Mrs C is a 30-year-old patient with epilepsy. She was diagnosed with epilepsy 20 years ago (complex partial seizures, with frequent secondarily generalized tonic-clonic seizures), and is currently well controlled on a regimen of lamotrigine 200 mg/day and valproate 1000 mg/day. She presents to the epilepsy clinic to discuss a desired planned pregnancy with her physician.

**Case Study**

**A 30-YEAR-OLD WOMAN WITH EPILEPSY**

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**Background**

Mrs C’s last seizure was 4 years ago. Her previous antiepileptic drugs (AEDs) had included phenytoin and phenobarbital. The phenytoin was discontinued due to lack of efficacy, and the phenobarbital was discontinued 4 years ago due to adverse effects (cognitive impairment and sedation). Valproate was chosen for both the treatment of her seizures as well as prophylaxis for migraine headache. While on valproate monotherapy, she had 4 breakthrough seizures. Lamotrigine was then added, which resulted in complete seizure control.

Mrs C is currently taking combination oral contraceptives, as well as escitalopram 20 mg/day for mild to moderate depression and anxiety. She also takes a daily regular multiple vitamin.

She has an otherwise unremarkable history. Vital signs are normal. She does state however that she has gained 25 pounds over the last 4 years, in part due to the switch to valproate. In addition, she feels that her menstrual cycles have become erratic over the past several years, and is concerned that she will have difficulty in conceiving.

She has been married for 3 years and has no other children. She works full-time as a middle school librarian.

**Discussion**

At this time, this patient is interested in becoming pregnant. The physician caring for this patient is concerned that her current medication regimen may both complicate her ability to conceive, as well as inflict potential teratogenic effects should she become pregnant. Working in conjunction with the physician, what would be a reasonable approach to this patient?

First, we must determine the most pressing issues for this patient: (1) she experiences menstrual cycle abnormalities with valproate, as well as polycystic ovary syndrome (PCOS), as manifested by erratic menstrual cycles, and (2) potential teratogenicity with valproate. Valproate has been associated with increased risk of fetal malformations.

One approach to this patient would be to discontinue her valproate prior to becoming pregnant and maintaining her on lamotrigine monotherapy. Data does suggest that menstrual cycle abnormalities, PCOS, and weight gain will resolve following valproate discontinuation. Also, data from the GlaxoSmithKline pregnancy registry suggest that teratogenicity from lamotrigine is no greater than what would be expected in the otherwise healthy population. So, lamotrigine should be considered one of the safer AEDs for women of childbearing years. Lamotrigine dosage may, however, need to be increased following the removal of valproate, as it is a potent inhibitor of lamotrigine. Following the removal of valproate, lamotrigine dose may need to be doubled in order to maintain serum concentrations similar to those seen during combination therapy. Guidance as to conversion to lamotrigine monotherapy from valproate can be found in the package insert.

Mrs C should also be started on a prenatal vitamin containing folic acid. It is important to counsel this patient that the majority of women with epilepsy can expect to have a normal pregnancy and healthy baby. Patients need to understand that a recurrent seizure poses far greater risk to the fetus than do AEDs. Seizures, including nonconvulsive partial seizures, can...
cause fetal distress. Therefore, medication compliance needs to be stressed.

Mrs C will need to work with her neurologist to find an alternative treatment for migraine prophylaxis. There have been limited studies of lamotrigine for migraine prophylaxis and the data indicate that it is not effective in this disorder. An effective alternative AED for migraine prophylaxis might be topiramate, which can be used at lower doses than for epilepsy. Because Mrs C is concerned about her 25-pound weight gain with valproate therapy, topiramate has the added advantage of being associated with significant and sustained weight loss. Any possible teratogenic effect of topiramate, however, has not yet been systematically studied.

REFERENCES


