Laser Burns Up Inoperable Brain Tumors

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A new minimally invasive laser therapy showed promise for burning up inoperable recurrent glioblastomas.

Called NeuroBlate, "the device represents a new technology for delivering laser interstitial thermal therapy, allowing for controlled thermal ablation of deep hemispheric glioblastomas," Andrew Sloan, MD, director of the brain tumor and neuro-oncology center at University Hospitals-Case Medical Center and the Cleveland Clinic, and colleagues concluded.

In the first-in-man phase I study, published online in the *Journal of Neurosurgery,* median survival of 10 patients treated with the NeuroBlate Thermal Therapy System was 316 days.

In contrast, "the natural history with conventional surgery for these types of tumors is 3 to 5 months. While we can't really generalize from 10 patients and say the procedure will double survival in everyone, that is certainly very promising," Sloan told *MedPage Today*.

The device, which was recently cleared by the FDA, is also being tested on other hard-to-treat tumors, he said.

While laser interstitial thermal therapy (LITT) has been used as an ablative treatment for glioma for more than 2 decades, its development was limited due to technical issues, Sloan said.

"The most daunting of these has been the inability to precisely monitor the 'dose' of LITT delivered to individual patients in real time," Sloan and colleagues wrote.

"The NeuroBlate System incorporates several technological advances to overcome these drawbacks. It allows for conformal laser thermal coagulation of deep-seated brain tumors by using a side-firing laser probe equipped with software that predicts thermal tissue damage, in real time, by considering both temperature and duration of thermal exposure. The rotation and probe depth are controlled by the surgeon, allowing for 'sculpting' of the thermal effect guided by real-time MRI thermography," they noted in their introduction to the study report.

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