

The Cancer Report

Fall 2022

Precise, Expert Care

Effective brain tumor treatment that protects brain function



Mark Davis, of Menomonee Falls, knew the week ahead would be stressful.

It was a Sunday evening, and he was thinking over all the issues he had to tackle Monday morning in his role as chief operating officer at an electric utility. Hoping to rest up for a tough week, Mark got in bed early and promptly clicked off the light.

“When I woke up, I was in an ICU at Froedtert Hospital surrounded by family,” he said. “I couldn’t speak because of a breathing tube, but I gave my wife a look like, ‘What happened?’ She leaned down and said, ‘You had a seizure.’”

Mark suffered six seizures that night. The cause was a fast-growing brain tumor known as a grade III malignant astrocytoma.

Navigating the Brain

Patients in the Froedtert & the Medical College of Wisconsin Brain and Spine Tumor Program receive care from a full team of brain cancer experts — neurosurgeons, neuro-oncologists, radiation oncologists and many others. This team meets weekly to discuss patients and develop fully coordinated care plans. Mark’s first link to the team was **Wade Mueller, MD**, neurosurgeon and MCW faculty member.

“Our main goal is to remove as much cancer tissue as possible without compromising a patient’s critical brain functions,” Dr. Mueller said. “When we meet a person who has a newly diagnosed brain tumor, one of the first things we check is the ‘geography’ of the tumor — where it’s located in terms of the functional areas of the brain. We do that using MRI that is so sensitive and high resolution that it can detect tumor growth before a patient experiences symptoms. In fact, every phase of what we do, from diagnosis through treatment and follow-up, is image guided. We then use a variety of tools during surgery, including sophisticated MRI and ‘awake’ testing, to remove as much tumor as possible, while protecting abilities like language and movement.”

Within two weeks of his first seizure, Mark was in the operating room. During an hours-long procedure, Dr. Mueller and his team removed all detectable cancer.

Mark and Rochell Davis

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Innovations in Colorectal Cancer Treatment

Screening is an essential detection tool

With **Carrie Peterson, MD, MS**, colorectal surgeon and MCW faculty member

Carrie Peterson, MD, MS, explains how physicians with the Froedtert & the Medical College of Wisconsin Colorectal Cancer Program successfully treat people with colorectal cancer using innovative surgeries, drugs and radiation therapy techniques.

Q: What should people know about colorectal cancer?

Dr. Peterson: Get screened. With a colonoscopy, we can remove growths before they turn into cancer and biopsy suspicious growths for testing in one procedure. Stool tests are also effective in screening for cancer in many people. *(See Page 4 for screening information.)*

Q: Are younger people getting colorectal cancer?

Dr. Peterson: Yes, and accordingly, the age for a first screening has gone from 50 to 45. We think the younger onset age is an environmental factor, not a hereditary factor.

Q: Why is it important for people with colorectal cancer to see a colorectal cancer specialist?

Dr. Peterson: Treatments, especially for rectal cancer, have changed dramatically in the last three years. Our team sees a large number of patients and conducts clinical trials. We know the treatment nuances — especially for people with complicated medical histories and familial syndromes that increase the risk of developing colorectal cancers. Doctors who study and treat colorectal disease every day are more aware of the latest treatments.

Our multidisciplinary approach means we meet every week — surgeons, radiation and medical oncologists and other specialists — to review a patient's diagnosis and treatment plan. This focused expertise influences outcomes.

Q: Describe the latest advances in colorectal surgery.

Dr. Peterson: Minimally invasive procedures like laparoscopic and robotic surgery offer less blood loss, faster recovery and effectiveness equal to traditional surgery. Robotic surgery may help preserve pelvic nerves and sexual function. We also offer sphincter-preserving surgery for eligible patients. People worry about ending up with an ostomy — an opening in the belly to expel waste through a tube into a pouch. A patient may need an ostomy if anal muscle is involved with the tumor and muscle must be removed to get all the tumor out. In some situations, an ostomy may be temporary.

Q: Does everyone need surgery?

Dr. Peterson: No. In 30% to 60% of patients with rectal cancer, the tumor could go away with initial treatment, and we may take a watch-and-wait approach instead of surgery. Because there is a chance the tumor will return, we monitor carefully with scope procedures and imaging so treatment can start promptly, if needed. With colon cancer, due to a lower risk of recurrence, surgery is the first step and sometimes the only treatment needed.

Q: How about immune therapies?

Dr. Peterson: Immunotherapy is a promising treatment for some people, but you must have a certain gene mutation to be eligible. We test everyone diagnosed with colorectal cancer for mutations.

Q: Are there more targeted ways of addressing radiation therapy?

Dr. Peterson: We are one of only a few centers to offer the Unity MR-linac, which combines MRI with a linear accelerator. It's highly precise, allowing us to adjust the radiation dose to the tumor's exact position and size during each session.

Q: What about clinical trials?

Dr. Peterson: When tumor cells die, they release bits of DNA into the bloodstream. We have several trials, including one exploring a blood test for circulating tumor DNA to tell us if a tumor is gone after treatment.

Q: Are there options for late-stage, inoperable or metastatic disease?

Dr. Peterson: Even if the tumor has spread to the liver or the lungs, we can sometimes remove it with surgery. If we can't, treatments like chemotherapy or targeted drug therapy are options. ■



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Research



Clinical Trial Tests Therapy That ‘Tricks’ and Eliminates Brain Cancer Cells

A drug therapy studied at the Medical College of Wisconsin Cancer Center has led to a phase I clinical trial testing oral gallium maltolate (GaM). GaM may be a new way to treat people who have recurrent glioblastoma that doesn't respond to or comes back after standard treatment. Glioblastoma is an aggressive form of brain cancer. Brain cancers are rare; yet, among primary brain tumors (tumors that start in the brain), glioblastoma is the most common in adults, accounting for nearly half of cases.

Despite decades of research, there have been only small gains in extending survival or enhancing quality of life for people with glioblastoma. Standard treatments include surgery, radiation therapy and chemotherapy. The oral GaM trial evolved from research led

by **Christopher Chitambar, MD**, MCW emeritus professor of medicine and biophysics, Division of Hematology and Oncology. Dr. Chitambar studied iron-dependent processes in cancer biology and how GaM compounds target iron metabolism to block malignant cell growth. In preclinical studies, Dr. Chitambar and **Kathleen Schmainda, PhD**, biophysicist, MCW faculty member and researcher, discovered that GaM slowed growth and reduced the size of glioblastoma tumors.

GaM is an oral form of the metal gallium. In the body, it shares many chemical properties with a form of iron called Fe(III). Studies show that increased levels of iron are linked with higher cancer risk and severity because cancer cells depend on iron to multiply and spread. Because gallium is similar to Fe(III), it can

infiltrate cancer cells in place of iron and stop cells from multiplying.

“Discovering GaM’s anticancer activity opened the door for developing it in an oral form to treat glioblastoma in patients,” Dr. Chitambar said. “The anticancer mechanism applies to other solid tumors as well.”

Jennifer Connelly, MD, neuro-oncologist, MCW faculty member and researcher, is principal investigator of the trial. Dr. Chitambar is a co-principal investigator and trial chair. The oral GaM trial is only available through the Froedtert & MCW Cancer Network. ■

Visit froedtert.com/clinicaltrials.

Brain Tumor *continued from Page 1*

Comprehensive Care

Following surgery, Mark started chemotherapy with **Jennifer Connelly, MD**, neuro-oncologist and MCW faculty member.

At the same time, he had six weeks of radiation therapy with **Joseph Bovi, MD**, radiation oncologist and MCW faculty member. As with surgery, the goal was to target tumor tissue while leaving healthy tissues intact.

“We treated Mark using volumetric modulated arc radiation therapy,” Dr. Bovi said. “With this technology, we target areas involved with microscopic deposits of cancer, while sparing regions of the brain involved with speech, thinking and moving.”

The Brain and Spine Tumor Program team follows patients closely through every phase of their treatment and follow-up. One key tool is regular neurocognitive testing. **Alissa Butts, PhD**, neuropsychologist and MCW faculty member, evaluates patients before treatment and throughout recovery. This helps ensure they maintain functional

abilities and experience as much well-being as possible.

Additionally, the team researches new ways to control brain tumors.

“For many patients with incurable brain cancer, clinical trials offer treatment possibilities,” Dr. Connelly said. “We are always looking forward, researching better ways to diagnose, treat and monitor brain tumors. For instance, our biophysicists are pioneers in developing new imaging techniques like MR perfusion — a way of using MRI to pinpoint brain areas where new blood vessels and increased blood flow indicate tumor growth. These discoveries are making a real difference for our patients.”

‘Go Out and Live Life’

Today, at age 59, Mark is feeling good and working hard. He continues to enjoy life with his wife, Rochell, his sweetheart since age 13, and their children and grandchildren.

“Mark doesn’t let his disease slow him down,” Dr. Connelly said. “This is what I want to see patients do. Let us worry about the cancer. You go out and live life. And that’s exactly what he’s doing.” ■

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Colon Cancer Screening Can Save Your Life

Screening not only finds colon cancer early, a colonoscopy may also prevent it from developing by removing precancerous growths called polyps. A colonoscopy is an internal exam of the entire colon and rectum with an endoscope (slim tube with a camera). If you are reluctant to get a colonoscopy, there are other options.

- **Fecal immunochemical test (FIT):** At-home test that involves sending a small stool sample to a lab for analysis; detects blood, which may indicate a polyp or cancer
- **FIT-DNA:** At-home stool test analyzed in a lab; finds blood and DNA changes in stool that may indicate cancer
- **Guaic-based fecal occult blood test:** At-home stool test; finds blood in the stool that may indicate cancer
- **Computed tomography (CT) colonography:** Exam by a doctor that uses CT imaging to view the colon and rectum and find polyps or cancer
- **Flexible sigmoidoscopy:** Exam by a doctor; shorter version of a colonoscopy — examines only the lower part of the colon

If results are positive with these colonoscopy alternatives, you will need a colonoscopy to remove and evaluate growths for cancer.

Earlier this year, as part of our commitment to population health, we mailed FIT kits to about 5,000 patients due for screening. We also e-mailed over 260,000 patients and sent MyChart reminders connecting them with screening resources.

Starting at age 45 (earlier if you have a family history), talk with your doctor about your best screening option. ■

Learn more at froedtert.com/coloncancertest.

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Explore Your Treatment Options

The Froedtert & the Medical College of Wisconsin Cancer Network makes it simple to initiate treatment or get a second opinion. Our new patient coordinators gather your medical records and coordinate all tests and appointments so you don't have to. We make it easy to connect with the care you need.

For an appointment, call **414-805-0505**.
Learn more at froedtert.com/cancer.