

# Levetiracetam Induced Significant Weight Loss in a Patient with Complex Partial Seizure - A Case Report

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## ABSTRACT

Initially developed as a nootropic agent, levetiracetam is now widely used as a treatment for convulsive disorders including partial seizures, myoclonic seizures, and idiopathic generalised epilepsy. Levetiracetam has also been found to be useful in acute mania, and as an add-on treatment for major depression [1].

The most common side effects of levetiracetam include drowsiness, dizziness, ataxia, diplopia, memory impairment and paresthesia. There are very few case reports showing significant weight loss occurring due to use of levetiracetam. We are reporting such a case, where a 24 year old married woman who was treated with levetiracetam lost 10 kgs in 3 months.

**Keywords:** Levetiracetam, myoclonic seizures, idiopathic generalised epilepsy, complex partial seizure, weight loss.

## CASE REPORT

A 24-year-old married lady was accompanied by her mother and sister to the psychiatry OPD with illness duration of more than 4 years with complaints of episodes of sudden behavioural changes when she would start running away from house without any obvious reasons. She during the episodes would tear off her dress,

would move in a circle (cursive seizure) and scream. She was taken to private clinics where she was prescribed anti-psychotic drugs in view of psychotic episodes. She however, did not show any improvement and was brought to us. Her MRI Brain study done outside did not show any abnormality. We asked her to get an EEG done, which showed epileptiform discharges suggestive of complex partial seizures and we started treating her with Tab Carbamazepine 200mg BD. Tab Aripiprazole 2.5 mg HS was also added to control her anger outbursts. She however complained of severe headache, nausea and drowsiness with these. We suspected carbamazepine as the offending agent and switched to Tab Levetiracetam 250 mg BD and continued Tab Aripiprazole 2.5 mg HS. She reported significant improvement and did not have any further episodes of behavioural changes and there were no more complaints of headache or drowsiness. After nearly 3 months she came for follow up, when she complained of weight loss. She had lost 10kgs in these 3 months period. She did not report having a loss of appetite. Thorough investigations were done to rule out other known causes of weight loss. Her thyroid profile and WBC count was within normal limits and she was negative on viral markers for HIV, Hepatitis B and C. Levetiracetam was considered as the likely offending agent

for her weight loss. In spite of significant weight loss, she preferred to continue using levetiracetam as her other symptoms had subsided with its use. It is important to understand that almost all antipsychotics including Aripiprazole are known to cause weight gain.

## DISCUSSION

Weight loss due to use of Levetiracetam is not a common occurrence. S Hadjikoutis et al reported 4 cases of weight loss associated with levetiracetam [2]. Seden Demirci have similarly reported a case of weight loss due to use of Levetiracetam. Gelisse et al. reported 19 cases of significant weight loss due to use of levetiracetam at both lower and higher doses [3]. The mechanisms of weight loss associated with levetiracetam are not well known. Few anti-epileptic drugs like topiramate and zonisamide have traditionally been used to reduce weight in patients on antipsychotics. Zonisamide causes the augmentation of dopamine synthesis and stimulation of D2 receptors. We suggest that levetiracetam can cause significant weight loss even at low doses in substantial proportion of patients and patients should be warned beforehand. Since there are only few case reports related to this side effect related to levetiracetam, further study is warranted.

## Declaration by Authors

**Consent:** Participant has consented to write and publish this case report.

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**Conflict of Interest:** The author declares that he has no conflict of interests.

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