

## Case Report

# Nonepileptic Hallucinations With Use of Levetiracetam

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**Abstract :** *Levetiracetam is a drug advocated as an add on therapy in treatment of complex partial seizures, generalized tonic clonic seizures and myoclonic seizures. There are reported rare occurrences of psychotic symptoms with use of this drug. A case who developed visual hallucinations with use of this drug is being reported.*

**Keywords :** *Levetiracetam, epilepsy, visual hallucinations*

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## 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.<sup>1</sup> Several neuropsychological symptoms may develop during antiepileptic drug treatment; however, there are few reports in the literature regarding the association of Levetiracetam with psychosis.<sup>2-4</sup> 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 carbamazepine sustained released preparation 400 mg thrice daily for last 8 years. Because of uncontrolled seizures despite regular treatment, he was put on levetiracetam as an add on therapy in dosage of 500 mg twice daily, dosage of levetiracetam was built up 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 250 mg twice daily and the hallucinations resolved shortly afterward within 3 days with no need for antipsychotics.

## DISCUSSION

As per history, it can be assumed that this 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.<sup>5</sup> 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%,<sup>6</sup> and prevalence rates of levetiracetam-induced psychosis range from <1% to 1.4%.<sup>4</sup> Data about psychosis are available only as case reports.<sup>2-4</sup> 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.<sup>6</sup>

The lack of EEG changes during hallucinations in our patient makes epileptic seizures a highly unlikely cause.<sup>7</sup> Further evidence against the hallucinations being caused by seizures is the fact that the symptoms resolved as the drug was discontinued.

This observation is important because it demonstrates that hallucinations can have multiple causes, even when there is an otherwise normal mental status. 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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