Case Report

Self-Withdrawal of Levetiracetam in a Patient with Epilepsy Leading to Blindness

Seyed Mohammad Masoud Shushtarian *[1], PhD; Reza Pour Mazar [2], MD

1. Department of Biophysics and Biochemistry, Faculty of Advance Science and Technology, Tehran Medical Sciences, Islamic Azad University, Tehran, Iran.
2. Basir Eye Health Research Center, Iran University of Medical Sciences, Tehran, Iran.

***Corresponding Author:** Seyed Mohammad Masoud Shushtarian
E-mail: mshushtarian@yahoo.com

Abstract

A 27-year-old female patient was referred to Basir Eye Clinic in Tehran, Iran, following sudden total blindness in both eyes. She had a history of receiving various medications for different illnesses, including epilepsy. She reported sudden self-withdrawal of Levetiracetam. Within one week after discontinuing the medication, she completely lost vision in both eyes. A complete examination of the patient including visual evoked potential examination led to a diagnosis of cortical blindness.

Keywords: Epilepsy; Self-Withdrawal; Levetiracetam; Blindness.

Article Notes: Received: Jul. 12, 2022; Received in revised form: Aug. 03, 2022; Accepted: Aug. 29, 2022; Available Online: Jan. 01, 2023.

How to cite this article: Seyed Mohammad Masoud Shushtarian SMM, Pour Mazar R. Self-withdrawal of Levetiracetam in a Patient with Epilepsy Leading to Blindness. Journal of Ophthalmic and Optometric Sciences . 2023;7(1): 28-30.

Introduction

Apart from people who are suffering blindness by birth the leading cause of acquired blindness are age-related eye diseases such as age-related macular degeneration, cataract, glaucoma, optic nerve atrophy, and diabetic retinopathy [1].

Drug related blindness is a rare incident which might be caused by drug toxicity or in very rare cases by consequences of drug withdrawal [2,3]. Antiepileptic drugs toxicity causing blindness has been reported in the literature [4,5].

Levetiracetam is a second-generation antiepileptic drug that is chemically unrelated to other antiepileptic drugs [6]. Mild mood-related side effects including anxiety, agitation, and depression have been observed in a minority of patients using Levetiracetam in the days following initiation of therapy or changes in dosing [7].

Here we report a case of total blindness after withdrawal of Levetiracetam. To our knowledge this is the first report of blindness caused by Levetiracetam withdrawal in English literature.

Case report

A twenty-seven-year-old female patient was referred to Basir Eye Clinic in Tehran, Iran, presenting with no light perception in both eyes. The patient provided written consent for her case to be reported.

Her medical history revealed a major surgery one year prior, including cholecystectomy, adhesiolysis and appendectomy. The patient experienced seizures two months post-surgery, leading to treatment with Levetiracetam 500. Additionally, she encountered mental health issues, prompting the consulting doctor to prescribe Citalopram and Quetiapine. Two weeks before her visit to Basir Eye Clinic, the patient altered her medication regimen, discontinuing Levetiracetam and reducing the dosage of two other drugs by half. Within one week of these changes, she suddenly lost her vision entirely.

During flash visual evoked potential (VEP) recording, no distinguishable peaks were observed, indicating a flat VEP. A complete examination of the patient led to a diagnosis of cortical blindness.

Discussion

In the present case, sudden withdrawal of Levetiracetam resulted in complete blindness in both eyes, as confirmed by VEP examination. It is known that antiepileptic drugs are not curative; thus, when they are discontinued, the natural course of the condition becomes apparent [8]. This implies that following the withdrawal of antiepileptic drugs, if epilepsy is not cured, seizures may occur due to lack of protection [8].

In rare cases, seizure has been reported to lead to blindness. Jain et al., [9] reported a case of a 28-year-old woman who experienced three episodes of generalized tonic-clonic seizures followed by blindness. Extensive diagnostic techniques were performed, and it was ultimately suggested that the seizures were induced by hyperglycemia, resulting in associated cortical blindness, which persisted during follow-up [9]. Cortical blindness following seizures caused by idiopathic epilepsy, vascular accidents, brain cysts, acute encephalitis, and chronic encephalitis has been documented [10]. Blindness in these cases may be either permanent or temporary [10].

Our patient did not report any seizure episodes after discontinuing her antiepileptic medication. However, we suspect that there is a possibility that seizure episodes were not

reported due to the patient's mental state.

Conclusion

Sudden withdrawal of antiepileptic drugs might result in serious visual impairment and even permanent blindness in very rare circumstances. Although this outcome is rare, it should be considered due to the devastating results of permanent blindness.

Authors ORCIDs

Seyed Mohammad Masoud Shushtarian: https://orcid.org/0000-0002-6387-9046

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Footnotes and Financial Disclosures

Conflict of Interest:

The authors have no conflict of interest with the subject matter of the present study.