At 10 Years, Stereotactic Body Radiation Therapy Comparable to Surgery for Early-Stage Lung Cancer

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- Study is the first to compare 10-year outcomes from surgery and a specific kind of radiation therapy known as SBRT (also called SABR) in non-small cell lung cancer
- Survival outcomes were similar, but the SBRT group had fewer side effects and potentially less financial burden
- Study further confirms radiation as an alternative for these patients, even in cases where the cancer is operable

Researchers from The University of Texas MD Anderson Cancer Center will present new data at the American Society for Radiation Oncology (ASTRO) 2025 Annual Meeting demonstrating that stereotactic body radiation therapy (SBRT) and surgery achieved similar survival outcomes at 10-year follow-up for patients with early-stage non-small cell lung cancer, with radiation offering quality-of-life benefits. These findings [were] presented Sept. 29 by Joe Chang, MD, PhD, professor of Radiation Oncology, and Troy Kleber, MD, resident.

At a median follow-up of 8.3 years, overall survival rates were 69% for the SBRT cohort and 66% for the surgery cohort, a difference that was not statistically significant. Lung cancer-specific survival and recurrence-free survival rates also were similar.

Although the data show a higher acute complication rate caused by surgery, the quality-of-life survey for patients at 10 years was similar. Chang and Kleber shared additional insights below.

What are the key findings being presented?

“The most important finding is that SBRT and surgery had similar 10-year outcomes, reinforcing

the initial five-year data that we have previously presented from this trial. This is very encouraging because we sometimes see similar outcomes at three years or even five years of follow-up that diverge over time. In this case, our initial findings continue to hold up after 10 years. There also are some notable advantages in quality of life for SBRT patients, including significantly fewer acute treatment-related complications," Chang said.

What are the advantages of SBRT over surgery for patients?

"SBRT is a specific type of radiation therapy that precisely targets tumors with very high doses of radiation. It is also known as stereotactic ablative body radiation (SABR). The first major advantage is simply that many patients aren't eligible for surgery for a variety of potential reasons. One factor is age, as many older patients are at much greater risk for complications with surgery, so a non-invasive option is
immediately an advantage for those patients. Another advantage is an easier recovery process, so patients who are treated with SBRT generally have less financial strain than those who undergo surgery," Kleber said.

Does this indicate that SBRT should be the option for all early-stage non-small cell lung cancer patients?

"No, but it does emphasize the importance of a multi-disciplinary care team to consider all options for their patients. For example, for patients whose tumors are more complex, larger, or located in certain areas, surgery remains the best treatment option. This study confirms that SBRT is an effective alternative that should be considered," Chang said.

What methods were used in the study?

This trial compared 80 patients who were treated with SBRT to 80 who underwent surgery. The enrolled patients had tumors smaller than three centimeters, no lymph node involvement and no distant metastases. The surgical group received video-assisted thoracoscopic (VATS) lobectomy and mediastinal lymph node removal.

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