Epilepsy Surgery Rated a Long-Term Success

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SAN FRANCISCO — Surgery for medically intractable partial epilepsy provides long-lasting efficacy, with nearly three-quarters of patients in one large series remaining essentially seizure free for up to 16 years, Gregory D. Cascino, M.D., reported at the annual meeting of the American Academy of Neurology.

Most previous studies of epilepsy surgery in medically refractory patients have shown positive results, however, these findings were obtained in small numbers of patients with 1- to 2-year follow-up.

Dr. Cascino presented a series of 491 patients with refractory and physically or socially disabling partial epilepsy who underwent one specific type of surgery—focal cortical resection of the epileptogenic zone—during the years 1988 to 1998 at the Mayo Clinic in Rochester, Minn.

The average age at seizure onset in this group was 13 years, with surgery taking place 19 years later.

At a mean follow-up of nearly 7 years, 72% of patients remained completely or nearly seizure free; all of these responders would qualify for a Minnesota driver's license. Included in the 28% of patients classified as surgical failures were some with a reduction in seizures of more than 80%, noted Dr. Cascino of the Mayo Clinic.

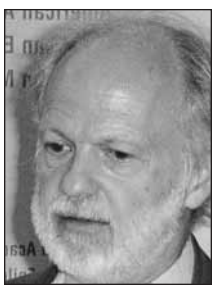
Almost all patients who experienced seizures after epilepsy surgery began to do so within the first postoperative year, and most within the first 3-6 months. In the subset of patients followed for 10-16 years, the surgical failure rate remained steady at 28%; none had seizure onset after the 10-year mark.

Among the patient factors that proved unrelated to surgical outcome were seizure type, history of childhood febrile seizures, history of status epilepticus, family history of epilepsy, and age at surgery.

Significant predictors of less favorable outcome included male gender, normal histopathology, prior epilepsy surgery, and epilepsy of extratemporal origin.

The sole factor associated with increased likelihood of becoming seizure free after surgery was partial epilepsy of temporal origin. Of the patients who were essentially seizure free, 75% had temporal lobe epilepsy, as did just 25% of those considered surgical failures.

Dr. Cascino's study was funded by the Mayo Foundation.



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DR. ENGEL

In a separate presentation, Jerome Engel Jr., M.D., said that although surgery for refractory temporal lobe epilepsy is clearly effective, it's still unclear how quickly surgery should be considered.

That's being addressed in the landmark multicenter Early Randomized Surgical Epilepsy Trial (ERSET), a $30-million study funded by the National Institute of Neurological Disorders and Stroke.

There is compelling evidence that the earlier seizures are controlled, the better the long-term patient outcome.

"The new mantra for the treatment of epilepsy is not only 'no seizures, no side effects,' but early effective intervention as soon as possible. … We need to stop seizures, not just reduce them, and do it as soon as possible, before these disabling seizures permanently disrupt the patient's life," said Dr. Engel, principal investigator of ERSET.

ERSET will enroll patients with medial temporal lobe epilepsy—the most common seizure disorder—who are at least 12 years old, have had seizures for less than 2 years, and have failed two antiepileptic drugs. They will be randomized to state-of-the-art medical management or surgery.

The goal is to determine the optimal time at which to give up on medical management and turn to surgery in difficult-to-control patients, explained Dr. Engel, who is the Jonathan Sinay Professor of Neurology and Neurobiology and chief of epilepsy and clinical neurophysiology at the University of California, Los Angeles. ■