

Glint of Hope Compels Brain Cancer Clinical Trials (Against a Dim Prognosis)

The news in May that Massachusetts Sen. Edward Kennedy had brain cancer drove days of media coverage and projections about how and where he would be treated, and by whom.

“All that back-and-forth, all those esoteric details... lose sight of the fact that we have no cure for malignant brain tumors yet,” said Dr. Marc Chamberlain, director of Neuro-Oncology Program at the UW Medical Center.

Some 21,000 Americans a year are diagnosed with brain tumors, according to The American Cancer Society. About 10,000 have glioblastoma, the cancer that Kennedy is reported to have. These patients learn they might live only another year. For them, hope lies in clinical trials that explore new anti-cancer agents.

Nearly 150 clinical trials for glioblastoma were active in the U.S. in mid-August, according to *clinicaltrials.gov*. UW Medical Center was facilitating six, the most among Pacific Northwest hospitals, and Chamberlain had just added another, from the National Comprehensive Cancer Network. He and colleagues are investigating drugs from Celldex Therapeutics, Novartis and TransMolecular, and new approaches with known compounds such as temozolomide.

One agent being tested for safety and efficacy is TM601, a man-made version of a scorpion venom protein which carries radioactive iodine to the brain tumor. One Phase II trial of intracavitary injection of the toxin is complete and starting its second iteration – slow going, for sure, but showing favorable signs, said Dr. Maciej Mrugala, principal investigator and a neuro-oncologist at UWMC. He credited seamless teamwork for enabling UW to offer this trial:

“We needed a surgeon to operate and insert the catheter [into the brain], a nuclear-medicine physician to administer the toxin, a neuro-radiologist to interpret imaging studies, and a neuro-oncologist to monitor the patient’s treatment.

“It was extremely helpful to have research-driven neurosurgeons (Drs.

makers, the National Cancer Institute and anti-cancer consortiums.

UW Medical Center has built a reputation for outstanding treatment of cancer. In July, the hospital’s oncology care ranked sixth in the nation in *U.S. News & World Report’s* annual survey of patient care. Its Neurology

and Neurosurgery programs ranked 22nd among the 170 hospitals evaluated.

“There’s a perception that any oncologist can treat [brain cancer], but many oncologists can’t read brain scans or lack training to understand the nervous system well,” Chamberlain

suggested. “We have three neuro-oncologists with postgraduate training in the treatment of brain tumors. Furthermore, that’s all that we do.”

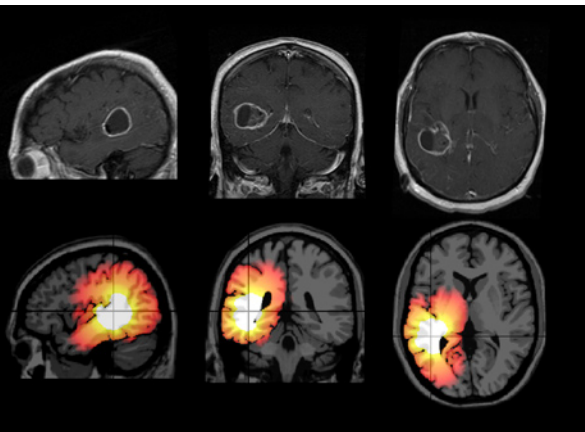
In 1975, Sen. Kennedy was on hand to celebrate the opening of the Fred Hutchinson Cancer Research Center. He was instrumental to legislation that supported the site’s designation by the National Cancer Institute as a comprehensive cancer center. UW Medicine later teamed with “the Hutch” and Children’s Hospital & Regional Medical Center to form the Seattle Cancer Care Alliance. This partnership provides cancer patients access to clinical and research expertise that is distinct nationally.

Nevertheless, slow progress is an unavoidable reality to brain cancer specialists – but it motivates them, too.

“Patients are always asking about new treatments,” Mrugala said. “It is crucial to test new agents. We might be far away from the cure but we are not far away from extending survival and making positive impact on patients’ quality of life.”

To find out more or to refer a patient, call the neuro-oncology patient-care coordinator at (206) 598-6489.

The top row shows three planes of MRI from a glioblastoma patient. The bottom row shows UW researcher Kristin Swanson’s math-based prediction of glioma cells’ diffuse extension throughout the brain. Red represents a low (but nonzero) density of infiltrating glioma cells; white represents the dense portion of the tumor visible in MRI images. The tool helps UWMC physicians predict tumors’ behavior, with and without treatment.



Robert Rostomily and Dan Silbergeld) on the team to make this challenging-trial run smoothly,” Mrugala added.

Chamberlain cited contributions of others on the UW neuro-oncology team: nurses, nurse practitioners, investigators, radiation oncologists, and neuro-pathologists. He mentioned UW Professor John Silber’s investigation of mechanisms of DNA injury and how those mechanisms affect cell proliferation.

All have acquired “remarkable fundamental knowledge” of brain cancer, Chamberlain said, helping UW qualify for clinical trials sponsored by drug



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Dr. Marc Chamberlain is one of three UWMC neuro-oncologists.