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Perspective

Treatment and Management of Epilepsy and Seizures

Lionel Carmant*

Department of Neurology, University Montreal, Montreal, Canada

DESCRIPTION

A seizure-free state free of side effects is the aim of treatment for people with epileptic seizures. More than 60% of individuals who require anticonvulsant medication achieve this goal. However, many patients endure negative side effects from these medications, and other individuals experience seizures that are resistant to conventional medical treatment. Less than two thirds of individuals with newly diagnosed epilepsy are seizure-free after a year, according to a 2017 study. The seizure-free rate was reported to be 64% in a smaller trial that was published in 2000, which is about the same as the rate discovered in the more recent study.

Because it reduces the possibility of negative effects and prevents drug interactions, monotherapy is preferable. Additionally, monotherapy might be less expensive than polytherapy because many of the older anticonvulsants have hepatic enzyme-inducing qualities that lower the concurrent drug's serum level and raise the concomitant drug's dose requirements.

Following a diagnosis of epilepsy, people with seizures have psychosocial changes; as a result, social and/or occupational rehabilitation may be required. Many medical professionals underestimate the effects that a patient's epilepsy diagnosis may have. Patients with epilepsy, for instance, might be unable to drive or perform height-related work because they constantly worry about having another seizure.

Send patients with persistent seizures to a neurologist or an epileptologist for additional testing, which may include video-EEG monitoring to define the cause of the patient's seizures. When considering surgical management, a neurosurgical consultation is advised.

Treatment with an anticonvulsant is advised for patients who have had more than one spontaneous seizure. Anticonvulsants are not advised unless the patient has risk factors for recurrence; instead, the standard of care for a single unprovoked seizure is to prevent usual precipitants (such as alcohol and sleep deprivation).

In the two years following a first unprovoked seizure, there is a 15%–70% chance of a recurrence. An irregular Electroencephalogram (EEG), an abnormal brain Magnetic Resonance Imaging (MRI), and a partial-onset seizure are the main factors that raise the likelihood of recurrence.

The finding that most frequently shows an elevated risk for seizure recurrence on brain Magnetic Resonance Imaging (MRI) is a focal abnormality in the cortical or limbic areas that indicates a probable substrate for an epileptogenic zone. By causing damage to the cerebral cortex, diffuse disorders such hydrocephalus may raise the risk.

Any of the following may appear abnormal on an EEG:

- Epileptiform discharges,
- Focal slowness,
- Background slowing that is diffuses,
- Intermittent slowing that is diffuse
- Intermixed

The EEG findings most strongly linked to the probability of seizure recurrence include localised slowness and epileptiform abnormalities. However, even a normal EEG does not completely exclude the possibility of recurrence.

A patient who has had one generalized tonic-clonic seizure, a normal EEG, a normal brain MRI, and no signs of a localized onset is at around a 15% risk of recurrence; in this situation, the patient is not treated. When all risk factors are present in a patient, the risk is about 80%, and the patient is treated.

How to manage individuals with one anomaly, whose recurrence risk is between 30 and 50 percent, is the main unanswered issue. One strategy is to base the choice on a dialogue with the patient that takes into account the risks of recurrent seizures, toxic side effects from the anticonvulsant, and the advantages of preventing another seizure. The doctor should also discuss driving restrictions and other seizure safety measures. Anticonvulsant therapy simply lowers risk for the time of therapy; it does not change the natural history of seizure recurrence.

Correspondence to: Lionel Carmant, Department of Neurology, University Montreal, Montreal, Canada, E-mail: Lionel@carmant.edu

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The First Seizure Trial Group randomly assigned 397 patients who had their first unprovoked generalized tonic-clonic seizure to receive either prophylaxis with a traditional anticonvulsant (such as carbamazepine, phenobarbital, phenytoin, or valproic acid) or no treatment at all. They found that about 18% of treated patients experienced another seizure within a year, compared to 39% of untreated patients. Patients must be informed that anticonvulsants can lower but not completely eliminate their risk of experiencing another seizure.