

Yale SCHOOL OF MEDICINE

SURVIVAL OUTCOMES AMONG CHEMORADIATION AND NEOADJUVANT CHEMOTHERAPY WITH RADICAL CYSTECTOMY FOR SMALL CELL BLADDER CANCER

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Introduction

- Small cell bladder cancer is associated with highly aggressive clinical behavior and poor long-term survival.
 - Nonetheless, in patients with clinically localized disease, local therapy has been historically recommended following initial systemic therapy
- We aimed to assess differences in survival outcomes of systemic therapy followed by radical cystectomy or by radiation therapy

Methods and Materials

- National Cancer Database
 - Clinical stage I-III bladder cancer with small cell histology
- Primary study outcome:
 - Overall survival between chemoradiation compared to neoadjuvant chemotherapy followed by radical cystectomy
- Analysis:
 - Cox proportional models to adjust for the effects of independent variables that may affect clinical outcome and choice of therapy (age, race, Hispanic origin, tumor size, sex, median income, urban/rural habitation, Charlson comorbidity index, presence of lymph node positive disease)
- Secondary outcome:
 - 30 and 90-day mortality

Results

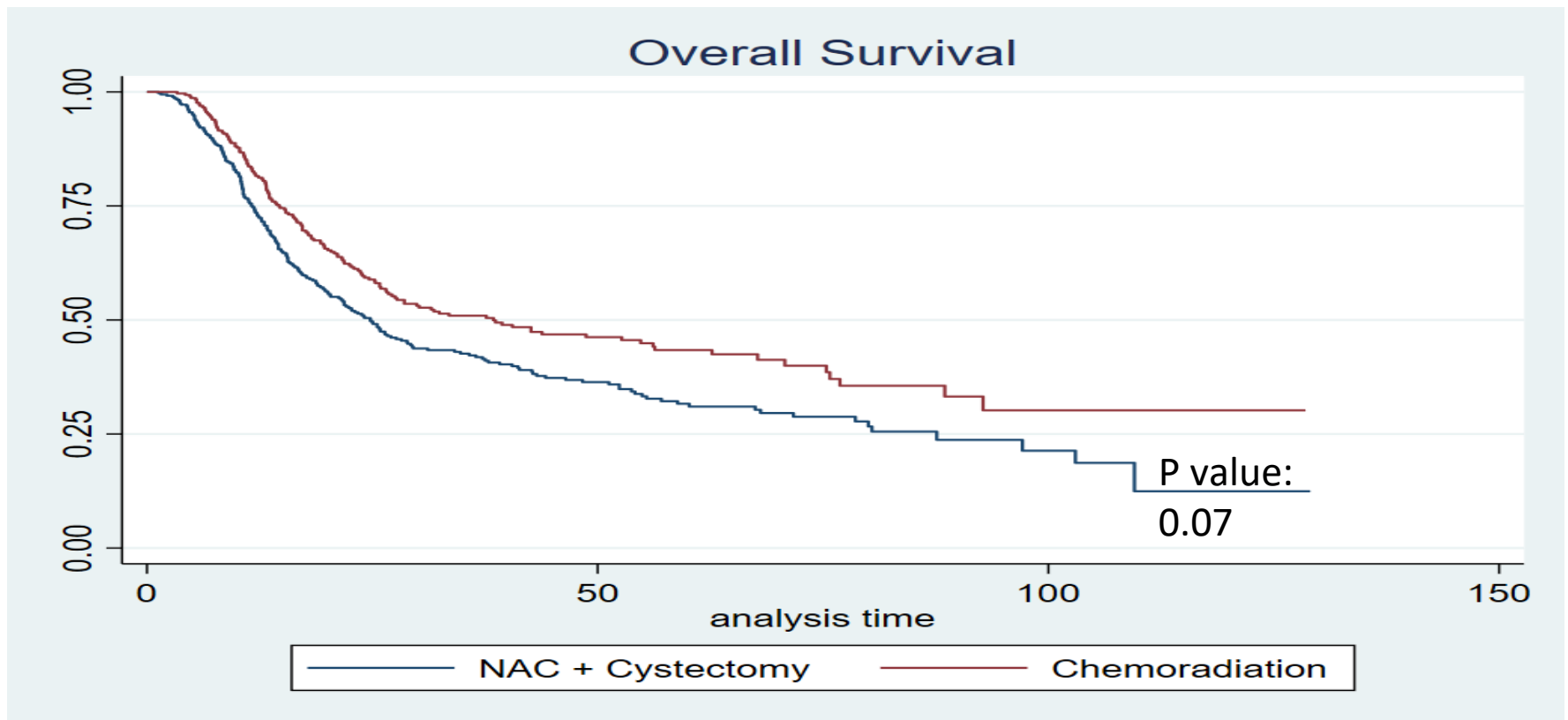
- We identified 756 patients with stage I-III small cell bladder cancer treated with chemoradiation in 410 (54.23%) and neoadjuvant chemotherapy followed by cystectomy in 346 (45.77%).
- Compared to chemoradiation, patients that received neoadjuvant chemotherapy with cystectomy were **younger** (mean age: 65.2 ± 9.1 vs 71.2 ± 11.5 ; $p < 0.01$) and had **smaller tumor size** (RT mean size in cm: 4.2 ± 2.4 vs 5.4 ± 7.7 ; $P: 0.02$).
- Distribution of sex, race, Charlson comorbidity index or stage was **not significantly different between groups**.
- During follow-up, 90-day mortality was **significantly higher** in the cystectomy group (4.79% vs 1.58%; $P: 0.02$).

Table 1: Hazard proportional models estimating overall survival

- After controlling for demographics, disease and treatment characteristics, hazard ratio for overall survival was not significantly different between treatment groups (HR: 0.91, 95% CI: 0.66-1.25; P: 0.5)

Variable	Hazard Ratio	95% Confidence Interval	P value
Chemoradiation	0.91	0.66-1.25	0.5
Age	1.00	0.99-1.02	0.3
Sex	0.68	0.45-0.99	0.06
Race	1.00	0.99-1.01	0.3
Hispanic	0.63	0.36-1.10	0.1
Insurance	0.95	0.81-1.12	0.6
Rural/Urban	1.14	1.04-1.25	0.03
Income	1.03	0.88-1.22	0.6
Distance to provider	0.99	0.99-1.00	0.09
Charlson	1.13	0.91-1.4	0.2
Size of tumor	1.00	1.00-1.00	0.04

- Overall survival appeared similar between radiation and radical cystectomy after systemic therapy.



Conclusion

- Among patients with primary small cell bladder cancer overall survival appeared similar between radiation and radical cystectomy after systemic therapy.