

Stereotactic radiosurgery may be best for patients with metastatic brain tumors

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Patients with three or fewer metastatic brain tumors who received treatment with stereotactic radiosurgery (SRS) had less cognitive deterioration three months after treatment than patients who received SRS combined with whole brain radiation therapy (WBRT). These findings are according to the results of a federally funded, Mayo Clinic-led, multi-institution research study published today in the *Journal of the American Medical Association*.

"Metastatic brain tumors are unfortunately common in patients with cancer," says Paul Brown, M.D., a radiation oncologist at Mayo Clinic and the lead author of the study. Dr. Brown says that, while SRS gives physicians the opportunity to treat tumors and spare healthy brain tissue, a combination of SRS plus WBRT has been shown to help control growth of metastatic brain tumors. "The concern is that WBRT also damages cognitive function," says Dr. Brown. "That is why we have been studying the use of SRS alone."

Researchers enrolled 213 patients between February 2002 and December 2013, and randomly assigned them to treatment with SRS alone (111) or SRS followed by WBRT (102). Researchers found less [cognitive deterioration](#) at three months in patients treated with SRS alone. Quality of life (QOL) was also higher at three months among patients treated with SRS alone. There was no significant difference in functional independence at three months between treatment groups. Median overall survival was 10.4 months for patients treated with SRS alone and 7.4 months for patients treated with SRS and WBRT.

"This is the first large-scale clinical trial to evaluate this patient population with a comprehensive battery of cognitive and QOL instruments," Dr. Brown says. "WBRT has often been offered early in the disease course for patients with [metastatic brain tumors](#), but, because of this trial, we know the negative impact of WBRT on both quality of life and cognitive function is significant. With these trial findings, we expect practice will shift, reserving WBRT for [patients](#) with more extensive disease in the brain."

Provided by Mayo Clinic

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