PRECISION RADIOTHERAPY
A partnership of Mayfield Clinic and University Radiology Associates

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Meningioma: a Case for Radiosurgery In a Medically Compromised Patient

by > John Breneman, MD and Ronald Warnick, MD

Clinical problem

This is an 83-year-old woman with an incidental finding of a right posterior frontal convexity meningioma several years ago. Initially, observation was recommended, however serial follow-up scans showed progressive growth of the lesion. Having a past medical history of pulmonary fibrosis, the patient was felt to be a poor operative candidate. Stereotactic radiosurgery was recommended for control of her asymptomatic, though progressive tumor.

Treatment

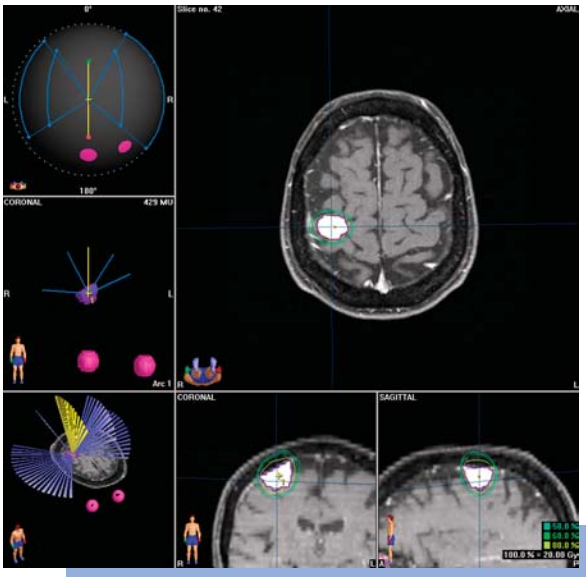
The patient underwent single-dose radiosurgery treatment. The BrainLab stereotactic headring was used for localization of the lesion and immobilization during treatment. The Novalis treatment unit was configured for Dynamic Conformal Arc therapy with the shape of the radiation beam profile continuously modified as it moved over the surface of the patient's head. A single dose of 1600 cGy was delivered. The entire procedure lasted approximately 3 hours and the patient was discharged home. The patient experienced no adverse effects from treatment. Follow-up MR done 6 months after treatment showed a significant decrease in the lesion size.

Comments

Though surgical resection is the treatment of choice for operable meningiomas, stereotactic radiosurgery and radiotherapy are excellent alternatives for those unable to undergo surgery. Local control after treatment exceeds 90% at 10 years, and objective radiographic response and/or symptomatic relief are seen in almost 50% of patients. Using highly conformal techniques such as Dynamic Conformal Arc therapy, risks and side effect of treatment are minimal. Most patients are able to continue normal work and activities in the peri-treatment period. Even minor effects such as hair loss are uncommon.

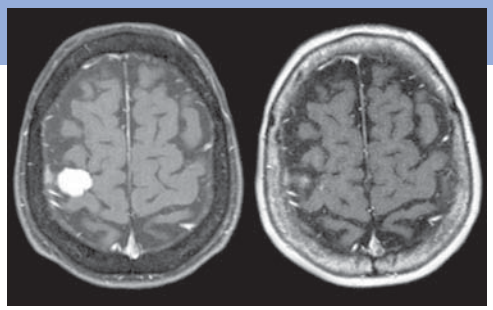
References

1. Long-term results after radiosurgery for benign intracranial tumors. **Neurosurgery** 53(4):815-21, 2003.



[top] Dynamic Conformal Arc therapy delivers highly conformal radiation to the target, minimizing side effects of treatment.

[bottom] Pre (left) and post (right) MR shows decrease in tumor size.



How to refer

Because of the specific nature and complexity of the services we provide, patients must have a consultation with one of our physicians prior to being referred to the center. To schedule an appointment with one of our physicians, please contact Precision Radiotherapy at 513-475-7777. Additional information is available on the web at **www.precisionradiotherapy.com**.

Precision Radiotherapy 7710 University Court, West Chester, Ohio 45067
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The Precision Radiotherapy Center

The Precision Radiotherapy Center provides an option for patients with tumors or other neurological disorders. Developed by the Mayfield Clinic and University Radiology Associates, two nationally recognized neuroscience programs affiliated with the University of Cincinnati College of Medicine, Precision Radiotherapy is the region's first center to offer high-precision radiotherapy/ radiosurgery for tumors and other abnormalities both inside and outside the brain. We can target benign and malignant tumors of the brain, head and neck, as well as tumors elsewhere in the body, such as the prostate, spine, liver and lung. Patients also come to us for treatment of vascular malformations, trigeminal neuralgia, acoustic neuromas and pituitary adenomas.

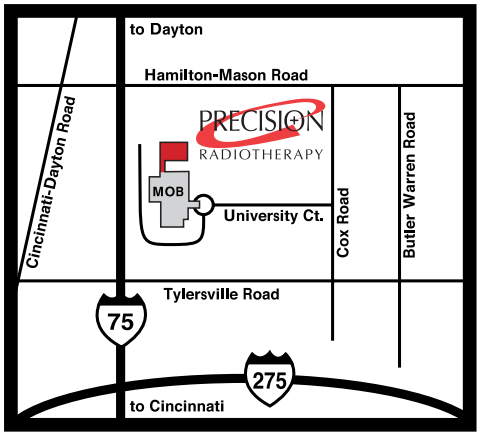
Hours of Operation

Monday-Friday, 8:00 a.m. - 5:00 p.m.

Directions

The Precision Radiotherapy Center is conveniently located on I-75, just north of Cincinnati at University Pointe, 7710 University Court, in West Chester, Ohio. For detailed directions, visit our website:

www.precisionradiotherapy.com



The Precision Radiotherapy Team

Precision Radiotherapy is one of the most progressive treatment centers in the Midwest, featuring a team of internationally recognized specialists and highly skilled staff:

Radiation Oncology

Radiation oncologists of University Radiology Associates are board-certified physicians with specialized training in treating tumors and other lesions with various forms of radiation.

William Barrett, MD
John Breneman, MD
Kevin Redmond, MD

Neurosurgery

Neurosurgeons of the Mayfield Clinic provide initial patient evaluation, treatment planning and follow-up for all neurosurgical patients treated.

William Tobler, MD
John M. Tew, Jr., MD
Ronald Warnick, MD

Radiology

Radiologists from University Radiology Associates work with the team to precisely identify the target area for radiation treatment.

Robert Lukin, MD
Mary Gaskill-Shipley, MD
Gavin Udstuen, MD

Radiation Therapy

Radiation therapists of Precision Radiotherapy are state-licensed, highly trained health professionals who deliver radiation treatment according to specific protocols. They are registered by the American Registry of Radiologic Technologists (ARRT).

Medical Physics

Medical physicists of Precision Radiotherapy are health professionals with special training in radiation physics, are responsible for maintaining and calibrating the equipment used to deliver radiation.