

THE PROGNOSTIC VALUE OF T1 BLADDER CANCER SUBSTAGING



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AIM OF THE STUDY

To evaluate the prognostic value of the depth of lamina propria invasion in patients with T1 transitional cell bladder cancer.

PATIENTS AND METHODS

200 patients treated between the years 2002 and 2009

Prospective evaluation of T1 substage

Median time for follow-up 3.13 years

Primary endpoints: recurrence-free survival, progression-free survival, disease-specific survival and overall survival.

Parameters tested for their prognostic value: grade, tumour size, multiplicity, the presence of carcinoma in situ (CIS), repeat transurethral resection (reTUR), the administration of Bacillus Calmette-Guérin (BCG) and mitomycin C (MMC) instillation therapies, the number of instillations and length of treatment

T1 BLADDER CANCER SUBSTAGING

pT1a tumours with the depth of invasion above the muscularis mucosae level

pT1b tumours with the depth of invasion up to, or beyond the muscularis mucosae

PATIENT CHARACTERISTICS

Females/males	45/121
Age (years)	Median 68.83 (range 17.55-86.94)
T1a/T1b	131/35
Primary/recurrent	114/52
G1/G2/G3	35/84/47
CIS (yes/no)	19/147
Single/multiple	66/100
Size (<3cm/>3cm)	80/86
reTUR (yes/no)	59/107
BCG (yes/no)	36/130
MMC (yes/no)	10/156

RESULTS

Categorization for pT1a and pT1b in 176 of 200 patients (88%)
Muscle invasive tumor in reTUR samples- 2 of 37 (5.4%) with pT1a tumor and in 8 of 32 (25%) with pT1b tumor.

166 analyzed patients

Recurrence in 101 (61%) patients

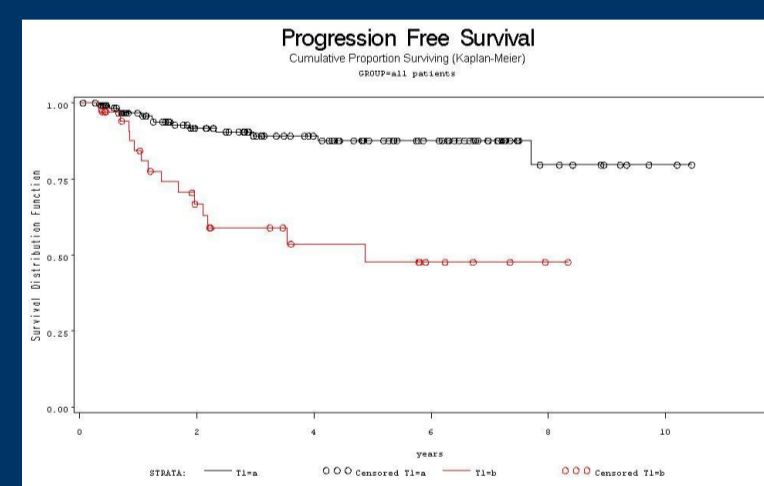
Progression in 27 (16.3%) patients

RESULTS

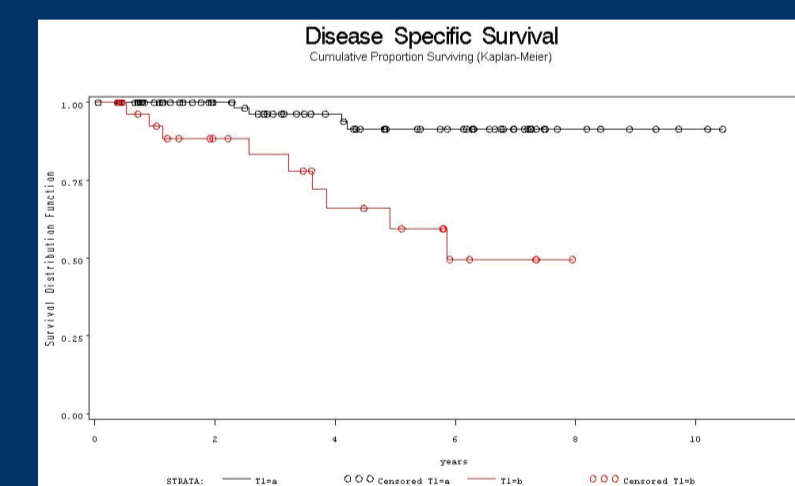
Multivariate Cox proportional hazards model analysis

Analysis	Variable	HR	95% CI	p value
RFS	Multiplicity	2.315	1.507 3.555	0.0001
	BCG	2.192	1.269 3.785	0.0049
PFS	T1 substaging	3.562	1.532 8.282	0.0032
	Grade	2.515	1.252 5.052	0.0095
DSS	T1 substaging	4.407	1.699 11.43	0.0023
OS	Age	3.925	2.257 6.826	<0.0001
	T1 substaging	3.109	1.615 5.986	0.0007
	BCG therapy	2.469	1.214 5.021	0.0126

RFS- recurrence-free survival, PFS- progression-free survival, DSS- disease-specific survival, OS- overall survival



Kaplan-Meier curves of percentage of patients remaining free of progression (log-rank test, $p < 0.0001$)
Black line – Patients with T1a tumour (131 patients)
Red line – Patients with T1b tumour (35 patients)



Kaplan-Meier curves of disease specific survival (log-rank test, $p = 0.0008$)
Black line – Patients with T1a tumour (131 patients)
Red line – Patients with T1b tumour (35 patients)

CONCLUSIONS

The deep invasion of lamina propria is a significant adverse prognostic factor for tumour progression, disease-specific survival and overall survival.

These data suggest that T1 substaging should be a routine part of any histopathological report whenever feasible.