‘Game Changing’ Surgical Technique Targets Brain Cancer

Few diagnoses are more difficult to hear than malignant brain tumor—which is why our neurosurgeons and oncologists are at the forefront of finding better ways to treat it.

St. Jude Medical Center is one of the first hospitals in the nation—and the second in California—to use a new breakthrough that allows surgeons to visualize brain cancer in real time. A revolutionary imaging agent called Gleolan causes the tumor to “light up” by making cancer cells appear fluorescent red, clearly delineating tumor tissue from the surrounding brain.

“For the first time, we have real-time visualization of the tumor in the operating room, allowing us to safely and accurately resect significantly more of it—an outcome that is directly tied to improved survival,” explains Lars Anker, MD, a board-certified neurosurgeon who routinely uses the new technique. “This is an important step forward in our ability to meaningfully impact patient outcomes.”

Clinical trials showed patients given Gleolan had twice the rate of survival without progression after six months. Administered orally several hours before surgery, Gleolan is metabolized by the tumor cells and when illuminated by specialized imaging technology, the cancerous cells become fluorescent and glow an intense red or pink, while normal brain tissue appears blue.

Within St. Jude’s state-of-the-art neurosurgery suites, Gleolan is being used to more successfully treat the most common type of malignant brain cancer—gliomas—which present an unusual challenge as their tentacles or “fingers” often extend into multiple areas of the brain. “Gliomas follow fiber tracts within the brain, making them geometrically complex and often difficult to distinguish from healthy tissue,” says Dr. Anker. “It’s why resection is so challenging—and why seeing the tumor in real time is such a game changer.”

Used in Europe since 2007, Gleolan (also called 5-ALA) was given fast-track approval by the FDA in 2017. “We have been carefully tracking the performance of Gleolan in Europe for years and although we are among the first to bring its benefits to patients in the U.S., there is no doubt it will become the standard of care for glioma tumors,” explains the fellowship-trained neurosurgeon. “It’s simply a matter of how long it will take.

Because single cancer cells often migrate away from the tumor and remain invisible, surgical resection of gliomas is typically followed by a second phase of treatment. At St. Jude, the next step often involves molecular profiling of the patient’s cancer to identify a specific immunology or biotherapy to target the cancer’s cellular signature. The recent DCVax autologous tumor cell vaccine trial—one of over 100 clinical trials at St. Jude—demonstrated an increase in 3-year survival rates from 16 to 28 percent for brain cancer patients. “This is the strength of our Brain Tumor Program,” says Dr. Anker. “An across-the-board commitment to finding new and better answers for our patients.”

To learn more, please call our nurse navigator at (714) 446-5567.