

## Is it time for adjuvant chemotherapy after SBRT in early-stage NSCLC?

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## Abstract

### Purpose

Surgery remains the standard treatment for medically operable patients with early-stage non-small cell lung carcinoma (NSCLC). Following surgical resection, adjuvant chemotherapy is recommended for large tumors > 4 cm. For unfit patients, stereotactic body radiation therapy (SBRT) has emerged as an excellent alternative to surgery. This study's aim was to assess patterns of recurrence and discuss role of chemotherapy after SBRT for NSCLC.

### Materials and Methods

We reviewed patients treated with SBRT for primary early-stage NSCLC between 2009 and 2015. Total target doses were between 50 and 60 Gy, administered in 3 – 8 fractions. All patients had a staging FDG PET/CT and histologic confirmation was obtained whenever possible. Mediastinal staging was performed if lymph node involvement was suspected on CT or PET/CT. Survival outcomes were estimated using the Kaplan-Meier method.

### Results

Among the 559 NSCLC early-stage patients treated with SBRT, 121 patients were stage T2N0. The 1-year and 3-year overall survival rates were 88% and 70% for patients with T2 disease, compared to 95% and 81% for the T1 patients ( $p < 0.05$ ). The 1-year and 3-year local control rates were equal in both groups (98% and 91%). In T2 patients, 25 (21%) presented a relapse, amongst which 21 (84%) were nodal or distant.

### Conclusion

Lung SBRT provides high local control rates, even for larger tumors. When patients relapse, the majority of them do so at regional or distant sites. Adjuvant treatment should be considered following SBRT for larger tumors.

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