Management of Valproat Monotherapy in Adolescent Girls with Epilepsy; Evaluation of Predictive Factors of Seizure Recurrens

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ICNC 2022
17th INTERNATIONAL CHILD NEUROLOGY CONGRESS
ANTALYA, TURKEY I OCTOBER 3-7, 2022

Introduction

Valproic acid (VPA) is a broad spectrum anti-seizure medication (ASM) commonly has been used for the treatment of both generalized and focal seizures in adults and children. However, recent studies in younger patients have shown that infants exposed to intrauterine VPA have major congenital malformations, cognitive development, and significantly increased rates of autistic traits. Because of this accumulating evidence, the International League Against Epilepsy (ILAE) and the European Academy of Neurology (EAN) have recently increased restrictions and warnings regarding the use of VPA in girls and women of childbearing potential. This has led to the avoidance of VPA and its selection over alternative ASMs in both generalized and focal epilepsies. In this study, we aimed to share our experience of treatment management in adolescent girls with epilepsy who have used VPA for a long time and have benefited. We hope that our study will inspire future studies in large population to guide clinicians struggling with the VPA dilemma.

Methods

We evaluated the adolescent girls patients with epilepsy and treatment with valproate monotherapy, between March 2019 and March 2020 in the division of pediatric neurology in our university .Considering the diagnosis of patients without clinical seizures and pathological EEG findings for at least 24 months, valproate treatment withdrew. Other patients treatment switch to an alternative ASMs that were appropriate and tolerated(Levetiracetam, lamotrigene or carbamazepine).The electroclinical prognosis of the patients after at least one year of follow-up was evaluated.

Results

Fifty-seven female patients(mean age:15.8 ±0.7years) whose seizures were controlled with VPA monotherapy were included in the study. Thirty-one patients had generalized epilepsy, 24 focal epilepsy. The mean duration of VPA use was 65.2 months, the mean time between the last clinical seizure and VPA switch/withdraval was 38.4 months, and the follow-up period was 22.2 ±8.8months. The valproate treatment withdrew in 30 of patients, their treatments were switched as levetiracetam in 19patients, lamotrigene in 5patients, and carbamazepine in 3 patients.The seizures relapsed on withdrawal of VPA in 3 patients, and epileptiform discharges were observed on the EEG without clinical seizure in 4 patients.The valproate treatment switched in 27 of our patients, the seizures didn't reccur in only 10 of them. The potential risk factor for seizure recurrence was epileptiform EEG before withdrawal/switch of valproat ($p<0.0001$).The age at onset of epilepsy, seizure-free interval before withdrawal of VPA, history of febrile seizures, didn't detected for seizure recurrence.

Conclusions

Before a switch/withdrawal attempt of VPA monotheraphy, the epileptic activity at the EEG at the time of VPA switch/withdrawal must be taken into account.

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