



PD 11 05: Multicenter Comparison of Outcomes for Clinical and Pathologic T3a Renal Cell Carcinoma

Aaron Bradshaw¹, **Robert Uzzo**², **Umberto Capitanio**³, **Brian Lane**⁴, **Dattatraya Patil**⁵, **Kazutaka Saito**⁶, **Fady Ghali**¹, **Alexander Kutikov**², **Alessandro Larcher**³, **Sabrina Noyes**⁴, **Raksha Dutt**¹, **Cathrine Keiner**¹, **Nathan Miller**¹, **Fang Wan**¹, **Margaret Meagher**¹, **Devin Patel**¹, **Yasuhisa Fujii**⁶, **Francesco Montorsi**³, **Viraj Master**⁵, **Ithaar Derweesh**¹

¹UC San Diego Health, La Jolla, USA,, ²Fox Chase Cancer Center, Philadelphia, PA, USA, ³Ospedale San Raffaele, Milan, Italy, ⁴Spectrum Health, Grand Rapids, MI, USA, ⁵Emory University, Atlanta, GA, USA, ⁶Tokyo Medical Dental University, Tokyo, Japan

UC San Diego
MOORES CANCER CENTER

Introduction and Objective

- The identification of imaging characteristics associated with T3a renal cell carcinoma (RCC) can may be challenging on pre- operative imaging.
- A substantial number of patients are upstaged to T3a following intervention but the impact of upstaging to pT3a disease on ultimate outcomes in comparison with clinical T3a RCC is unclear.
- **Objective:** To compare survival outcomes between patients with clinical T3a versus those upstaged to pT3a RCC.

Patients and Methods

- Retrospective, multicenter analysis of patients with clinical or pathologic T3a RCC who underwent operative management
- **Primary outcome:** Recurrence-free survival (**RFS**)
- **Secondary outcomes:**
 - Overall survival (**OS**)
 - Cancer-specific survival (**CSS**)

Cox Regression (MVA) and Kaplan-Meier analyses (KMA) were carried out for outcomes

Clinical Descriptives and Staging

Value	Total (n=1314)	cT3a (n=309)	pT3a Upstaged (n=1005)	p-value
Follow up length	Mean 42.6 mo Median 27 mo	35.6 +/- 37.2	44.7 +/- 48.6	<0.001
Mean Age (years, ± Std dev)	62.1 +/- 12.1	62.5 +/- 12.7	62.0 +/- 11.9	0.617
Sex (Male)	72.4% (951)	77.7% (240)	70.7% (711)	0.017
Mean BMI (± Std dev)	28.1 +/- 7.0	25.8 +/- 5.2	28.8 +/- 7.3	<0.001
Ethnicity	White 76.8% (1009) AA 6.8% (90) Asian 12.5% (164) Hispanic 2.1% (28) Other 1.8% (23)	White 56.3% (174) AA 1.0% (3) Asian 38.2% (118) Hispanic 3.6% (11) Other 1.0% (3)	White 83.1% (835) AA 8.7% (87) Asian 4.6% (46) Hispanic 1.7% (17) Other 2.0% (20)	<0.001
Hx HTN (pos)	41.7% (548)	40.8% (126)	42.0% (422)	0.705
Hx DM (pos)	23.3% (306)	17.8% (55)	25.0% (251)	0.009
Hx CAD (pos)	12.6% (165)	12.0% (37)	12.7% (128)	0.724
Clinical Stage		100% cT3a	62.9% (632) T1 37.1% (373) T2	N/a
Pathologic Stage		25.9% (80) T1 6.5% (20) T2 63.8% (197) T3 3.9% (12) T4	100% pT3a	N/a



Perioperative Outcomes and Histologic Findings

Value	Total (n=1314)	cT3a (n=309)	pT3a Upstaged (n=1005)	p-value
pTumor Size (cm, ± Std dev)	7.5 +/- 3.7	7.7 +/- 3.8	7.2 +/- 3.6	0.256
Tumor Histology	CC 81.7% (1074) Pap 10.4% (137) Chromo 3.7% (48) Other/unk 4.2% (55)	CC 85.1% (263) Pap 6.8% (21) Chromo 4.5% (14) Other/unk 3.6% (11)	CC 80.7% (811) Pap 11.5% (116) Chromo 3.4% (34) Other/unk 4.4% (44)	0.075
Type of Nephrectomy	Radical 64.8% (851) Partial 35.2% (463)	Radical 90.9% (281) Partial 9.1% (28)	Radical 56.7% (570) Partial 43.3% (435)	<0.001
Surgical Approach	MIS 44.4% (583) Open 55.3% (727) Unk 0.3% (4)	MIS 43.4% (134) Open 56.6% (175) Unk 0	MIS 44.7% (449) Open 54.9% (552) Unk 0.4% (4)	0.485
Mean EBL (cc, ± Std dev)	562.9 +/- 792.1	777.5 +/- 977.3	488.9 +/- 703.0	<0.001
Transfusion Status (Given)	14.9% (196)	20.7% (64)	13.1% (132)	<0.001
Mean Hospital LOS (days, ± Std dev)	6.7 +/- 12.0	8.3 +/- 6.5	6.2 +/- 13.1	<0.001
30d Post-Op Major Complication (Clavien 3+)	1.4% (18)	3.9% (12)	0.6% (6)	0.015

Oncologic Outcomes

Value	Total (n=1314)	cT3a (n=309)	pT3a Upstaged (n=1005)	p-value
Pathologic Node Status	Pos 11.6% (152) Neg/unk 88.4% (1162)	Pos 11.7% (36) Neg/unk 88.3% (273)	Pos 11.5% (116) Neg/unk 88.5% (889)	0.959
Surgical Margins	Pos 7.8% (103) Neg 52.5% (690) Unk 39.6% (521)	Pos 2.3% (7) Neg 28.5% (88) Unk 69.3% (214)	Pos 9.6% (96) Neg 59.9% (602) Unk 30.5% (307)	<0.001
Recurrence/Metastases	34.5% (453)	35.6% (110)	34.1% (343)	0.635
Recurrence Location, Relative % of known recurrence	Local 2.2% (10) Dist 79.2% (359) Both 7.3% (33) Unk 11.3% (51)	Local 2.7% (3) Dist 84.5% (93) Both 2.7% (3) Unk 10.0% (11)	Local 2.0% (7) Dist 77.6% (266) Both 8.7% (30) Unk 11.7% (40)	0.251
Proportion of Local recurrences	9.5% (43)	5.5% (6)	10.8% (37)	0.097
Proportion of Distant metastases	86.5% (392)	87.3% (96)	86.3% (296)	0.794
Death	33.6% (441)	26.2% (81)	35.8% (360)	0.002
Cancer-Specific Mortality	21.2% (278)	18.1% (56)	22.1% (222)	0.135

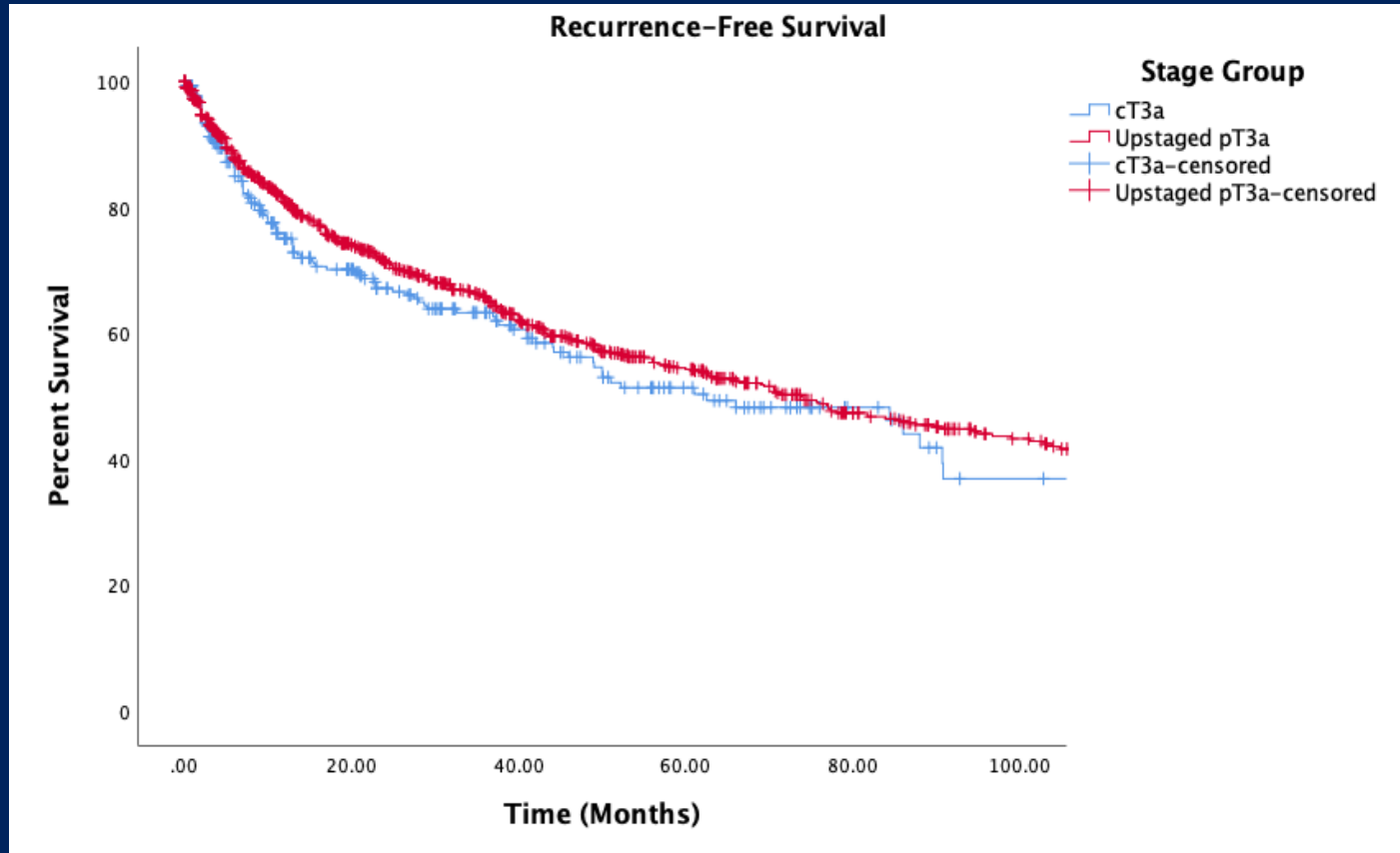


Cox Regression Multivariable Analyses for Survival Outcomes

Covariate	RFS			CSS			OS		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Age (Increasing)	1.007	1.000 – 1.014	0.048	1.010	1.000 – 1.020	0.047	1.020	1.012 – 1.028	<0.001
Sex (Male)	1.033	0.848 – 1.258	0.749	1.153	0.872 – 1.525	0.319	1.074	0.863 – 1.336	0.524
pT3a Status (Clinical referent)	0.796	0.639 – 0.992	0.042	1.074	0.816 – 1.412	0.611	1.096	0.850 – 1.413	0.479
Type of Surgery (PN vs. RN)	1.012	0.829 – 1.235	0.907	1.074	0.816 – 1.412	0.611	0.998	0.802 – 1.241	0.984
Clear Cell vs. Non-Clear Cell Histology	1.150	0.901 – 1.467	0.261	1.094	0.793 – 1.508	0.585	0.757	0.598 – 0.959	0.021
Positive Nodes (Negative referent)	3.340	2.675 – 4.171	<0.001	4.947	3.739 – 6.544	<0.001	3.755	2.966 – 4.755	<0.001
Positive Margins (Neg referent)	1.306	0.959 – 1.779	0.090	1.107	0.704 – 1.741	0.660	1.335	0.944 – 1.887	0.102
High Grade vs. Low/Other	2.306	1.851 – 2.874	<0.001	1.592	1.203 – 2.107	0.001	1.732	1.390 – 2.158	<0.001

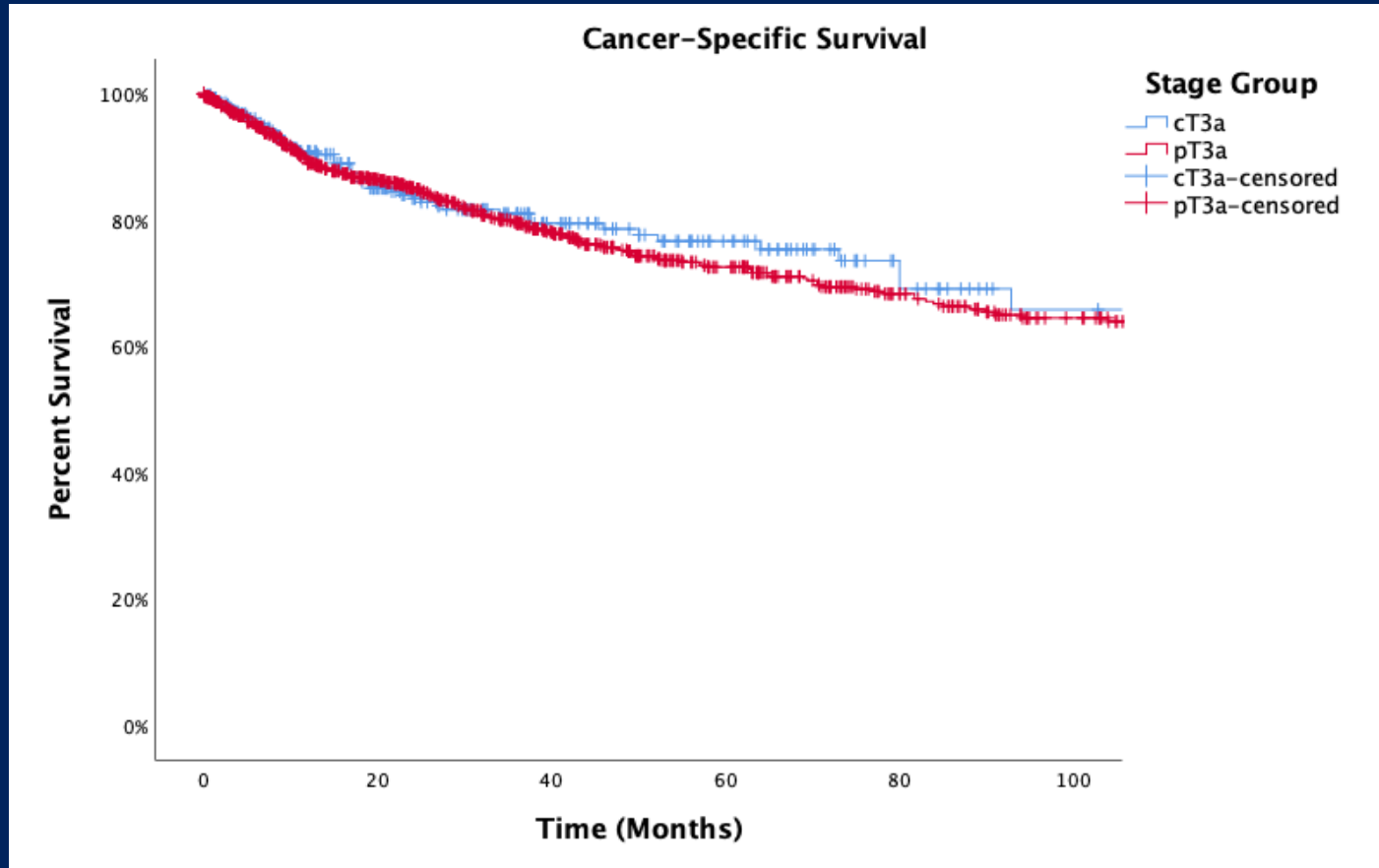


Kaplan-Meier Analysis for Recurrence-Free Survival



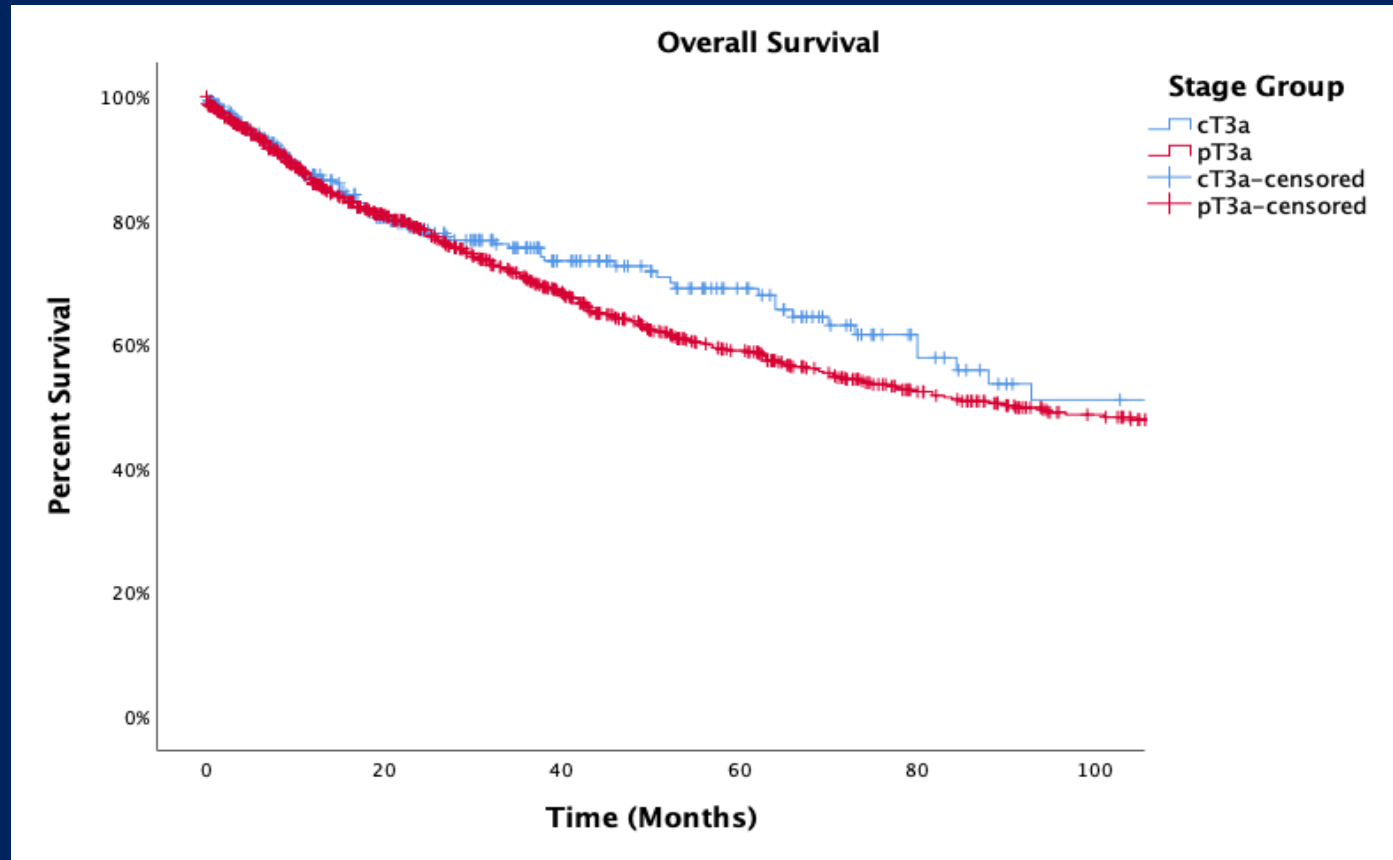
5-year RFS:
cT3a 51.3%
pT3a 54.3%
p=0.108

Kaplan-Meier Analysis for Cancer-Specific Survival



5-year CSS:
cT3a 76.7%
pT3a 72.6%
 $p=0.703$

Kaplan-Meier Analysis for Overall Survival



5-year OS:
cT3a 69.0%
pT3a 59.0%
p=0.205

Conclusions

- While MVA suggest increased rates of recurrence in upstaged pT3a vs. cT3a, there is no difference in proportions of distant vs. local recurrence and no difference seen in KMA for RFS
- There is no evidence of disparity in All-Cause Mortality or Cancer Specific Mortality between comparison groups
- Pathologic upstaging does not compromise oncologic outcomes compared to clinical T3a disease.