

Surgery versus stereotactic body radiation therapy for operable stage I non–small cell lung cancer: Can we achieve equipoise?

Mark W. Onaitis, MD,^a and Joseph Salama, MD^b

From the Departments of ^aSurgery and ^bRadiation Oncology, Duke University Medical Center, Durham, NC.

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Address for reprints: Mark W. Onaitis, MD, DUMC Box 3305, Durham, NC 27710 (E-mail: mwo@duke.edu).

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In the current issue of the *Journal*, Rosen et al¹ present an impressive analysis of the National Cancer Database, comparing outcomes of clinical stage I non–small cell lung cancer (NSCLC) patients free of comorbidities undergoing either lobectomy or stereotactic body radiation therapy (SBRT). The 13,562 patients who underwent lobectomy enjoyed a significant survival advantage over the 1781 patients who underwent SBRT (hazard ratio 0.38 for overall survival). When matched for propensity to undergo lobectomy and SBRT, patients with early-stage lung cancer (1781 patients in each group), surgery patients had a 59% 5-year survival compared with 29% for SBRT.

The results of the current study match those of previous analyses that use the National Cancer Database and other databases.²⁻⁵ Although the obvious limitation of this analysis is its retrospective nature, the authors attempted to control bias by excluding patients not offered surgery for health-related reasons, including only patients without comorbidities, and performing the propensity model. These represent significant improvements over the previously published analyses, although it may be impossible in a retrospective database to identify patients with SBRT truly without comorbidity.

Although results such as these should clearly continue to push clinicians to consider lobectomy for fit patients with medically operable stage I NSCLC, such retrospective studies will not represent the final word on SBRT. Unfortunately, prospective trials have failed to accrue. Equipoise for a comparison of SBRT and lobectomy, however, is achievable, as a pooled analysis of the very few randomized patients has demonstrated improved survival in the SBRT group.⁴

The key issue critical to achieving equipoise is ensuring all patients with medically operable stage I NSCLC have appropriate lymph node assessment. In the current analysis, only 6% of patients with SBRT had a pathologic assessment of lymph nodes. Almost assuredly, undiagnosed lymph node metastases are the primary culprits responsible for the poor survival of the SBRT group. The lack of pathologic nodal staging deprives medically operable patients



Mark W. Onaitis, MD

Central Message

The role of stereotactic body radiation therapy in the fit patient is unclear. Future randomized trials may provide greater clarity.

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receiving SBRT from the known survival improvement of adjuvant chemotherapy. Hopefully, future trials examining lobectomy versus SBRT in healthy patients will include mandatory assessment lymph nodes in both arms. The upcoming VALOR (Veterans Affairs Lung cancer surgery Or stereotactic Radiotherapy) includes mandatory pathologic assessment of any suspicious lymph nodes (including any lymph node >10 mm with standardized uptake value >2.5) seen on fludeoxyglucose-positron emission tomography/computed tomography. Stablemates (ClinicalTrials.gov ID NCT02468024) has similar requirements. Although these recommendations focus on mediastinal nodes, navigational bronchoscopy and radial endobronchial ultrasound will allow assessment of N1 lymph nodes that lobectomy routinely resects.

To provide each lung cancer patient with the best opportunity for cure while minimizing morbidity and mortality, identifying those patients who will benefit from each treatment is of the utmost importance. Clearly, the excellent local control achieved with SBRT makes it an attractive noninvasive treatment for patients without lymph node metastases. If surgeons, radiation oncologists, and the entire multidisciplinary treatment team together can make every effort to ensure that truly N0 patients are included in prospective randomized studies, then

equipoise should be achievable so that we can answer these important questions.

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