



fight against childhood epilepsy & seizures

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Behavioral Effects of Antiepileptic Drugs

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Antiepileptic drug (AED) therapy is the principal treatment for people with epilepsy. The optimal goal for the physician and the patient in treating epilepsy is 100% seizure control with no side effects. However, this is not always the result. It is very important that there is open communication between the physician and patient to achieve balance between adequate seizure control and minimal side effects. In order to assess how the medication is working, the physician must ask the patient and the patient's family members what the patient is experiencing and how it is affecting his or her daily life. Antiepileptic drugs can have both positive and negative behavioral effects. It is important that the physician has knowledge of these potential effects when individualizing the management of drug therapy. The following are frequently prescribed epilepsy medications and their potential behavioral side effects:

Carbamazepine (indicated for partial seizures and primary generalized tonic-clonic seizures) is generally well tolerated. Occasionally, carbamazepine may cause behavioral problems, such as anxiety or agitation. These behavioral disorders usually occur in patients with existing behavioral difficulties.

Gabapentin (indicated for partial seizures) is generally well tolerated. It has a beneficial effect on behavioral control. However, there are some reports of aggressive behavior and irritability in learning disabled children.

Lamotrigine (indicated for partial seizures, primary generalized tonic-clonic seizures, typical and atypical, absence, atonic, and myoclonic seizures in Lennox–Gastaut syndrome) has performed fairly well. Patients with developmental disorders may experience both positive and negative behavioral effects from this medication, such as diminished or increased irritability, hyperactivity, and aggressive behavior.

Levetiracetam (indicated for partial seizures) can cause occasional behavioral changes. More often, this is seen in patients with developmental disabilities, in children (as effects can be unpredictable), and with a rapid increase in dosage.

Phenobarbital (indicated for partial seizures and primary generalized tonic-clonic seizures) is clearly associated with the most negative behavioral changes. The main

behavioral side effects are mood change, depression, irritability, and aggressive behavior. Hyperactivity may occur in children.

Phenytoin (indicated for partial and primarily generalized tonic-clonic seizures) is similar to carbamazepine in that behavioral problems are infrequent and usually mild.

Tiagabine (indicated for partial seizures) may cause some irritability or emotional instability but in some patients, this medication may actually improve mood.

Topiramate (indicated for partial seizures, primary generalized tonic-clonic seizures and atonic, and tonic-clonic seizures in Lennox Gastaut syndrome) has behavioral side effects that can be of significant concern in patients with epilepsy. Agitation, aggressive behavior and psychosis have been reported. Topiramate may improve mania and stabilize mood in bipolar disorder.

Valproate (indicated for partial seizures, primary generalized tonic-clonic seizures, typical and atypical absence, atonic, and myoclonic seizures in Lennox–Gastaut syndrome) occasionally causes irritability and depression. Valproate may be useful in panic, obsessive-compulsive disorders, and bipolar disorders. It may improve mood, irritability, agitation, and aggression in epilepsy patients.

Zonisamide (indicated for partial seizures, tonic-clonic and myoclonic seizures) may cause agitation, irritability, and emotional instability in some patients. More rarely seen are psychosis, depression or mania, which can be related to dosage.

Physicians do their best to avoid these possible side effects, and whenever possible, will treat a patient with monotherapy (a single drug). Every individual responds differently to medication and as long as a side effect is recognized, the physician and patient can work together to treat it effectively. Becoming knowledgeable about potential side effects of antiepileptic drugs can empower epilepsy patients to achieve the very best regimen and care for themselves.

