Alliance Public Study Result Summary
NCCTG N0574

What this study is about

This study compared different radiation therapy treatments for patients with cancer that has spread to the brain (brain metastases).

The full title of this study is: A phase III randomized trial of the role of whole brain radiation therapy in addition to radiosurgery in the management of patients with one to three cerebral metastases

Why the study was done

This study was done to see if patients who got treatment with less radiation had less side effects of deterioration in their thinking or cognitive decline. This side effect was measured three months after the radiation was finished. Patients on the study took tests including tests that looked at their language use and ability to do day to day tasks. This study also looked at how long it took for these brain tumors to come back and how long the patients lived.

On this study, half the patients got a type of focal radiation called stereotactic radiosurgery where only the brain tumors are radiated and the other half of the patients got the same focal radiation *and* radiation to the whole brain.

This study was done to see if patients had better brain function and thinking when they had less radiation so that future patients with this same type of cancer could potentially get less radiation treatment and potentially have a better quality of life.

Study results

These results are for people with cancer that spread to the brain and have 1 to 3 brain tumors.

The study found that patients who got focal radiation alone:

- Had better outcome in terms of their thinking and understanding.
- The tumor came back faster.
- Lived longer than the patients who got both the whole brain radiation and the focal radiation together.
- Had a better quality of life.

The study found that patients who got focal radiation and whole brain radiation:

- Had worse side effects with respect to their thinking.
- Tested worse on their language function after treatment.

What the results mean

These results mean that patients who have 1 to 3 brain tumors that have spread from their cancer to the brain can be treated with lower levels of radiation by stereotactic radiosurgery alone in order to keep their thinking and cognition as well as possible.

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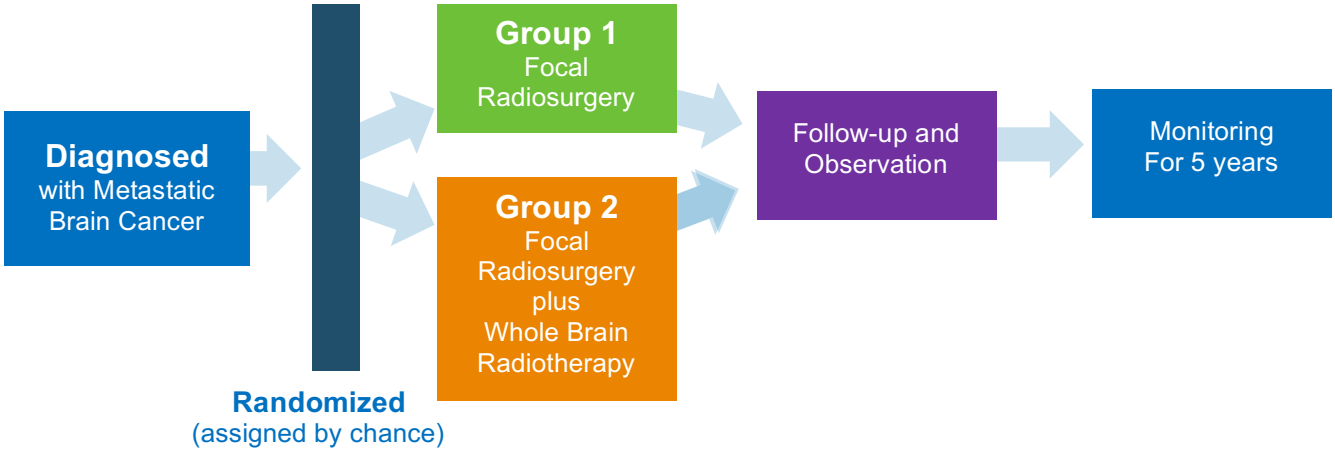
How the study worked

Here's a picture that explains how patients were placed into this study.



When did the study start and end? The study started in July 2006. All patients were enrolled by December 2013.

How many patients joined? There were 213 patients total were enrolled in this study. 102 patients got the focal radiation alone and 111 patients got focal radiation plus the whole brain radiated.

Talk to your doctor if you want more information about this study.

Scientific publications about this study

This summary includes information in the following article:

- **Effect of Radiosurgery Alone vs Radiosurgery with Whole Brain Radiation Therapy on Cognitive Function in Patients With 1 to 3 Brain Metastases: A Randomized Clinical Trial.** Brown PD, Jaeckle K, Ballman KV, Farace E, Cerhan JH, Anderson SK, Carrero XW, Barker FG 2nd, Deming R, Burri SH, Ménard C, Chung C, Stieber VW, Pollock BE, Galanis E, Buckner JC, Asher AL. JAMA. 2016 Jul 26;316(4):401-9. doi: 10.1001/jama.2016.9839.

To learn about this trial, visit the ClinicalTrials.gov website at
https://clinicaltrials.gov/ct2/show/NCT00377156

This study was sponsored by the Alliance for Clinical Trials in Oncology – a national clinical trial network group that runs large cancer clinical trials. The Alliance is supported by the National Cancer Institute (NCI) and brings researchers together to develop better treatments for cancers. More information about the Alliance is at http://www.allianceforclinicaltrialsinoncology.org.

This summary lists what is known about this research study as of July 2016.
New Information may be available.

We thank the people who joined this study and made it possible.
We do research to try to learn the best ways to help patients.
The people who joined this study helped us to do that.

Thank you for your interest in learning more about cancer research advances.