

Lacosamide Induced Hyperactivity in a Mental Retarded Child with Seizure Disorder: A Case Report

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Abstract

Lacosamide is a novel anticonvulsant that modulates voltage gated sodium channels. Although it is known to cause few side effects like dizziness, headache, nystagmus, diplopia, nausea, somnolence, insomnia, drowsiness, hyperactivity, weight gain, very few cases have been reported of the same. We describe a case of 11 year old girl with severe mental retardation with behavioral problems and generalized tonic clonic seizure (GTCS). She was started Lacosamide for her uncontrolled seizures, 2 weeks after which she developed hyperactivity, inattention and restlessness. Discontinuation of Lacosamide made the patient like before. We conclude that this novel drug, Lacosamide should be used cautiously in children and concerned family members should be advised about the drug reaction and adverse effects.

Keywords: Child, Lacosamide, Mental retarded, Seizure.

Introduction

Mental retardation (MR) is a condition of arrested or incomplete development of the mind, which is especially characterized by impairment of skills manifested during the developmental period, which contribute to the overall level of intelligence, i.e, cognitive, language, motor, and social abilities [1]. Epilepsy is a common chronic neurological disorder in children and the main stay of the treatment is anti-epileptic drugs (AED) therapy [2].

Lacosamide is a novel AED, consisting of a functionalized amino acid molecule believed to act on voltage gated sodium channels, to stabilize hyper excitable neuronal membranes and inhibit repetitive neuronal firing [3]. Lacosamide is approved as an adjunctive in treatment of partial onset seizures, uncontrolled primary generalized tonic clonic seizures (GTCS) [4][5]. Few studies in adult proved that the proportion of patients with at-least a 50% reduction in seizure frequency (50% responder rate) with lacosamide 400-600 mg/day were statistically significant [6].

Mild adverse reactions such as dizziness, headache, nystagmus, diplopia, nausea, somnolence, insomnia, drowsiness, hyperactivity, weight

gain have been observed in pediatric case reports and case series [7] [8] [9]. Three (3.79%) patients dropped out of one study due to hyperactive behaviour, vomiting and lack of seizure control [5].

We here report a 11 year old girl, who developed significant hyperactivity as a side effect of lacosamide that persisted for 2 weeks till the treatment was used and then reverted after it was stopped.

Case Presentation

11 year old girl, a case of severe mental retardation with some behavioral problems since birth, presented to us with GTCS. Her illness started at 3 years of age as acute onset of GTCS. Work up including CT head, MRI brain, liver, thyroid and renal function tests, blood sugar, serum electrolytes were done, which were normal. EEG was done which showed high amplitude multiple spikes followed by slow waves suggestive of GTCS. She was treated as a case of severe mental retardation with GTCS.

She was started with Carbamazepine (400mg/day), Olanzapine (5mg/day), Folic acid (5mg/day) for 1 month. Parents reported seizures twice during this month. Carbamazepine was increased

to 600 mg/day and Clobazam (20 mg/day) was then added to her previous medicines. This schedule was continued for 2 more months during which seizures were uncontrolled, following which Clobazam was stopped and newer AED, with novel mode of action, Lacosamide was added to the patient's existing drug regimen containing Carbamazepine, Olanzapine and Folic acid, after taking informed consent from the parents. Lacosamide was started with 100 mg/day for 2 weeks. 2 weeks after she was started on Lacosamide, parents noted that her seizures were controlled, but she had become hyperactive, inattentive and restless. She could not sit quiet at one place and there was disturbance in sleep as well. Patient was brought to OPD for the same. Lacosamide was then discontinued and substituted by Divalproex sodium (500mg/day), 1 week after which patient started showing improvement in hyperactivity and restlessness.

By the end of 2 weeks of stopping Lacosamide, her behavior was like before. The patient is currently on Divalproex sodium (750mg/day), Carbamazepine (600 mg/day), Olanzapine (5mg/day) and Folic acid (5mg/day) and remains well controlled without any seizure and hyperactivity.

Discussion

Lacosamide is found to be a safe and effective AED in adults. The efficacy of lacosamide in group of children with refractory epilepsy was generally similar to previous reports [6] [10]. Lacosamide has been reported to be well tolerated and relatively safe drug [9]. With regard to our case, in which the patient had severe mental retardation, it becomes difficult to judge whether the behavioral problems appearing are due to the ADRs of drugs or due to the disability itself.

In 1.26% patients, hyperactivity, aggression and inattention for 1 week after starting the drug was reported after which the drug was discontinued [5].

Conclusion

Behavioral problem in epileptic children are very important and adversely affect the quality of life of these children. So it becomes necessary to start the drug cautiously and the concerned family members be advised about the drug reactions and side effects, for further betterment of the patient.

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Conflict of Interest: None