

Preventative brain radiation for lung cancer patients: Benefits and risks

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A new study is taking a closer look at the benefits versus risks for lung cancer patients to undergo preventative brain radiation therapy as a means to stop cancer from spreading to the brain.

Study results show that while preventative [brain radiation](#) for patients with non-small cell [lung cancer](#) - the most common form of lung cancer - does reduce the chance of developing brain metastases, it impacts some short-term and long-term memory.

The study also reveals that preventative brain radiation does not increase survival and has no significant impact on quality of life, says study co-investigator Benjamin Movsas, M.D., chair of the Department of Radiation Oncology at Henry Ford Hospital in Detroit.

"These findings offer a more complete perspective regarding this intervention for patients with non-small cell lung cancer," Movsas says. "We now need to develop strategies to help shift the benefit-risk ratio for this treatment."

Dr. Movsas will present the study results Nov. 2 at the plenary session for the 51st annual American Society for [Radiation Oncology](#) (ASTRO) meeting. Out of nearly 1,000 abstracts submitted, only a handful of study abstracts, including the one from Henry Ford, were selected for the ASTRO plenary session.

The study is part of a national Radiation Therapy Oncology Group

(RTOG) analysis of prophylactic cranial irradiation for patients with stage III non-small cell lung cancer.

Previous studies have found this preventative type of external beam radiation therapy that treats the entire brain - known as prophylactic cranial irradiation (PCI) - can reduce the risk of cancer spreading to the brain in patients with non-small cell lung cancer, as well as its sister disease, small-cell lung cancer. The risk of cancer developing in the brain increases as people with non-small cell lung cancer live longer with more effective treatments.

To learn more about how PCI impacts a patient's quality of life and cognitive function, Dr. Movsas and his colleagues tracked the progress of 340 patients with stage III non-small cell lung cancer for one year after receiving PCI, a 10-minute treatment that occurs once a day for two to three weeks.

The study finds that patients with non-small cell lung cancer treated with PCI have a significantly decreased risk of developing brain metastases by 10 percent (from 18 percent to 8 percent), compared with those who did not receive the treatment.

Although there was no significant impact on quality of life, patients who underwent PCI had a greater decline in immediate memory recall and delayed memory recall than patients who did not have PCI.

"This study offers patients a look at both sides of the coin with this treatment, allowing them to make an informed decision about their care," says Dr. Movsas. "Now that we have a more complete perspective and know the challenges, we need to move forward to develop strategies to reduce the risk of neurocognitive changes after brain radiation."

Already a RTOG study is underway to test memantine, a medication

approved for Alzheimer's disease, to see if it may help improve memory following brain radiation.

Dr. Movsas notes the potential for exploring other strategies, such as using newer radiation technologies like intensity modulated radiation therapy, for a more precise treatment that will spare parts of the brain associated with memory.

Source: Henry Ford Health System ([news](#) : [web](#))

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