First Patient Procedure In Pediatric Brain Cancer Clinical Trial Performed

/PRNewswire/ -- MRI Interventions, Inc. and Brainlab AG announced today that the ClearPoint@ Neuro Intervention System is being used in a groundbreaking clinical trial for the treatment of pediatric brain cancer. Dr. Mark Souweidane (Professor and Vice Chairman, Department of Neurological Surgery; Director of Pediatric Neurosurgery at New York Presbyterian Hospital/Weill Cornell and Memorial Sloan Kettering Cancer Center) and a team at Memorial Sloan Kettering Cancer Center used the ClearPoint System in the delivery of a cancer-fighting agent into the tumor of a pediatric patient while viewing three-dimensional MRI images of the delivery in real-time throughout the procedure. This was the first case in a new clinical trial to administer and study the effects of the radio immunotherapy drug, 124I-8H9, on a diffuse infiltrative pontine glioma (DIPG) tumor, a rare and incurable form of pediatric brain cancer.

Brain tumors of this type are located in the brain stem, which prohibits surgical removal. Radiation is the standard treatment for DIPG, but it does not provide a cure; most patients die within months of diagnosis. Previous attempts to administer a drug therapy to significantly improve the survival of children afflicted with DIPG have failed.

Dr. Souweidane's group, in collaboration with other investigators, is using the ClearPoint System in the administration of precise amounts of the agent directly into the tumor via MRI-guided convection-enhanced delivery. The ability to view drug delivery in real-time is crucial in these cases so that the surgeon can confirm that the potent agent has reached the tumor in the correct amount, as well as to avoid hitting healthy critical structures around the tumor. The ClearPoint System allows the surgeon to advance a drug delivery canula in a precise trajectory through the brain and into the tumor, then observe the infusion of the drug in real-time as it slowly "fills" the tumor.

It is suspected that previous attempts at drug delivery to treat pediatric brain cancers have been hindered because the drugs have not been fully administered directly into the tumor. The ClearPoint System is designed to overcome this issue.

"This trial is about renewed hope," stated Dr. Mark Souweidane. "It's a departure from the standard therapy and has the potential to create a whole new paradigm in brain tumor treatment. Delivering drugs intravenously hasn't worked because of the blood-brain barrier - to get even a small amount of medicine to the tumor we need high doses of chemotherapy, which is toxic to the rest of the body. But placing the agent outside of the blood vessels, directly into the tumor, greatly reduces that toxicity while maximizing the attack on the tumor itself."

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