

عنوان مقاله:

Stimulation Therapy for Epilepsy

محل انتشار:

شانزدهمین کنگره بین المللی صرع (سال: 1398)

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خلاصه مقاله:

One in three epilepsy patients has insufficient control of their seizures with medicines. Resective or ablative surgery offers an excellent chance of seizure freedom for appropriately-selected patients. However, a substantial number of patients with refractory epilepsy are not candidates for surgery, and some patients who undergo surgery do not attain seizure freedom. Neurostimulation is a growing field in the treatment of refractory epilepsy. Vagus Nerve Stimulation (VNS) was FDA-approved in 1997, and is the mostly widely used neurostimulation therapy for epilepsy in the US. VNS provides scheduled therapy to prevent seizures, and on-demand therapy to help abort or shorten seizures when they occur. Newer versions of the VNS device are equipped with seizure detection, based on EKG changes; this enables automated delivery of therapy at the time of a seizure. Deep brain stimulation (DBS) is effective in the treatment of conditions such as Parkinson's disease, essential tremor, dystonia, and obsessive-compulsive disorder. Numerous targets have been proposed or investigated for the treatment of seizures. The pivotal clinical trial targeting the anterior nucleus of the thalamus showed some promise in some outcome measures, but was not FDA-approved because it did not meet the prespecified primary outcome. The device is approved for use in other countries, and may be re-visited at some point in the US. Responsive neurostimulation (RNS) is unique among neurostimulation therapies in that it targets stimulation directly at the epileptogenic source. RNS was FDA approved in 2013. The device records electrocorticography and can be programmed to accurately detect seizures, and deliver stimulation to terminate a seizure. An interesting and consistent finding across the various modalities of neurostimulation for epilepsy is that studies have shown increasing efficacy over time. Each modality has been shown to have a favorable safety profile, and may show improved quality life. Neurostimulation is expected to be a growing area for investigation, and for clinically available treatment options for patients with refractory epilepsy. However it is vitally important to note that rates of complete seizure-freedom with neurostimulation are very low compared to resective and ablative surgery. Therefore patients with refractory epilepsy should have a thorough evaluation for surgery before being implanted with a

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