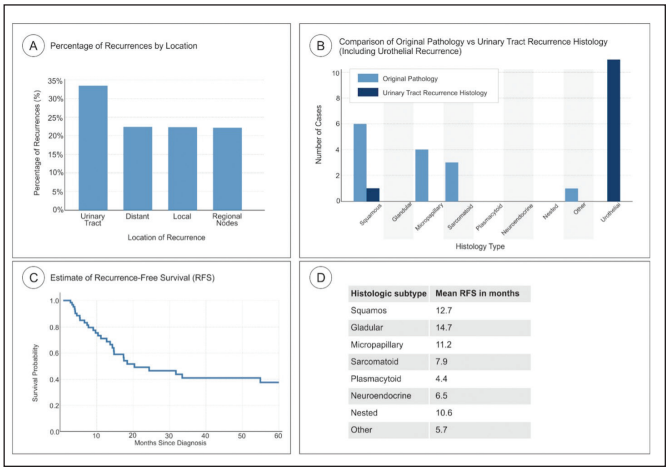
Introduction: Upper tract urothelial carcinoma (UTUC) shows lower urinary tract (LUT) recurrence post-nephroureterectomy, with rates of 22–47%. We assessed recurrence rates in UTUC patients with variant histology (VH) and examined the influence of intravesical chemotherapy, tumor characteristics, and histologic concordance between upper tract and LUT recurrences.

Methods: We conducted a single-institution, retrospective review of UTUC-VH patients who underwent ephroureterectomy. Data on perioperative chemotherapy, tumor multifocality, histology, and recurrence were analyzed. Primary outcomes included LUT recurrence rates and histologic concordance between primary upper tract tumor and LUT recurrence. Descriptive statistics characterized patient/tumor features. Kaplan-Meier curves assessed recurrence-free survival (RFS).

Results: From 2014–2024, 612 patients underwent nephroureterectomy, with 77 identified as UTUC-VH; 69 had complete followup data. Median age was 70 years, with 48 males (70%). All tumors were high-grade, with VH subtypes including squamous (43%), sarcomatoid (12%), and micropapillary (11%). Recurrence occurred in 45% of patients: LUT (17%), local recurrence (12%), lymph nodes (12%), and distant sites (12%) (Figure 1A). Among LUT recurrences, 92% were

pure urothelial, and 8% with squamous differentiation, indicating notable discordance with primary histology (Figure 1B). Median RFS was longest in glandular (14.7 months) and squamous (12.7 months), and shortest in plasmacytoid (4.4 months) (Figure 1D). Patients who received intravesical chemotherapy had a lower bladder recurrence rate (33.3%) compared to those who did not (45.5%), although not statistically significant (p=0.07).

Conclusions: Bladder recurrence is frequent post-nephroureterectomy in UTUC-VH patients, often with discordant histology. These findings suggest perioperative chemotherapy may reduce LUT recurrences in VH, and highlight the need for tailored surveillance for high-risk histologies.



Histologic subtype	Mean RFS in months
Squamos	12.7
Gladular	14.7
Micropapillary	11.2
Sarcomatoid	7.9
Plasmacytoid	4.4
Neuroendocrine	6.5
Nested	10.6
Other	5.7

POD 4.6. Figure 1. (A) Percentage of recurrences by location. (B) Comparison of original pathology vs. urinary tract recurrence histology (including urethral recurrence). (C) Estimates of recurrence-free survival. (D) Histologic subtypes.