CASE REPORT

NON-EPILEPTIC HALLUCINATIONS WITH USE OF LEVETIRACETAM - A CASE REPORT

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Abstract

We report a 35 years old Indian male who presented with history of complex partial seizures since 2001 and was being treated with carbamezapine sustained release tablets of 400 mg thrice daily for the last eight years. Due to lack of control of seizures, levetiracetam was added as an augmentation drug in dosage of 500 mg twice daily over a period of 3 weeks. With gradual increase in dosage of this drug, patient experienced visual hallucinations. EEG was done during periods of visual hallucinations and EEG studies were normal. All other laboratory investigations were also normal including MRI brain which clearly indicated the role of levetiracetam in development of visual hallucinations. With decrease in dose of this drug, hallucinations resolved shortly afterwards within 3 days. Patient was managed with tablet clonazepam(30mg/day) meanwhile temporarily to prevent any fit at that time and later was put on another safer antiepileptic drug.

Keywords: Levetiracetam, epilepsy, visual hallucinations

Introduction

Levetiracetam , a new antiepileptic drug with a novel mechanism of action, shows safe and proven efficacy in complex partial seizures, generalized tonic clonic seizures and myoclonic seizures. It is widely used as add-on therapy in patients with epileptic disorders. It has a favorable pharmacokinetic profile, lack of known pharmacologic interactions, good tolerability.1 Several neuropsychological symptoms may develop during antiepileptic drug treatment; however, there are few reports in the literature regarding the association of Levetiracetam with psychosis.2-4 This is a case report of levetiracetam-induced hallucinations in a patient suffering from epilepsy.

Case Report

Patient is a 35–year-old male with no past psychiatric history, diagnosed with complex

partial seizures in 2001 and treated with carbamezapine sustained released preparation 400 mg thrice daily for last 8 years. Because of uncontrolled seizures despite of regular treatment, he was put on levetiracetam as an augmentation therapy in dosage of 500 mg twice daily after progressive increase in dosage of levetiracetam over a period of 3 weeks. After the dose increase, he described experiencing visual hallucinations of seeing a person standing in front of him, becoming fearful of him and started screaming many times in a day. None of the episodes were associated with any EEG changes and the EEG remained normal throughout the 3-days testing. Physical examination was unremarkable, and laboratory results, including urinalysis, complete blood count, liver function tests and kidney functions were within normal limits. Urine drug screen was negative, and he denied using any substance. The brain MRI was normal.

The dose of levetiracetam was decreased to 500 mg in two divided doses in a day and the hallucinations resolved shortly afterward within 3 days with no need for antipsychotics.

Discussion

As per history, it can be assumed that my patient had levetiracetam-induced visual hallucinations. With the advent of new antiepileptic medications in the market, drug information regarding side effects and benefits are often limited because of lack of experience with a sufficient number of patients. Controlled clinical trials have reported a wide margin of tolerability, with infrequent and mild adverse events for levetiracetam.5 During long-term treatment, behavioral disturbance was noted in 2% of patients. Clinical studies have indicated a higher prevalence of psychiatric adverse events, ranging between 13.5% and 16%,6 and prevalence rates of levetiracetam-induced psychosis range from <1% to 1.4%.4 Data about psychosis are available only as case reports.2-4 Risk factors for the development of psychosis are previous history of status epilepticus, previous psychiatric history, add-on therapy, and rapid titration when there is an underlying neurological disease.6

The lack of EEG changes during hallucinations in our patient makes epileptic seizures a highly unlikely cause.7 Further evidence against the hallucinations being caused by seizures is the fact that the symptoms resolved as the drug was discontinued. The content of hallucinations was that voices were discussing about the patient among themselves and also commenting on patient's behaviour during interictal phase. This demonstrates symptom like first rank symptom of schizophrenia.

This observation is important because it demonstrates that hallucinations can have multiple causes, even when there is an otherwise normal mental status. The therapeutic dose of Levetiracetam ranges from 1000 mg – 3000 mg/day. Psychotic symptoms arising during initiation or titration of pharmacotherapy in patients should not be automatically attributed to a neurological disorder, and abnormal perceptual experiences should be monitored in future studies. Until then, clinicians need

to be aware of this possible complication associated with levetiracetam.

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