

Chemotherapy Use in Early Stage Anal Canal Squamous Cell Carcinoma and its Impact on Outcome

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Introduction

The standard of care for non-metastatic squamous cell carcinoma of the anal canal (SCCA) is concurrent chemoradiotherapy. It is postulated that chemotherapy could be omitted for the earliest stages without worsening outcomes. We used the National Cancer Database (NCDB) to identify predictors of chemotherapy receipt or omission to assess impact on outcomes.

Methods

We queried the NCDB from 2004-2016 for patients with cT1N0M0 SCCA treated non-operatively with radiation, with and without chemotherapy, and at least two months of follow-up. Logistic regression generated predictors of chemotherapy use. Cox regression identified predictors of survival. Propensity matching was done to account for indication bias.

Results

- Of 2,959 eligible patients, 8% (n = 237) had chemotherapy omitted and 92% (n = 2722) received multi-agent chemotherapy.
- Predictors of chemotherapy omission were older age (OR 0.66, 95% CI [0.49-0.90], P = 0.0087), higher comorbidity score (OR 0.62, 95% CI [0.38-0.99], P = 0.0442), African American race (OR 0.57, 95% CI [0.36-0.90], P = 0.0156) and more remote year of treatment (OR 1.1 for years 2004-2006).
- Predictors of survival were younger age (HR 1.73 for age > 58 years, 95% CI [1.41-2.11], P<0.001), multi-agent chemotherapy use (HR 0.48, 95% CI [0.38-0.62], P <0.0001), higher income (HR 0.57, 95% CI [0.40-0.81], P = 0.0016), female gender (HR 0.68, 95% CI [0.57-0.82], P = 0.0016), and private insurance (HR 0.54, 95% CI [0.34-0.87], P = 0.0104).
- Overall survival at 120 months for patients treated with and without chemotherapy was 86% and 65%, respectively (p<0.0001).

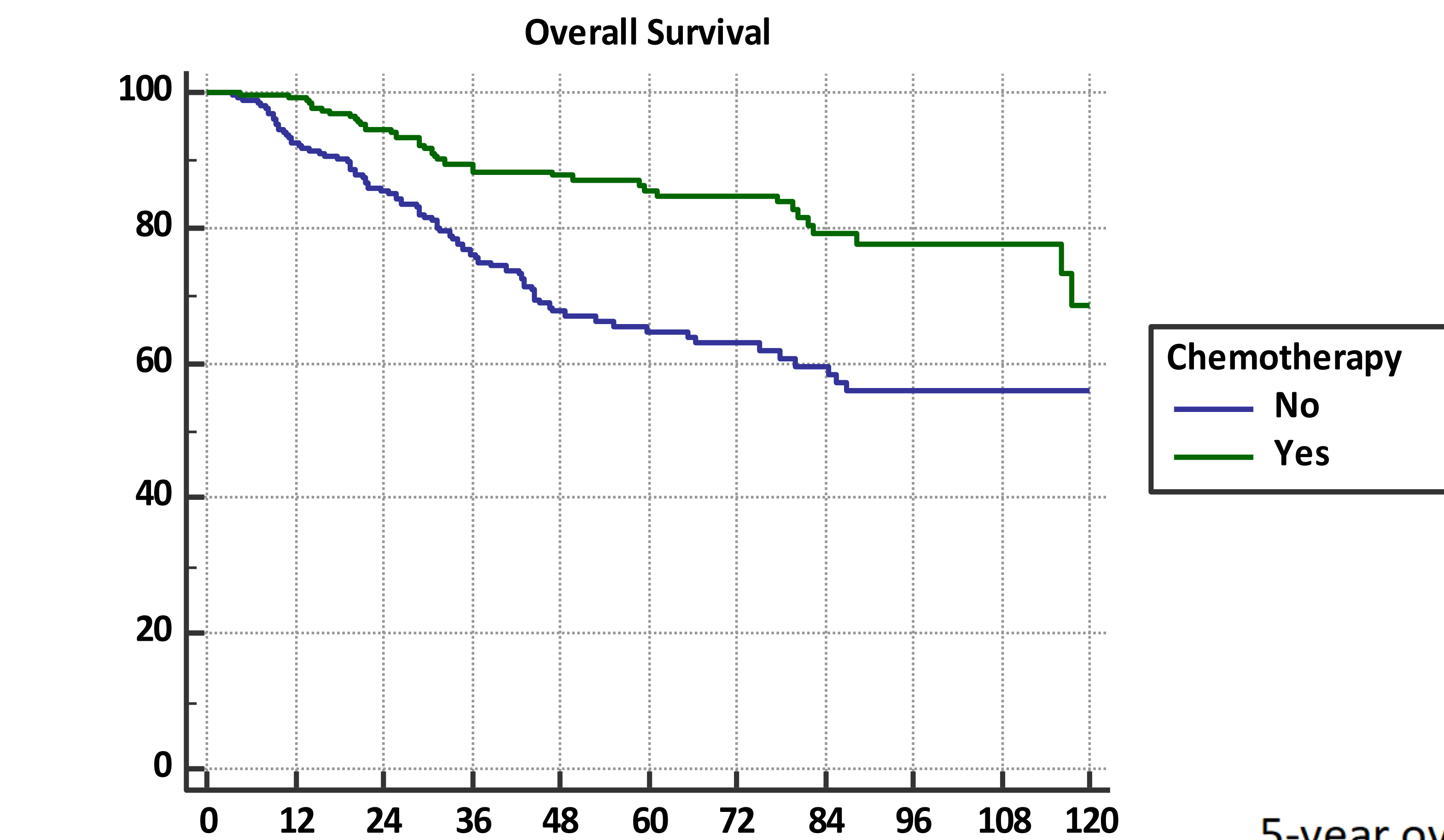


FIGURE 1. Kaplan-Meier curves for propensity-matched cohorts are shown above. Estimated overall survival was 86% in those that received chemotherapy vs 65% in those who did not (P <0.0001).

Number at risk										
Group: No										
237	214	182	135	105	81	62	47	30	19	12
Group: Yes										
237	226	198	156	133	113	88	62	44	26	12

5-year overall survival

No Chemotherapy	65%
Chemotherapy	86%

Conclusion

Chemotherapy is utilized the majority of the time in early stage SCCA. Our results suggest an association with worse survival outcomes when chemotherapy is omitted.

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