

Brain radiation after lung cancer treatment reduces risk of cancer spreading

September 6 2012

Stage III non-small cell lung cancer (NSCLC) patients treated with surgery and/or radiation therapy have a significantly reduced risk of developing brain metastases if they also receive prophylactic cranial irradiation (PCI); however, this study did not show an improvement in overall survival with PCI, according to research presented at the 2012 Chicago Multidisciplinary Symposium in Thoracic Oncology. This symposium is sponsored by the American Society of Clinical Oncology (ASCO), the American Society for Radiation Oncology (ASTRO), the International Association for the Study of Lung Cancer (IASLC) and The University of Chicago.

Patients with non-small cell lung cancer that has not spread outside the chest have a high incidence of brain metastases after receiving treatment for their primary cancer. Radiation to the brain has been proven to decrease the chance of cancer spreading to the brain and to improve overall survival in small cell lung cancer, but its benefits to NSCLC patients are unproven.

Researchers in this study examined 340 stage III NSCLC patients who had received surgery and/or [radiation therapy](#) with or without chemotherapy. Patients were randomly assigned to receive PCI or to not receive the additional treatment (observational arm). After a median follow-up time of 24.2 months for all patients and 58.6 months for living patients, the rates of overall survival for the PCI arm versus the observational arm were 26.1 percent versus 24.6 percent, respectively. However, the rate of [brain metastases](#) for the PCI arm was much lower

at 17.3 percent versus 26.8 percent for the observational arm.

"This is important confirmatory information regarding the effectiveness of [brain radiation](#) in decreasing the rate of brain failures. Unfortunately this study was very difficult to enroll patients on and ultimately did not accrue enough patients to answer the primary question—Does PCI improve overall survival in patients with locally advanced NSCLC?," said Elizabeth Gore, MD, lead author of the study and a professor of [radiation oncology](#) at the Medical College of Wisconsin in Milwaukee. "I'd like to emphasize the need for participation in clinical trials. This is particularly important in lung cancer, which is understudied despite being the leading cause of cancer death in the United States."

More information: The abstract, "Phase III Comparison of Prophylactic Cranial Irradiation Versus Observation in Patients with Locally Advanced Non-small-cell Lung Cancer: Updated Analysis of RTOG 0214," will be presented during the Plenary Session at 12:30 p.m., Central time on September 7, 2012.

Provided by American Society for Radiation Oncology

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