Common Failure Patterns Between SBRT, Lobectomy, Pneumonectomy For Lung Cancer

For patients with medically operable clinical stage I non–small-cell lung cancer (NSCLC), lobectomy or pneumonectomy is the standard approach. For patients with medically inoperable stage I NSCLC, stereotactic body radiotherapy (SBRT) has become a standard of care. Researchers from the Washington University School of Medicine wanted to compare the patterns of failure (primary tumor control, local control, regional control and distant control) between each method.

A recent study published in the February 2013 issue of the International Association for the Study of Lung Cancer's (IASLC) *Journal of Thoracic Oncology*, concludes that there are comparable patterns of failure between treatments. Researchers looked at 454 patients (336 surgery, 118 SBRT) treated at Washington University in St. Louis between January 2004 and January 2008. The results demonstrate that patterns of failure between optimal surgery (lobar resection) and optimally dosed SBRT are similar. However, their results also highlight the difficulties in making such comparisons, given the inherent imbalance in both patient and tumor-related factors. For example, lobar resection patients were younger, healthier and had superior pulmonary function, while more patients in the SBRT group had smaller tumors.

While researchers were unable to control for factors predictive of overall survival, they were able to match 76 patients in each group based on tumor size. Researchers noted, "In a T-stage matched comparison of 152 patients, there was no significant difference in patterns of failure or cancer-specific survival." They conclude that, "In this retrospective comparison, overall survival was superior for surgery, though cancer-specific survival was similar. Randomized trials are necessary to control for fundamental differences in co-morbidity that impact interpretation of both tumor control and survival."

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