



A CASE OF LEVETIRACETAM INDUCED MANIC EPISODE

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ABSTRACT AEDs may have deleterious effects on the mental state of patients, including depressive mood, psychosis, increase in irritability, and aggressive behavior. Despite the known association between levetiracetam and aggression and irritability, there have been very few reported cases in the literature of levetiracetam precipitating manic symptoms. In the case we report, we describe the acute onset of mania following levetiracetam therapy in a man with no prior history of mania or hypomania.

KEYWORDS : Levetiracetam, Mania

INTRODUCTION

Levetiracetam is a novel anticonvulsant approved for adjunctive treatment of partial seizures, effective in generalized epilepsies as well as for myoclonus, which has no clinically significant drug interactions and has limited adverse effects¹. Commonly observed neurological problems include asthenia, ataxia, diplopia, dizziness, dysarthria, fatigue, headache, light-headedness, nystagmus, paresthesia, somnolence and tremor. They usually are either dose related or transient. Behavioral effects include agitation, anxiety, depression, emotional lability, hostility, nervousness, and psychosis which are less clearly related to drug, dose or tolerance^{2,3,4}.

We report a case of manic episode induced with Levetiracetam, in a patient of Neurocysticercosis.

Case Report

A 62 year old married male, educated up to graduation, currently retired from job, presented to psychiatry outpatient clinic with complaint of behaviour disturbance since 20 days. His past medical history revealed that 1 month ago he was hospitalised following complaint of involuntary movements starting in his right hand followed by all the limbs (within few seconds), associated with confusion and inappropriate answering to question asked. The MRI Brain showed – 'Ring enhancing lesion in the left parietal region, with moderate surrounding edema'. He was diagnosed as having (an inflammatory granulomatous lesion) Neurocysticercosis, causing right focal complex partial seizure with secondary generalization. All routine investigations were normal except ESR which was 33mm/hr. He was treated with Albendazole & Prednisolone during indoor admission and after 2 days of treatment he was discharge with prescription of Levetiracetam 1500 mg per day and advised for monthly visits. After 6 weeks, MRI Brain showed that the lesion had resolved with 'tiny old calcific granuloma / old Neurocysticercosis' seen on the scan.

Meanwhile, after one week of starting with Levetiracetam the only medication which was newly started, he started developing complain of excessive talking, overfamiliarity, decreased sleep, excessive involvement in pleasurable activities, excessive use of social media / mobile / internet, agitation, irritability & visited Psychiatry Out Patient Department after a period of 2 week i.e about 3 week after initiation of levetiracetam therapy. His mental status examination revealed flight of ideas, pressurized speech, decreased reaction time, excited and irritable mood. Patient had no history of acute stressor preceding current exacerbation, no family history or past history of depressive episodes, any psychiatric disorder, head injury, CNS infection, epilepsy or substance use. Though, patient was on Zolpidem 12.5mg and Ramelteon 8mg for Insomnia for last 2 years. There was no history of any acute stressor. He was advised to continue non benzodiazepine sedative for ongoing sleep disturbance & substitute Levetiracetam with another Anti-Epileptic drug i.e. Oxcarbazepine (suspecting Levetiracetam as a causative agent for manic episode), gradually over a period of next 20 days. However, his complaints of excessive talking, overfamiliarity and excessive involvement in pleasurable activities continued even after 10 days of stopping Levetiracetam and starting

Oxcarbazepine 600mg per day. As there was deterioration in his behaviour, Olanzapine 5 mg orally was added to his prescription. He improved thereafter, in one- two weeks. Olanzapine was stopped within a month and patient maintained on Oxcarbazepine for next one year. Meanwhile, within 6 months, MRI Brain scan showed completely healed lesion.

DISCUSSION

In general, psychiatric disorders in patients with epilepsy are common and multifactorial in origin. Patients with history of psychiatric disorders may demonstrate an increased susceptibility to the behavioral adverse effects of antiepileptics suggesting an underlying vulnerability to antiepileptic central nervous system toxicity^{5,6}.

However, the development of manic symptoms with antiepileptic treatment is unusual. Levetiracetam is an antiepileptic with known neuropsychiatric adverse effects. Levetiracetam, though, is an antiepileptic with unique mechanism of action and known association with aggression, hostility, and psychosis. The cause of these behavioral effects with levetiracetam remains unknown.

In absence of any past history of depressive / mood disorder / any precipitating event / family history & with temporal correlation of emergence of manic symptoms with starting of Levetiracetam, it can be stated that the drug was related to the induction of the manic episode.

It was not the adverse effects of the drug, as it did not subsided after stopping the drug.

Given the increasingly widespread use of this newer anti-epileptic, clinicians should consider close monitoring of patients for treatment-emergent mood and psychotic symptoms, including the possibility of mania⁷.

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