Combination Therapy Of Valproic Acid And Levetiracetam During Pregnancy And A Lucky Baby: A Case Report

Gebelik Sırasında Valproik Asit ve Levetirasetam Kombinasyon Tedavisi ve Şanslı Bir Bebek: Olgu Sunumu

ABSTRACT

Antiepileptic agents use during pregnancy create a challenge for health care professionals. The ideal management of pregnant women with epilepsy requires good achieving. Here, we presented a case of pregnant female with epilepsy on combination therapy with levetiracetam and valproic acid. The case documents positive outcome in a pregnant woman with epilepsy taking levetiracetam and valproic acid during pregnancy.

Keywords: Epilepsy, pregnancy, levetiracetam

ÖZET


Anahtar Kelimeler: Epilepsi, gebelik, levetirasetam

Introduction

The ideal management of women with epilepsy during pregnancy and the postpartum period involves achieving an optimal balance between minimizing fetal and neonatal exposure to the deleterious influences. Women with increased seizures during pregnancy tend to have sub-therapeutic antiepileptic drugs (AEDs) concentrations (1, 2). More than 90% of all women with epilepsy who take AEDs will undergo normal pregnancies and give birth to children free of birth defects, though mothers on AEDs have two to three times higher incidence of malformations (3). Valproate and carbamazepine have been associated with neural tube defects and phenytoin with cleft lip/palate and heart and urogenital defects. The safety and efficacy of novel anticonvulsants during pregnancy in women with epilepsy are not well established. It is not known whether the levetiracetam (LEV) can be used safely in human pregnancy (3-5). Prenatal exposure to levetiracetam has been shown to cause skeletal abnormalities and growth retardation in animal studies, but the teratogenicity of this new antiepileptic drug in humans is still unknown (6). Here, we presented a case of a pregnant woman with epilepsy, who has used combination therapy of two anti-epileptic drugs, and an offspring during first year of age after birth.

Case

A female baby was delivered with cesarean section due to foot presentation at term. The baby was alive, but was 2670 gram in weight. Apgar scores were 4 at first minute and 6 at 5th minute (Table 1). The baby was interned to newborn intensive
care unit, and discharged with 3050 gram in weight and 49 cm in length. The parents were non-consanguineous and young. The mother was thirty years-old and suffered from epilepsy since fifteen years-old under treatment of 2000 mg/day valproic acid and 1000 mg/day levetiracetam. She was at the 6th week of gestation, when admitted to health center. Treatment was regulated as valproic acid 1000 mg/ day, and levetiracetam dose was kept on the same throughout gestational period, with good control of her seizure disorder. The pregnancy was first and uneventful. The mother has used 0.4 mg folic acid whenever she was realized as pregnant. Regular obstetric ultrasound examination was observed normal, except growth retardation. Screening tests at 12th and 17th weeks of gestation were normal.

Table 1. Basic features of the baby at birth

<table>
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<tr>
<th>Information at birth</th>
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<td>Week of confinement (week)</td>
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<tr>
<td>Apgar score</td>
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<tr>
<td>Weight (g)</td>
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<tr>
<td>Length (cm)</td>
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<td>Head circumference (cm)</td>
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After discharge, the baby has been monthly monitored by her family physician in primary care for her growth pattern for one year. Breastfeeding was not offered, because the mother had to keep on her own anti-epileptic treatment. Growth pattern of the baby was demonstrated in Figure 1. Postnatal growth was observed as normal, but weight gain delayed. Neurological and motor developments were normal. At sixth month, abdominal ultrasonographic examination and brain computed tomography revealed normal signs.

Discussion

The risk of congenital abnormalities is approximately three times higher in fetus exposed to anti-epileptic agents compared to normal population (7,8). Pregnant women with epilepsy create a challenge for health care professionals, especially family physicians, involved in their care. The above case document positive outcome in a pregnant female with epilepsy taking levetiracetam and valproic acid during pregnancy. She was completely seizure-free on combination therapy. Because of the retrospective nature and small number of combination therapy with levetiracetam and valproic acid, caution should be taken when interpreting the above outcome. This case may be encouraging for those seeking preliminary data on the use of levetiracetam and valproic acid combination therapy during pregnancy.

![Figure 1. Demonstration of growth pattern (weight and height) of the baby for first year of age](image)

Conclusion

The child exposed to levetiracetam and valproic acid may be not at an increased risk of congenital anomaly. Combination therapy with levetiracetam and valproic acid may therefore be a preferable drug choice, where appropriate.
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References


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