



AMERICAN
EPILEPSY
SOCIETY

Laser Ablation Surgery Shows Better Cognitive Results for People with Epilepsy

Study presented at American Epilepsy Society meeting highlights better episodic memory outcome for people with temporal lobe epilepsy compared to standard surgery

Embargoed for release until 9:00 AM (EST), December 7th

Washington, D.C., December 7, 2013— MRI-Guided Stereotactic Laser Ablation (SLA) of the hippocampus to control seizures in people with temporal lobe epilepsy (TLE) may result in seizure control that approaches that from anterior temporal lobectomy or selective amygdalohippocampectomy and better cognitive outcomes than any of the standard open resections, according to a study presented at the American Epilepsy Society's 67th Annual Meeting in Washington DC. If the SLA continues to prove safe and shows adequate efficacy for seizure control, the technique has the potential to drastically change brain surgery.

Stereotactic laser ablation is a brain surgery technique that preserves more brain regions and interconnections. Traditional surgery, such as amygdalohippocampectomy, typically requires a fairly large resection that cuts through other temporal lobe regions and white matter pathways. This resection approach results in cognitive morbidity involving potential deficits in material-specific memory and visual confrontational naming. (Platform B.07/ Abstract 1749210)

Using pre- and post-surgical neuropsychological data at 6-months following surgery, the research compared the cognitive outcomes for 10 people with TLE who had standard surgical treatment with the cognitive outcomes of 7 patients who underwent SLA for TLE. The study found that the cognitive declines were less following laser ablation than standard approaches. In addition to the cognitive benefits, the SLA technique is minimally invasive and is therefore more cosmetically appealing and involves less discomfort. It also decreases the length of hospital stay.

The study found that there was no decline in episodic memory following laser ablation, although such decline was often seen in patients undergoing standard open resections. In addition, patients undergoing SLA were more likely to exhibit improved memory functioning than standard resection patients, which the study attributes to greater preservation of additional brain regions and connections.

“Given the presumed importance of the hippocampus in episodic memory, we were surprised by the absence of any decline in the SLA group. This suggests that our understanding of the function of this brain structure may be incomplete, and that being able to perform such a precise resection may help us learn more about brain regions in a manner that was never before possible in humans. Overall, from a clinical standpoint, if we continue

to see better outcomes in patients undergoing SLA, this technique could have a huge impact in brain surgery,” said Daniel Drane, Ph.D., Emory University School of Medicine.

Editors Note: Authors of the above study will be available at a press briefing at 9:00am (EST) on December 7th in the press room at the American Epilepsy Society meeting, Room 209A, upper level of the Walter E. Washington Convention Center. The call-in number for off-site journalists is 1-605-475-4000, passcode 521653#.

About Epilepsy

The epilepsies affect 50 million people worldwide, including three million in the United States. The disorder can have a single specific, well-defined cause, such as a head injury, or manifest as a syndrome with a complex of symptoms. It is the third most common neurological disorder after Alzheimer’s disease and stroke.

About the American Epilepsy Society (AES)

The American Epilepsy Society, based in West Hartford, Conn., seeks to advance and improve the treatment of epilepsy through the promotion of research and education for healthcare professionals. Society membership includes epileptologists and other medical professionals, allied healthcare professionals, and scientists concerned with the care of people who have seizure disorders.

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