

## **Antiepileptic Use in Pregnancy: A Case of Suicidal Ideation in a Neuropsychiatric, Perinatal Patient**

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### **Objectives**

To discuss considerations of suicidal ideation as a medication adverse effect in a neuropsychiatric, perinatal patient.

### **Methods**

Patient level data for a single case report was obtained via chart review. Relevant literature was obtained using PubMed without any specified date ranges. Keywords included but were not limited to suicide, suicidality, levetiracetam, Pregnancy, Antiepileptic.

### **Results**

We present the case of a 29 year old female at 35 weeks gestation, with a past medical history significant for seizures, hypothyroidism in pregnancy, and a past psychiatric history significant for depression and anxiety, who presented to the hospital following a generalized tonic-clonic seizure in the third trimester of pregnancy.

Neurology completed MRI, which demonstrated findings of hypothalamic hamartomas as congenital malformations, and placed the patient at increased risk of seizure compared to the average person. Video EEG was completed and seizure activity was confirmed. Patient was started on levetiracetam with 500 mg loading dose and 500 mg twice daily for seizure control. During the pregnancy, the patient was also endorsing worsening depressive and anxiety symptoms in setting of recent seizures and increased psychosocial stressors.

The patient was discharged on levetiracetam, but was readmitted due to experiencing adverse drug reactions. Patient endorsed worsening depressive symptoms after most recent seizure activity and initiation of levetiracetam. She endorsed depressed mood, low energy, decreased appetite, feelings of hopelessness, anhedonia, and suicidal ideation. She endorsed plan to drive car off a cliff prior to admission and at time of evaluation, and described passive suicidal ideation without a plan noting waking up and "wishing my last seizure had done it for me." She was started on sertraline 50 mg daily, which she had tolerated well in the past. Due to timeline of symptoms and medication adjustments, there was high clinical suspicion the suicidal ideations were a medication adverse effect of levetiracetam. Neurology and psychiatry were among consulting services and through collaboration developed plan to taper off of levetiracetam, initiate lamotrigine, and continue sertraline. On the third day of decreased levetiracetam and on lamotrigine 50 mg BID, the patient denied suicidal ideation without recurrence prior to birth and on postpartum evaluations.

### **Conclusions**

Seizures and depression are both common and significant obstetrical and perinatal complications. Studies have shown increased rates of depressive symptoms in pregnant and postpartum women with epilepsy.

Our case highlights the clinical management of a neuropsychiatric perinatal patient, which consists of assessing available pharmacotherapy options for maternal and fetal consequences, risk of untreated seizures versus untreated maternal mental health, and pharmacodynamics in pregnancy.

In 2008, the US Food and Drug Administration (FDA) released a warning regarding the increased risk of suicidality in people taking antiepileptic drugs (AEDs). According to a systematic review conducted in 2013, the literature remains inconsistent in support or opposition of the FDA's alert.

Levetiracetam is often a preferred AED for epilepsy in pregnancy due to lower risk of congenital malformations in the fetus. One study compared the psychiatric and behavioral side effects (PBSE), including suicidality, of various antiepileptic drugs and found levetiracetam to have a statistically significant PBSE rate compared to the aggregate of all other AEDs studied as well as the highest comparative rates of intolerability. Another retrospective review found 4 of 517 patients taking levetiracetam to have suicidal ideation, and all "occurred in the context of a mood disorder presenting early during levetiracetam therapy".

Pregnant patients started on an AED should be closely monitored for signs and symptoms of psychiatric adverse effects. Both patients and family members should be educated on the possible psychiatric adverse effects of levetiracetam and other AEDs.

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### **Disclosures**

None