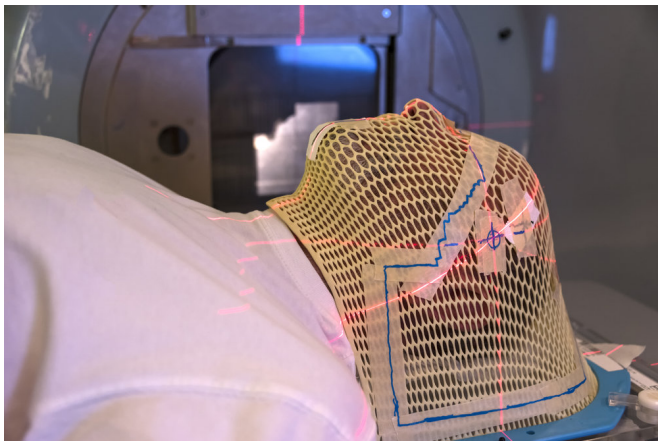


New radiation treatment for brain cancer offers better preservation of cognitive function

23 October 2018, by Joe Dangor



Credit: Mayo Clinic

When it comes to radiation therapy to treat brain cancer, hippocampal-avoidance whole-brain radiotherapy in conjunction with the drug memantine better preserved patients' cognitive function and demonstrated similar cancer control outcomes, compared to traditional whole-brain radiotherapy with memantine.

These findings were presented on Tuesday, Oct. 23, by Mayo Clinic researchers at the 2018 [annual meeting](#) of the American Society for Radiation Oncology (ASTRO) in San Antonio.

"The hippocampus is a part of the brain associated with the limbic system and cognitive functions including memory," says Paul Brown, M.D., a [radiation](#) oncologist at Mayo Clinic and senior author of the study. "Based on decades of translational studies, we know that even relatively modest doses of radiation to the hippocampal region of the brain contributes to cognitive problems for patients, such as memory loss." Dr.

Brown says hippocampal-avoidance whole-brain [radiotherapy](#) was developed to help patients with brain [cancer](#) avoid cognitive damage during whole-brain radiation therapy.

For their study, Dr. Brown and his colleagues compared hippocampal-avoidance whole-brain radiotherapy to traditional whole-brain radiotherapy with patients in both arms study arms taking memantine.

Researchers enrolled 518 patients from July 2016 to March 2018. Patients were randomized to the two study arms. The median age of patients was 61.5 years. Treatment arms did not differ in baseline characteristics.

Researchers found that patients receiving hippocampal-avoidance whole-brain radiotherapy had better preservation of cognitive function, and achieved similar cancer control and overall survival than patients who received standard whole-brain radiation therapy. They also found that, while age independently predicts for neurocognitive function, the neurocognitive benefit of hippocampal avoidance did not differ by age.

"The results of this trial could have a significant impact on patients," says Dr. Brown. "The incidence of metastatic brain cancer is estimated to be as high as 200,000 cases per year in the United States. And depending upon a patient's primary cancer type, between 10 percent and 30 percent of [patients](#) with cancer will have cancer that spreads to the brain."

"This is one of the few clinical trials in radiation oncology that originated in the laboratory, was then tested in a phase II trial, and finally, building on prior [trials](#), was tested in a phase III trial which demonstrated positive improvements," says Dr.

Brown. "We plan to present our findings with updated data, including patient-reported symptoms next month at the 2018 Society of Neuro-Oncology annual meeting in New Orleans."

Provided by Mayo Clinic

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