

Treatment Patterns and Long-Term Survival Outcomes in Muscle-Invasive Bladder Cancer: A Decade-Long Single-Institution Retrospective Cohort Study

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INTRODUCTION & AIM

Muscle-invasive bladder cancer (MIBC) is an aggressive malignancy with heterogeneous treatment and outcomes. Long-term real-world survival data from low- and middle-income countries are limited.

Aim: to evaluate treatment patterns, 10-year survival and independent prognostic factors in MIBC at a tertiary cancer centre in Pakistan.

METHODS

- Retrospective cohort; **349** adults with MIBC (T2+), treated Jan 2010 to Dec 2020
- Groups: neoadjuvant chemo (NAC) then cystectomy or chemoradiotherapy (CRT)/RT; upfront cystectomy; definitive CRT; definitive RT; palliative
- Overall survival (OS): Kaplan-Meier, log-rank test
- Univariate and multivariate Cox regression (SPSS)

BASELINE CHARACTERISTICS (N = 349)

Characteristic	n	%
Median age, years (range)	57	22-89
Male	287	82.2
High grade (G3)	309	88.5
Node-positive	109	31.2

TREATMENT DISTRIBUTION

Treatment strategy	n (%)
NAC → cystectomy	47 (13.5%)
NAC → CRT/RT	64 (18.3%)
Upfront cystectomy	50 (14.3%)
Definitive CRT	87 (24.9%)
Definitive RT	34 (9.7%)
Palliative treatment	67 (19.2%)

SURVIVAL BY TREATMENT GROUP

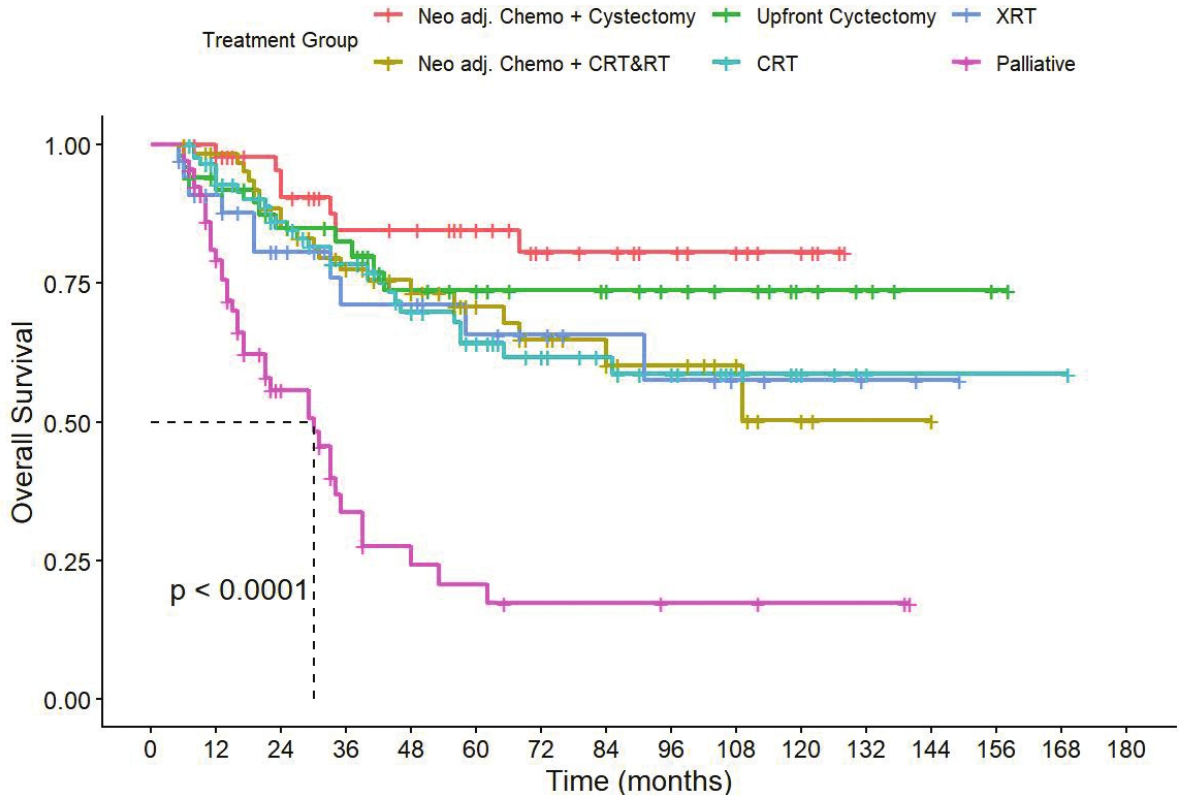


Fig 1. OS by treatment group (log-rank $p < 0.0001$)

SURVIVAL BY STAGE

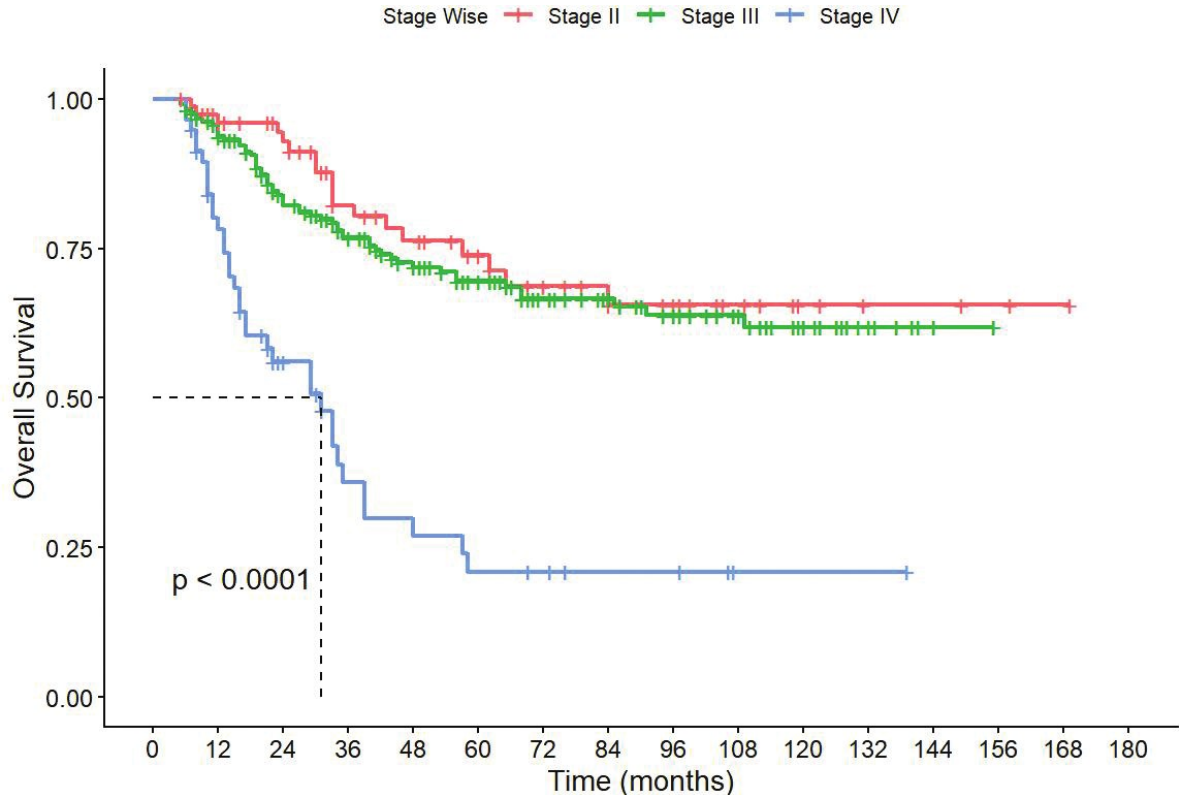


Fig 2. OS by stage at diagnosis (log-rank $p < 0.0001$)

KEY RESULTS

- At last follow-up, **67.9%** of patients were alive; 37.2% relapsed (distant metastasis 61%)
- OS differed significantly across treatment strategies ($p < 0.001$)
- Median OS **not reached** in curative-intent groups; **30 months** with palliative intent
- No significant OS difference between definitive surgical and bladder-preserving approaches after adjustment

PROGNOSTIC FACTORS

Multivariate Cox	HR	95% CI	p
Stage III vs II	1.23	0.68-2.11	0.459
Stage IV vs II	2.41	1.33-4.37	0.0039
Palliative vs cystectomy	3.30	1.49-7.31	0.0034

CONCLUSION

Definitive treatment gave durable survival in selected patients. **Stage and treatment intent** were the dominant determinants of outcome. Bladder-preserving chemoradiotherapy was an effective definitive option.