

SYSTEMATIC URETERAL FROZEN SECTIONS DURING RADICAL CYSTECTOMY FOR BLADDER CANCER. IS IT REALLY USEFUL?

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Introduction & objectives:

- In our centre distal ureteral frozen sections during radical cystectomy (RC) due to bladder cancer (BC) are routinely performed and repeated, if positive, until the reach of tumour negative samples.
- However, despite several studies, there is not a global consensus on the adequate management of positive margins. Especially it is not clear if the positive findings are correlated with oncological outcomes.
- Aim of our study was to evaluate if the presence of positive ureteral frozen sections (negative at final pathological report) impacts on recurrence and survival outcomes.**

Results:

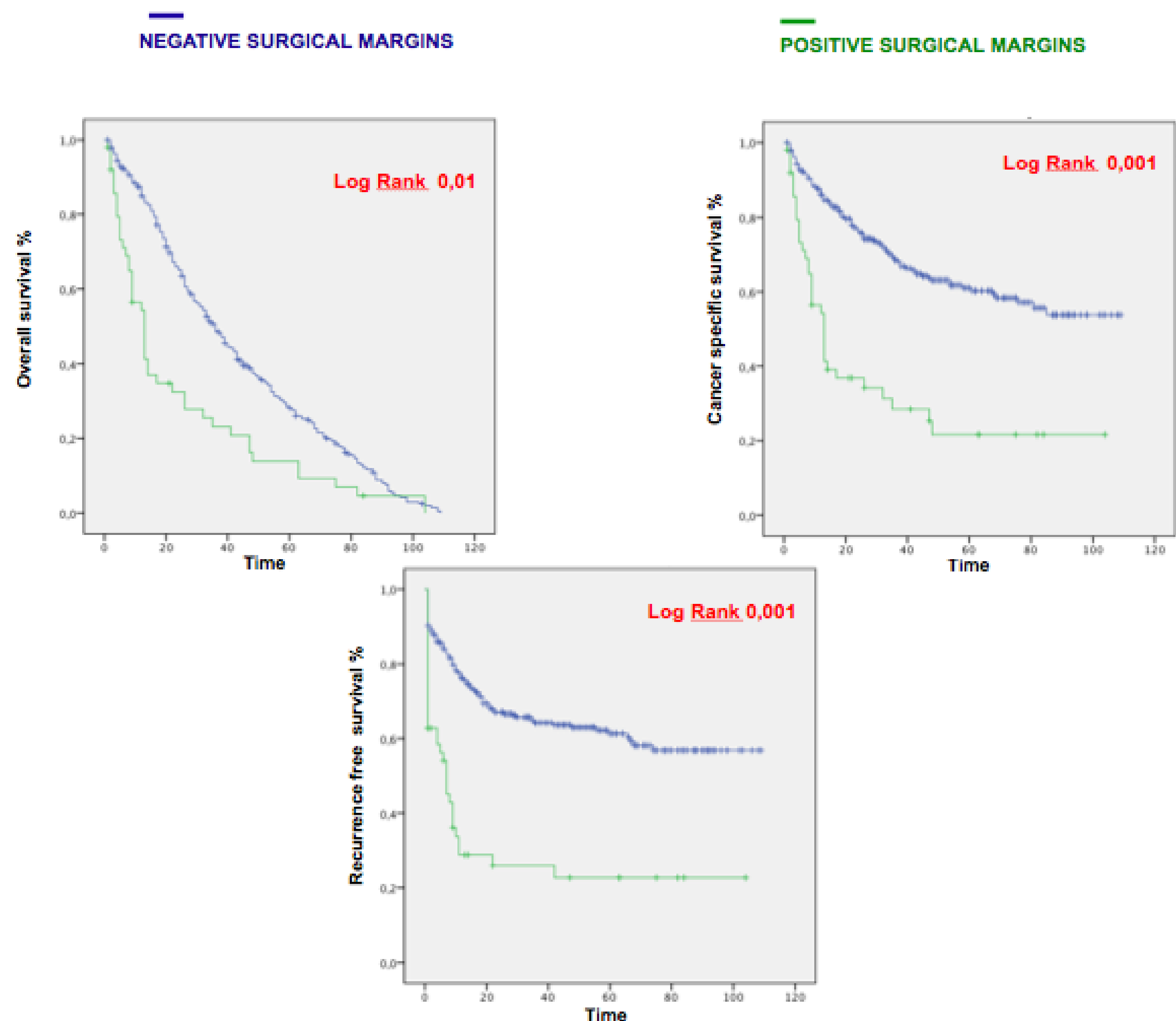
Descriptive characteristics

Variables	OVERALL (n=391)
Age at surgery, years Median (IQR)	71 (40-90)
Gender, n (%)	
Male	322 (82)
Female	69 (18)
ASA score, n (%)	
1	36 (9)
2	183 (47)
3	145 (37)
4	27 (6)
Tumor stage, n (%)	
2	217 (54,5)
3-4	174 (44,5)
Margins, n (%)	
Positive	51 (13)
Negative	340 (87)
Pathologic nodal stage, n (%)	
pN0	274 (70.1)
pN+	117 (29.9)
Number of LN removed, n (%)	23 (10-73)
LVI, n (%)	
Yes	35 (9)
No	356 (91)
Adjuvant chemotherapy, n (%)	
Yes	57 (14.6)
No	334 (85,4)
Adjuvant radiotherapy, n (%)	
Yes	25 (6.4)
No	366 (93.6)
Postoperative follow-up, months Median (IQR)	30 (5-130)

Materials & methods:

- We evaluated **391 consecutive nonmetastatic patients** diagnosed with BC and treated with RC at a single tertiary referral centre between 2008 and 2015.
- We **systematically performed ureteral frozen section** independently to the bladder diversion or to TNM status.
- Univariable and multivariable Cox proportional hazards regression analyses model was used to predict cancer specific mortality (CSM), overall mortality (OM) and recurrence.
- The Kaplan-Meier method was used to compare recurrence, CSM and OM in the overall population. Covariates included age at surgery, gender, pathological T stage, pathological N stage, pathological grade, surgical margins and lymph vascular invasion.

Kaplan meier analysis assessing survival and recurrence in patients stratified according to surgical margins



Univariable and Multivariable Cox Regression predicting CSM, OM and Recurrence

	CANCER SPECIFIC MORTALITY		OVERALL MORTALITY		RECURRENCE		CANCER SPECIFIC MORTALITY		OVERALL MORTALITY		RECURRENCE	
	Univariable		Univariable		Univariable		Multivariable		Multivariable		Multivariable	
	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value
Age at surgery	1 (0.99-1.02)	0.7	1.09 (1.07-3.16)	<0.001	1 (0.99-1.02)	0.7	1 (0.99-1.02)	0.7	1.09 (1.07-1.1)	0.02	1,6 (0.97-1.52)	0.5
ASA	1.07 (0.91-1.25)	0.4	1.34 (1.22-1.47)	<0.001	1.07 (0.91-1.25)	0.4	1.07 (0.91-1.25)	0.4	1.34 (1.22-1.47)	<0.001	1.15 (0.61-1.15)	0.4
Gender	2.5 (0.96-3.67)	0.6	1.22 (0.83-1.79)	0.3	1.5 (0.97-3.67)	0.3	1.5 (0.82-3.67)	0.3	1.22 (0.83-1.79)	0.3	1.52 (0.7-1.67)	0.3
Pathologic tumor stage T2 vs T3-T4	3.7 (2.39-5.73)	<0.001	0.93 (0.63-1.37)	0.7	3.7 (2.39-5.73)	<0.001	3.7 (2.39-5.73)	<0.001	0.93 (0.63-1.37)	0.7	3.7 (2.39-5.73)	<0.001
Pathologic nodal stage pN0 vs pN+	2.91 (1.79-4.73)	<0.001	1.38 (0.65-2.93)	0.4	2.91 (1.79-4.73)	<0.001	2.91 (1.79-4.73)	<0.001	1.38 (0.65-2.93)	0.4	2.91 (1.79-4.73)	<0.001
LVI	1.07 (1.91-2.25)	<0.001	1.11 (1.09-1.27)	0.3	1.07 (1.91-2.25)	<0.001	1.07 (0.91-1.25)	0.4	1.11 (1.09-1.27)	0.3	2.17 (1.41-4.25)	<0.001
Adjuvant Radiotherapy	12.27 (5.90-22.32)	<0.001	1.17 (0.78-1.72)	0.3	11.4 (3.90-21.32)	<0.001	1.27 (0.90-1.32)	0.07	1.17 (0.78-1.72)	0.3	11.27 (4.90-18.32)	<0.001
Adjuvant Chemotherapy	10.17 (4.88-21.34)	<0.001	1.14 (1.12-1.47)	0.4	10.6 (4.88-18.34)	<0.001	10.17 (4.88-22.34)	<0.001	1.14 (0.82-1.66)	0.4	14.17 (6.88-24.34)	<0.001
Positive surgical margins	2,35 (1.05-4.84)	<0.001	2.23 (1.09-5.27)	0.01	3.38 (2.02-6.92)	<0.001	2.27 (1.20-3.32)	0.03	1.17 (0.88-1.52)	0.3	3.27 (1.90-5.52)	<0.001

Conclusions: Ureteral frozen sections should be always performed. Considering the impact on oncological outcomes, positive ureteral frozen sections, even when negative at the final report, should be taken into account in the planning of the follow-up of patients who underwent to RC due to BC.