

Mayfield neurosurgeon is first in US to use GammaTile for newly diagnosed malignant brain tumors

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From left, Jake Andreadis of SurgicalOne, Vince DiNapoli, MD, PhD, of Mayfield Brain & Spine, Elizabeth Levick, MD, of OHC, and Larry Langlois of GT Medical Technologies.

Vincent DiNapoli, MD, Ph.D., a neurosurgeon with Mayfield Brain & Spine and Director of the Brain Tumor Center at The Jewish Hospital-Mercy Health, continued to evolve the standard of care this month when he became the first surgeon in the United States to utilize GammaTile Therapy for the treatment of newly diagnosed malignant brain tumors.

GammaTile Therapy, marketed by GT Medical Technologies, became available to [patients](#) in January 2019 and is being used in top cancer treatment centers across the United States. It was initially approved for the treatment of recurrent brain tumors, including glioblastomas, gliomas, meningiomas, and brain metastases. The FDA expanded clearance of the technology in January to include treatment of newly diagnosed [malignant brain tumors](#).

GammaTile Therapy, also known as surgically targeted [radiation therapy](#) (STaRT), is designed to

delay brain [tumor](#) recurrence. It consists of a 3-D-collagen tile embedded with a cesium radiation source. GammaTile is placed in the tumor cavity at the time of surgery so that it immediately begins to target residual tumor cells with radiation while limiting the impact on healthy brain tissue.

"Our ability to utilize GammaTile for patients who have been newly diagnosed with malignant brain tumors provides a welcome addition to our options for treatment," Dr. DiNapoli said. "I began using the therapy for my patients with recurrent malignancies in August 2019, and I'm encouraged by initial results. I am excited by the FDA's decision to expand the technology to the many patients who can benefit from the treatment during their initial diagnosis."

Elizabeth Levick, MD, a radiation oncologist with OHC (Oncology Hematology Care), said: "Our Brain Tumor Center team is grateful that more of our patients will benefit from this technology. The therapy has the potential to positively impact patient outcomes, treatment compliance, and quality of life."

Dr. DiNapoli and his team are using the therapy in place of implantable radioactive seeds the size of grains of rice.



GammaTile, 3 surfaces Credit: GT Medical Technologies

"Previously, we embedded individual seeds into the brain and glued them in place," Dr. DiNapoli said. "Despite our best efforts, they had the potential to migrate to another part of the brain. With GammaTile, the radiation is embedded into a wafer that is similar to a surgical sponge. This minimizes the worry that individual seeds will migrate from their original placement, and helps protect healthy brain tissue from radiation."

Implanting tiles that contain four seeds rather than placing seeds one by one also cuts down on the length of the surgery and, consequently, the length of time the patient is under anesthesia. "The process is very quick," Dr. DiNapoli said. "It can be done in less than 5 minutes."

Approximately 700,000 Americans are living with some type of brain tumor during a given year. Despite the efforts of the most skilled brain tumor specialists throughout the world, outcomes for patients with malignant brain tumors have improved very little over the past 30 years. During this time, there have been only four FDA-approved drugs and two FDA-cleared devices available to patients and physicians for the treatment of brain tumors. GammaTile Therapy, which became available to patients with recurrent brain tumors in January 2019, is the most recent treatment cleared or approved by the FDA for the treatment of brain tumors.

GammaTile Therapy is the only radiation therapy specifically designed for use in the brain and offers advantages for patients undergoing surgery for brain tumors. GammaTile begins targeting residual tumor cells immediately at the time of tumor removal surgery while avoiding damage to healthy [brain](#) tissue. In addition, the burden of radiation treatment is reduced. Patients receive treatment while going about their daily lives and require no additional trips to the hospital or clinic for [radiation therapy](#).

In a [clinical study](#), GammaTile Therapy gave the average patient approximately ten extra months without a local recurrence with extended overall survival.¹ Clark C. Chen, MD, Ph.D., head of the Department of Neurosurgery at the University of Minnesota Medical School, presented data from his first patients treated with GammaTile at the 2019 Society of Neuro-Oncology (SNO) Annual Meeting.

Consistent with data published in a peer-reviewed article, Dr. Chen reported that local control was achieved in approximately 90 percent of patients who underwent gross total resection of their tumor. This impressive result was achieved without an increase in wound complications or length of hospital stay.

More information: 1 Nakaji P, Youssef E, Dardis C, Smith K, Pinnaduwage D, Brachman D. Surgically targeted radiation therapy: a prospective trial in 79 recurrent, previously irradiated intracranial neoplasms. Poster presented at: 2019 AANS Annual Scientific Meeting; April 2019; San Diego, CA.

Provided by Mayfield Clinic

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