

	Univariate		Multivariate		Adjusted P value*
	HR (95%CI)	P value	HR (95%CI)	P value	
Histology					
Urothelial carcinoma	-		Reference		
Micropapillary UC	0.85 (0.52-1.39)	0.5	0.97 (0.59-1.59)	0.9	1
Lymphoepithelioma-like UC	1.08 (0.15-7.74)	0.9	1.22 (0.17-8.79)	0.8	1
Sarcomatoid UC	1.21 (0.82-1.79)	0.3	1.14 (0.77-1.70)	0.5	1
Adenocarcinoma	0.99 (0.74-1.31)	0.9	0.97 (0.72-1.31)	0.9	1
Giant & spindle cell carcinoma	0.72 (0.18-2.90)	0.6	0.85 (0.21-3.44)	0.8	1
Neuroendocrine tumor	1.35 (0.93-1.97)	0.1	1.29 (0.89-1.89)	0.2	1
Squamous cell carcinoma	2.19 (1.78-2.68)	<0.001	2.06 (1.64-2.59)	<0.001	<0.001
Sarcoma	8.71 (1.22-62.12)	0.03	9.1 (1.26-65.53)	0.03	0.9
Age at diagnosis (years)	1.00 (1.00-1.01)	0.01	1.00 (1.00-1.01)	0.004	0.1
Sex					
Male	-		Reference		
Female	1.12 (1.00-1.26)	0.03	1.02 (0.90-1.15)	0.7	1
Race					
Caucasian	-		Reference		
Black	1.31 (1.08-1.58)	0.005	1.25 (1.03-1.53)	0.02	0.8
Hispanic	1.02 (0.84-1.23)	0.8	1.06 (0.87-1.30)	0.5	1
Asiatic	1.02 (0.80-1.30)	0.8	1.10 (0.86-1.41)	0.4	1
Other	1.28 (0.64-2.57)	0.5	1.38 (0.68-2.79)	0.4	1
Socioeconomic status					
Low	-		Reference		
High	1.00 (0.90-1.11)	0.9	1.01 (0.90-1.12)	0.8	1
Region					
West	-		Reference		
Midwest	1.17 (0.96-1.42)	0.1	1.08 (0.88-1.32)	0.4	1
North-East	1.02 (0.89-1.18)	0.7	0.94 (0.81-1.09)	0.4	1
South	1.29 (1.13-1.48)	<0.001	1.25 (1.08-1.44)	0.002	0.054
Marital status					
Married	-		Reference		
Never married	1.23 (1.06-1.43)	0.005	1.20 (1.02-1.40)	0.02	0.7
Previously married	1.13 (1.00-1.27)	0.04	1.05 (0.92-1.19)	0.4	1
Unknown	0.77 (0.56-1.06)	0.1	0.69 (0.49-0.97)	0.03	1
Treatment					
No local treatment	-		Reference		
Radical cystectomy	0.66 (0.36-1.20)	0.2	0.74 (0.38-1.43)	0.4	1
Partial cystectomy	0.51 (0.26-1.00)	0.05	0.54 (0.26-1.10)	0.09	1
TURB only	0.67 (0.36-1.26)	0.2	0.84 (0.43-1.64)	0.6	1
Radiotherapy	1.79 (0.39-8.10)	0.4	2.96 (0.63- 13.92)	0.2	1
Other/Unknown	0.77 (0.40-1.48)	0.4	0.85 (0.42-1.72)	0.7	1
T stage					
T<2	-		Reference		
T2	0.77 (0.55-1.08)	0.1	0.85 (0.60-1.20)	0.4	1
T3-4	1.33 (0.97-1.82)	0.06	1.44 (1.04-2.00)	0.02	0.8
T0/x	1.79 (0.99-3.23)	0.06	1.54 (0.81-2.93)	0.2	1
Grade					
G1	-		Reference		
G2	1.28 (0.66-2.49)	0.4	1.04 (0.53-2.04)	0.9	1
G3	1.15 (0.61-2.15)	0.6	1.21 (0.64-2.28)	0.6	1
G4	1.02 (0.54-1.91)	0.9	1.10 (0.58-2.07)	0.7	1
Gx	1.11 (0.57-2.17)	0.7	1.12 (0.57-2.21)	0.7	1
NNR	0.98 (0.98-0.99)	<0.001	0.98 (0.98-0.99)	<0.001	<0.001

Abbreviations. CI: confidence interval; CT: chemotherapy; HR: hazard ratio; NNR: number of lymph nodes removed; TMT: trimodal therapy; TURB: transurethral resection of the bladder; UC: urothelial carcinoma
 * p values were adjusted using the conservative Bonferroni correction method which multiplies the raw p-values by the number of tests

Supplementary table 9 Univariable and Multivariable Cox regression analyses predicting Overall Mortality among patients without neoadjuvant or adjuvant chemotherapy treatment and lymph node invasion (N=2380).