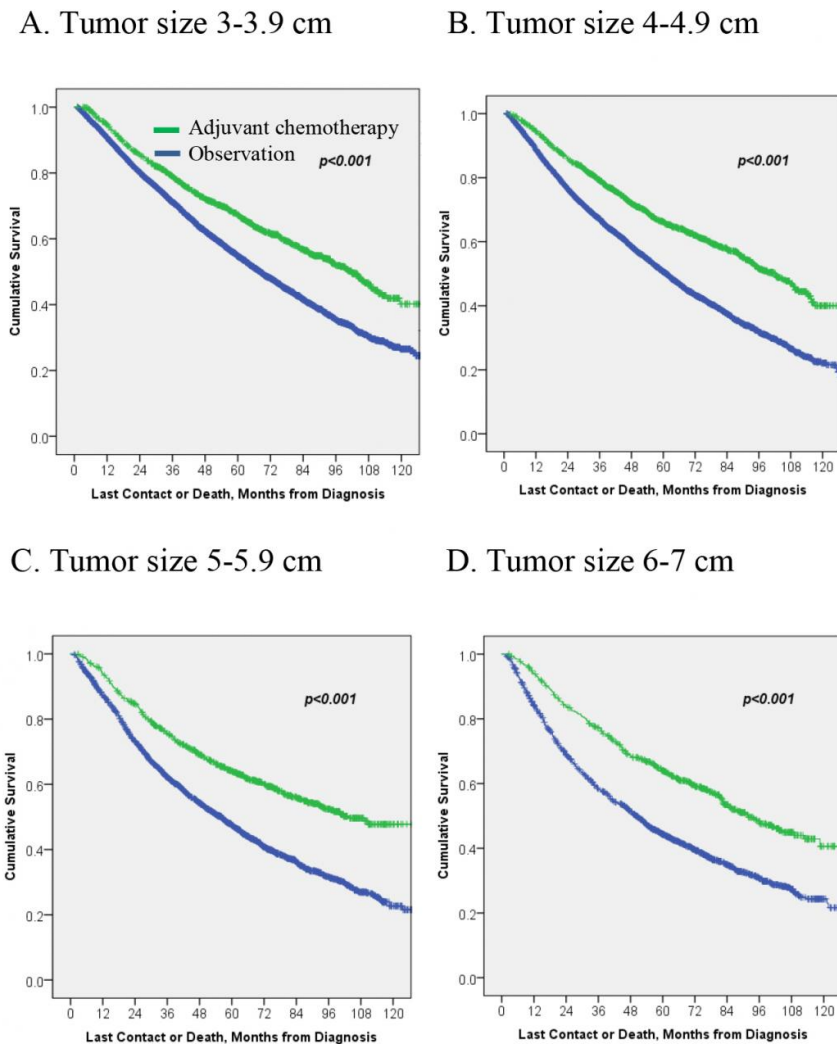


# Adjuvant chemotherapy improves overall survival in patients with stage IB non-small cell lung cancer

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Figure 1. Kaplan-Meier survival curves according to tumor size and use of chemotherapy.



Kaplan-Meier survival curves according to tumor size and use of chemotherapy.  
Credit: *Journal of Thoracic Oncology*

The use of adjuvant chemotherapy in early-stage non-small cell lung cancer (NSCLC) patients improves overall survival (OS) and 5-year OS in patients with tumor sizes ranging from 3 - 7 cm.

Stage I [lung cancer](#), the earliest stage at which clinicians diagnose lung cancer, is identified in approximately 16% of all lung cancer cases in the U.S. For early-stage [patients](#) with medically operable clinical NSCLC, surgery is the treatment of choice. Several studies have found that patients with stage II and III NSCLC that had adjuvant chemotherapy following complete surgical resection lived longer than those that had surgery without chemotherapy. However, in early-stage NSCLC patients there currently is not enough evidence to support the use of chemotherapy following complete resection, even though stage I lung cancer recurs either locally or at distant sites in roughly a third of early-stage patients. Exploratory analysis of the use of adjuvant chemotherapy in early-stage patients showed improved overall survival for patients whose tumors were  $\leq 4$  cm. Consequently, a thorough investigation of the clinical benefits and survival of the use of adjuvant chemotherapy in early-stage patients is warranted in order to improve the current treatment recommendations.

A group of investigators analyzed a large cohort of patients (29,908 patients) with pathologic stage T2N0M0 NSCLC, diagnosed from 2003 to 2010, and who underwent complete (R0) resection to evaluate the role of adjuvant chemotherapy in early-stage patients. The patients were identified from the National Cancer Database (NCDB) using the International Classification of Diseases for Oncology, 3rd Edition and

pathologic staging was based on the American Joint Committee on Cancer, 7th Edition staging criteria. Patients who died within 30 days after surgery were excluded from the study. Patients were categorized into two cohorts: those who received adjuvant chemotherapy (5,209, 17.4%) and those who did not (24,699, 82.6%). The cohorts were further divided into four groups based on [tumor size](#): 3-3.9 cm, 4-4.9 cm, 5-5.9 cm, and 6-7 cm.

The results published in the *Journal of Thoracic Oncology*, the official journal of the International Association for the Study of Lung Cancer (IASLC), demonstrated that adjuvant chemotherapy was associated with improved median overall survival (OS) and 5-year OS compared to the observation group in both univariate (one variable) and multivariate (multiple variables) analyses. In the univariate analysis, the 5-year OS for patients not receiving adjuvant chemotherapy was inversely related to tumor size, decreasing from 58% in 3-3.9 cm to 46.9% in 6-7 cm. However, in patients that received adjuvant chemotherapy 5-year OS was nearly identical for 4-4.9 cm, 5-5.9 cm, and 6-7 cm groups. Furthermore, all patients receiving adjuvant chemotherapy, regardless of tumor size, showed improved median OS (95.6 vs. 67.0 months, Hazard Ratio (HR) 0.64; 95% CI 0.61-0.68, P

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