

Robotic radiosurgery offers palliative care for hilar lung tumors

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Patients report decreased pain and improved breathing following treatment of their hilar tumors with robotic radiosurgery, but researchers say the therapy falls short of improving survival. Still, the study, conducted by researchers at Georgetown Lombardi Comprehensive Cancer Center and presented today at the annual meeting of the American College of Chest Physicians in Vancouver, BC, represents the first of its kind to document the use of radiosurgery for hilar tumors and presents a novel therapy option.

For the study, researchers reviewed the medical records of patients diagnosed with inoperable primary and metastatic hilar lung tumors. Hilar tumors abut or invade the mainstem bronchus. All the patients in the study were treated with five courses (30 to 40 Gy in 5 fractions) of radiotherapy using CyberKnife. Imaging studies with a combined PET/CT scan were performed at three and six-month follow-up intervals to track [tumor progression](#).

The record review included 24 patients -- four with inoperable primary hilar lung tumors and 20 with hilar tumors that had spread there from other primary sites. The mean radiation dose administered to the esophagus was 27 Gy (ranging from 11 to 40 Gy) and mean radiation dose administered to the lung was 45 Gy (ranging from 30 to 50 GY).

At one-year, the overall survival was 61 percent and local control (ability to keep the tumor from growing) was 71 percent. The review found that most deaths were attributed to the spread of the patients' cancers.

However, there was one death that was attributed to an opening in the mainstem bronchus in a patient who was previously stented.

While no uniform data was collected from patients about quality of life at the time of their treatment, the study's lead author says the patient records reflect comments made by patients about their symptoms.

"Patients reported improvement with coughing, breathing, and they reported less pain," said Brian Collins, MD, a radiation oncologist with Lombardi and lead author of the study.

"Our study suggests that CyberKnife is a palliative treatment option for hilar [lung tumors](#)," explains Collins. "We'd like to investigate outcomes with increased radiation doses to see if we can improve local control and overall survival rates. And we'd like to study the impact of administering a drug to make the tumors more sensitive to radiation.

"This is an important first step that gives us a new option to treat potentially morbid hilar tumor," Collins concludes. "Future studies would likely involve drugs to make the tumor more sensitive to radiation."

Provided by Georgetown University Medical Center

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