Case Report

Psychogenic Vomiting in a Child during Visual Evoked Potential Recording: A case Report

Seyed Mohammad Masoud Shushtarian *[1], PhD;

1. Department of Biophysics and Biochemistry, Faculty of Advance Science and Technology, Tehran Medical Sciences, Islamic Azad University, Tehran, Iran.

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

Abstract

Psychogenic vomiting is a condition characterized by recurrent vomiting without any known organic cause resulting from psychological stress. This report presents the case of an eleven-year-old male child with severe unexplained visual loss who was referred for visual evoked potential (VEP) recording. However, during the procedure, the child experienced a sudden episode of psychogenic vomiting after the electrodes were fixed and before the experiment began. This report aims to explore the possible reasons behind this episode and propose potential solutions to prevent similar conditions from occurring.

Keywords: Psychogenic Vomiting; Visual Evoked Potential; Reduced Visual Acuity.

Article Notes: Received: Feb. 22, 2022; Received in revised form: May. 15, 2022; Accepted: Jun. 06, 2022; Available Online: Jun. 22, 2022.

How to cite this article: Shushtarian SMM. Psychogenic Vomiting in a Child during Visual Evoked Potential Recording: A case Report. Journal of Ophthalmic and Optometric Sciences . 2022;6(3):33-36.

Introduction

Visual evoked potential (VEP) is a valuable neurophysiological technique used to assess the electrical activity generated in the occipital cortex of the brain in response to visual stimulation. It provides objective information about the integrity and function of the visual pathway, including the optic nerves, optic tracts, and visual cortex. VEP recordings are used in various physiological and pathological conditions to evaluate visual function and diagnose visual disorders.

VEP has been utilized in research and clinical settings to investigate the impact of different drugs on the visual pathway. For example, Sarzaeim et al., [1] conducted a study examining the toxic effects of anti-seizure medication on the visual pathway using VEP. They found that patients with seizures who were taking anti-seizure medication exhibited prolonged VEP P100 peaks compared to healthy individuals, suggesting an impact of the medication on the visual pathway [1]. Also, the effect of other drugs like amiodarone and hydroxychloroquine on VEP has been explored. This highlights the utility of VEP in monitoring the effects of medications on visual function [2,3,4].

During VEP recording, unexpected pathological conditions may arise, potentially affecting the procedure or the patient's tolerance. For instance, in a case involving a patient with monocular optic neuritis and a history of migraine headache, the use of flash stimulation during VEP recording triggered a severe headache [5]. This highlights the importance of considering the type of stimulation employed during VEP testing to avoid exacerbating pre-existing conditions.

In another case, a patient reported dizziness and nausea during VEP recording using pattern stimulation. To alleviate these symptoms, the research team switched to flash stimulation, which was better tolerated by the patient [6]. This demonstrates the need for flexibility and adjustment during VEP recording to ensure patient comfort and reliable results.

Psychogenic vomiting is a condition characterized by recurrent vomiting without any identifiable organic cause, or vomiting resulting from psychological stress [7]. It is considered a functional disorder of the gastrointestinal system and is often associated with underlying psychological factors such as stress, anxiety, or emotional distress [8]. Although psychogenic vomiting is primarily recognized in the field of psychiatry, it can manifest in various clinical contexts, including stressful medical procedures.

This report presents a case of an eleven-year-old male child with severe unexplained visual loss who experienced an episode of psychogenic vomiting during VEP recording. The aim is to explore the possible reasons for the episode and propose potential solutions to prevent similar conditions from occurring. Understanding and addressing psychogenic factors in patients undergoing VEP recording is crucial for optimizing the procedure's success and patient well-being. The patient's parents provided written consent, agreeing to have this case reported.

Case Report

An eleven-year-old male child with a complaint of severe unexplained visual loss was referred to Basir Eye Clinic, Tehran, Iran. The patient's medical history revealed a clear fundus, suggesting that the cause of visual loss might lie in the optic nerve or visual pathway. The consulting doctor ordered various diagnostic tests, including VEP, to evaluate the patient's visual function.

During the initial attempt at flash VEP, the patient unexpectedly developed coughing

followed by heavy vomiting, despite not showing any prior signs of nausea. Recognizing the need to investigate the cause of the vomiting, the medical team examined the patient further. After a thorough evaluation, including a detailed medical history and physical examination, the diagnosis of psychogenic vomiting was made. Psychogenic vomiting is characterized by vomiting episodes triggered by psychological factors rather than any underlying physical illness.

To ensure a successful VEP test without interruptions, the patient was advised to return to the clinic the next day in a fasting state. Fasting before the test aimed to minimize the chances of discomfort or vomiting during the procedure. The patient complied with the instructions and returned to the clinic as advised.

The noninvasive VEP test was then performed successfully without any issues. The results of the VEP test revealed abnormal responses along the visual pathway, indicating a functional impairment that could explain the patient's severe unexplained visual loss. The abnormal VEP findings prompted a referral to a neurologist for further evaluation and management.

Discussion

An eleven-year-old boy experienced heavy vomiting during VEP examination, and the underlying cause was determined to be psychogenic vomiting. Psychiatric literature on vomiting of psychogenic origin is limited, but there are some references that support the findings of this study.

Paidi et al., [9] reported a case of a 25-year-old male with schizophrenia who frequently experienced vomiting. The patient described immediate vomiting when under stress, in a bad mood, or upon hearing unpleasant news or engaging in arguments. Extensive examination and tests led to a diagnosis of psychogenic vomiting.

Pooja et al., [10] documented two cases of psychogenic vomiting lasting more than nine months. The vomiting in these cases was positively associated with anxiety. Both patients underwent treatment and experienced significant improvement, with a reduction in vomiting-related disturbances [10].

Our case report highlights the impact of psychogenic vomiting on diagnostic procedures, specifically flash VEP testing in a pediatric patient with unexplained visual loss. Psychogenic vomiting is a diagnosis of exclusion, requiring a comprehensive evaluation to rule out any organic causes. In this case, the absence of prior signs of nausea and the subsequent successful completion of VEP testing in a fasting state strongly supported the diagnosis of psychogenic vomiting.

Psychological factors can significantly affect a patient's response to medical procedures and influence diagnostic outcomes. It is crucial for healthcare providers to maintain a multidisciplinary approach, involving specialists from various fields, to effectively manage such cases. In this scenario, collaboration between ophthalmologists, psychologists, and neurologists facilitated the accurate diagnosis and appropriate management of the patient. The patient's parents provided written consent, agreeing to have this case reported.

Conclusion

Psychogenic vomiting, although rare, can present challenges in clinical settings, potentially impacting the successful completion of diagnostic procedures. In cases where patients develop psychogenic vomiting during a diagnostic procedure such as VEP, it

is advisable for them to undergo the test in a fasting state at a later time. Additionally, efforts should be made to minimize potential stressors by adequately explaining the procedure to the patient before commencing it.

Authors ORCIDs

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

References

1. Sarzaeim F, Abdolalizadeh S, Shushtarian SMM, Shojaei A. Visual Evoked Potential Findings in Patients using Anti-Seizure Medicine. Journal of Ophthalmology and Research. 2022;5(3);123-6.
2. Lai TY, Ngai JW, Chan WM, Lam DS. Visual field and multifocal electroretinography and their correlations in patients on hydroxychloroquine therapy. Doc Ophthalmol. 2006;112(3):177-87.
3. Allahdady F, Aghazadeh Amiri M, Shushtarian SMM, Tabatabaee SM, Sahraei F, Shojaei A, et al. Comparison of Visual Evoked Potential and Electro-oculogram Tests in Early Detection of Hydroxychloroquine Retinal Toxicity. Journal of Ophthalmic and Optometric Sciences. 2016;1(1):19-26.
4. Chiang TK, White KM, Kurup SK, Yu M. Use of Visual Electrophysiology to Monitor Retinal and Optic Nerve Toxicity. Biomolecules. 2022;12(10):1390.
5. Shushtarian SM, Adhami-Moghadam F, Naser M, Shojaei A. Severe Headache Initiated by Flash Stimulation During Visual Evoked Potential Recording in a Patient with Monocular Optic Neuritis and History of Migraine Headache. Journal of Ophthalmic and Optometric Sciences. 2017;1(4):36-9.
6. Shushtarian SMM. Dizziness and Nausea Feeling During Pattern Reversal Checkerboard Visual Evoked Potential Recording in A Multiple Sclerosis Patient. Journal of Ophthalmic and Optometric Sciences. 2021;5(3): 44-7.
7. Pooja V, Gupta N, Khan A, Chaudhury S, Saldanha D. Psychogenic vomiting: A case series. Ind Psychiatry J. 2021;30(Suppl 1):S252-S254.
8. Zhao Y, Ke M, Wang Z, Wei J, Zhu L, Sun X, et al. Pathophysiological and psychosocial study in patients with functional vomiting. J Neurogastroenterol Motil. 2010;16(3):274-80.
9. Paidi G, Jean M, Oduwole A, Gautam N, Kapoor K, Paidi R. Chronic Unexplained Vomiting: A Case Report on Psychogenic Vomiting. Cureus. 2022;14(6):e25959.
10. Pooja V, Gupta N, Khan A, Chaudhury S, Saldanha D. Psychogenic vomiting: A case series. Ind Psychiatry J. 2021;30 (Suppl 1): S252-S254.

Footnotes and Financial Disclosures

Conflict of interest:

The authors declare no conflict of interest regarding the subject matter of the present study.