University Hospitals Seidman Cancer Center Tests Novel Drug That Makes Brain Tumors Glow Hot Pink

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CLEVELAND, Dec. 1, 2011 /PRNewswire/ -- Just 24 hours after Lisa Rek sang at her niece's wedding, her husband Brad was driving her to a local hospital.

"The pain got worse. When we got to the emergency room, I said to Brad 'something is just not right,'" Rek remembers.

After an MRI showed a suspected tumor, Rek was immediately flown to Seidman Cancer Center at University Hospitals (UH) Case Medical Center, where Andrew Sloan, MD, diagnosed her with Stage 4 glioblastoma, the most aggressive form of brain cancer and the most difficult to treat.

"The tumors are comprised of the brain itself. It looks like brain tissue, it sort of feels like brain tissue. It's hard to figure out necessarily where tumor ends and swollen brain tissue begins," says Dr. Sloan, Director of the Brain Tumor and Neuro-Oncology Center and Peter D. Cristal Chair in Neurosurgery at UH Case Medical Center and Associate Professor at Case Western Reserve University School of Medicine.

To help identify the difference between tumors and healthy tissue and improve tumor resection, Dr. Sloan is testing an experimental drug called 5-Aminolevulinic Acid (5-ALA). The drug makes brain tumor cells glow hot pink when illuminated with a special blue light incorporated into his operating microscope.

This novel technique enables surgeons to visualize the edges of the tumor more clearly, allowing them to remove it more completely from the brain. Patients take the drug by mouth prior to surgery and then during their operation, Dr. Sloan uses the blue light to identify and remove tumor cells, a process called fluorescent guided resection (FGR).

Rek is now one of the volunteers in the research trial.

Compared to normal tissue, high-grade gliomas (or brain tumors) metabolize 5-ALA to a fluorescent compound called protoporphyrin ix, a structure similar to that of chlorophyll found in plants. Tumors that absorb this compound fluoresce (glow) with the blu
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