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### Title

Adjuvant Chemotherapy Improves Survival in Patients with T4N0 Colon Adenocarcinoma

### Permalink

<https://escholarship.org/uc/item/81p2v6kt>

### Journal

Journal of the American College of Surgeons, 227(4)

### ISSN

1072-7515

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### Publication Date

2018-10-01

### DOI

10.1016/j.jamcollsurg.2018.07.121

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Peer reviewed

## COLON AND RECTAL SURGERY

### Adjuvant Chemotherapy Improves Survival in Patients with T4N0 Colon Adenocarcinoma

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Journal of the American College of Surgeons: October 2018 - Volume 227 - Issue 4 - p S58

doi: 10.1016/j.jamcollsurg.2018.07.121

**INTRODUCTION:** Patients with stage IIB/C (T4N0) colon cancer have poorer survival than those with stage IIIA cancers. This paradox may be explained by low use of adjuvant chemotherapy (ACT) for T4N0 tumors or because ACT has little efficacy in this subgroup of patients. We hypothesized that adjuvant chemotherapy may significantly improve overall survival (OS) in patients with T4N0 colon adenocarcinoma.

**METHODS:** Using the National Cancer Database, patients with American Joint Committee on Cancer pathologic T4NoMo colon adenocarcinoma who underwent surgery from 2006 to 2015 were identified. ACT recipients were compared with nonrecipients. Kaplan-Meier survival analysis was used to calculate OS. Cox proportional hazards regression model was performed to evaluate factors with OS.

**RESULTS:** Of the 9,815 patients studied, 30.3% underwent ACT. Mean OS of ACT recipients was significantly longer compared with those who underwent surgical resection alone (50 vs. 36 months,  $p < 0.05$ ). In multivariate survival regression analysis, low medical comorbidities (total Charlson-Deyo score of 1) (adjusted hazard ratio [AHR] 0.55, 95% CI 0.48-0.63;  $p < 0.01$ ), receiving ACT (AHR, 0.57, 95% CI 0.53-0.61;  $p < 0.01$ ), and treatment at academic research program (AHR 0.85, 95% CI 0.78-0.93;  $p < 0.01$ ) were associated with improved OS. However, treatment at community cancer program (AHR 1.10, 95% CI 1.01-1.21;  $p < 0.01$ ), male sex (AHR 1.03, 95% CI 1.034-1.039;  $p < 0.01$ ) were significantly associated with increased risk of death.

**CONCLUSIONS:** Our study suggests that ACT for T4N0 colon cancer is associated with a significantly improved survival, but the majority of these patients do not receive postoperative chemotherapy.