ASTRO
TARGETING CANCER CARE

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What are the real benefits versus risks of preventative brain radiation for patients with non-small cell lung cancer?

Chicago - Patients with non-small cell lung cancer treated with preventative brain radiation (called prophylactic cranial irradiation or PCI), significantly decrease their risk of developing brain metastases (cancer spread in the brain) by more than 50 percent (from 18 percent to 8 percent), compared to those who did not receive the treatment, according to a randomized study presented at the plenary session November 2, 2009, at the 51st Annual Meeting of American Society for Radiation Oncology (ASTRO).

While there were no significant differences in quality of life, patients who received PCI did have a significantly increased risk of short and long-term memory loss. The study also found that patients who underwent PCI did not live longer than patients who did not receive this treatment.

"This is the first randomized study to analyze neurocognitive and quality of life factors for non-small cell lung cancer patients who undergo PCI," Benjamin Movsas, M.D., presenter of this Radiation Therapy Oncology Group (RTOG) study and chairman of radiation oncology at Henry Ford Hospital in Detroit said. "With better, more targeted treatments, more lung cancer patients are surviving longer and are at increased risk of developing brain metastases. This study provides key information that will lead to a better understanding of the true risks versus benefits of this intervention."

PCI is a preventative type of external beam radiation therapy that treats the entire brain to try to sterilize potential invisible tumor cells that are so small they cannot even be seen on

sensitive imaging tests. The risk of cancer developing in the brain increases as people with non-small cell lung cancer are surviving longer due to more effective treatments.

In this study, 340 eligible patients from 127 RTOG institutions with Stage III non-small cell lung cancer whose cancer had not progressed after undergoing treatment were randomized to be treated with PCI or undergo observation from September 2002 to August 2007.

"It's critical for studies to not only report on patient outcomes, such as local control and survival, but also on how the treatments affect the patients, including neurocognition and quality of life factors," Dr. Movsas said. "We need the 'whole picture' in order to be able to accurately assess and discuss treatment options with our patients."

The study was supported by grants from the National Cancer Institute.

For more information on radiation therapy for lung cancer, visit www.rtanswers.org.

The abstract, "*Phase III Study of Prophylactic Cranial Irradiation (PCI) versus Observation in Patients with Stage III Non-Small Cell Lung Cancer (NSCLC): Neurocognitive and Quality of Life (QOL) Analysis of RTOG 0214*," will be presented at the plenary session at 2:15 p.m. on Monday, November 2, 2009. To speak to the presenter of the study, Benjamin Movsas, M.D., please call Beth Bukata or Nicole Napoli November 1-4, 2009, in the ASTRO Press Room at McCormick Place West at 312-791-7005 or 312-791-7006. You may also e-mail them at bethb@astro.org or nicolen@astro.org.

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