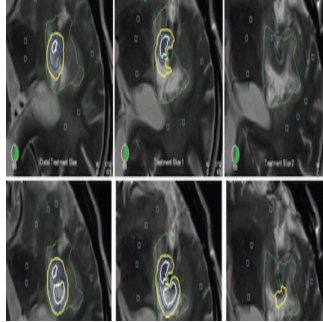

New MRI-Guided Laser Treatment for Brain Tumour



The first human study of the NeuroBlate™ Thermal Therapy System has found that it appears to provide a new, safe and minimally invasive procedure for treating recurrent glioblastoma (GBM), a malignant type of brain tumour. The study is published in the Journal of Neurosurgery online.

NeuroBlate™ is a device that 'cooks' brain tumours in a controlled fashion to destroy them. It uses a minimally invasive, MRI-guided laser system to coagulate, or heat and kill, brain tumours. The procedure is conducted in an MRI machine, enabling surgeons to plan, steer and see in real-time the device, the heat map of the area treated by the laser and the tumor tissue that has been coagulated.

"This technology is unique in that it allows the surgeon not only to precisely control where the treatment is delivered, but the ability to visualise the actual effect on the tissue as it is happening," said one of the authors, Dr. Sloan. "This enables the surgeon to adjust the treatment continuously as it is delivered, which increases precision in treating the cancer and avoiding surrounding healthy brain tissue."

The study was a Phase I clinical trial investigating the safety and performance of NeuroBlate™ (formerly known as AutoLITT™), a specially-designed laser probe system. The device has recently been cleared by the FDA due, in part, to the results of the study.

The paper describes the treatment of the first 10 patients with this technology. These patients, who had a median age of 55, had tumours which were diagnosed to be inoperable or high risk for open surgical resection because of their location close to vital areas in the brain, or difficult to access with conventional surgery.

"Overall the NeuroBlate™ procedure was well-tolerated," said Dr. Sloan. "All 10 patients were alert and responsive within one to two hours post-operatively and nine out of the 10 patients were ambulatory within hours. Response and survival was also nearly 10 ½ months, better than expected for patients with such advanced disease."

"Previous attempts using less invasive approaches such as brachytherapy and stereotactic radiosurgery have proven ineffective in recent meta-analysis and randomised trials," said Dr. Barnett. "However, unlike therapies using ionising radiation, NeuroBlate™ therapy results in tumor death at the time of the procedure. A larger national study will be developed, as a result of this initial success."

Reference

Results of the NeuroBlate System first-in-humans Phase I clinical trial for recurrent glioblastoma. Sloan AE et al. Journal of Neurosurgery Posted online on April 5, 2013. <http://thejns.org/doi/full/10.3171/2013.1.JNS1291>

Published on : Fri, 19 Apr 2013