

VISUAL EVOKED POTENTIALS IN EVALUATING SUDDEN VISUAL LOSS IN ADOLESCENTS: A PSYCHOSOMATIC PERSPECTIVE

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INTRODUCTION

Dissociative disorder, previously known as conversion disorder, is a psychiatric illness characterised with sensory or motor signs and symptoms that cannot be associated with neurological or general medical pathology (Ballmaier & Schmidt 2005). It is often connected with conflicts, stress, depression, anxiety and other psychological factors. The most common deficit include paralysis, blindness, pseudoseizures, mutism, deafness, abnormal movements, etc. It is important to distinguish this type of disorder from malingering. In case of malingering, person consciously fakes symptoms in order to achieve certain goals (Blitzstein et al. 2008). Prevalence of conversion disorder varies between studies, and it is estimated that every fourth hospitalized patient in general hospital has some symptoms of conversion (Feinstein 2011). Disorder is more common in females, with male to female ratio between 1:2 to 1:10. Its prevalence is also higher in people from rural areas and those of lower education and socioeconomic status (Encyclopedia of mental disorders 2015). In most of the cases this disorder is self-limiting, and 90% of symptoms resolve within a month. However, 25% of patients have new episodes later in life (Blitzstein et al. 2008). Treatment of dissociative disorder depends on clinical symptoms, but usually requires some sort of psychoanalytic or psychodynamic therapy, as well as cognitive behavioral therapy or hypnosis. Medical therapy includes anxiolytics, antidepressants and in some cases antipsychotics (Kušević 2015).

CASE REPORT

We examined cases of 12 patients aged from 12-14 years who were hospitalized at Department of Ophthalmology or Department of Pediatrics, at the University Hospital Centre Split in the period between 2013 and 2017. In all cases, main symptom was sudden loss of visual acuity on one eye. In 2 cases this was accompanied with acute headache, and 3 patients complained of retrobulbar pain. Patients were examined by neuropediatrician and magnetic resonance imaging (MRI) was done prior to the ophthalmic exam. Both showed no relevant findings. Complete ophthalmic examination was carried out. Ave-

rage visual acuity of affected eye was 0.39, and average acuity of other eye was 0.95. Retinoscopy was done in all cases and adequate correction applied if needed. Color vision, tested with Ishihara plates, was 36/38 in 2 patients and 38/38 in 10 patients. Slit lamp examination was according to age and relative afferent pupillary defect was absent in all patients. Fundus examination showed normal optic disc and retina. Further diagnostic procedures were done. Both perimetry and OCT were normal with average CST 306 micrometers and RNFL thickness 103.2 micrometers. Visual evoked potentials were done on monocular stimulation of the samples were recorded in accordance with the International Society for Clinical Electrophysiology of Vision (ISCEV Guidelines). Testing was done with light samples of size 1.0 and 0.3 degrees using TomeyEP-1000 (TOMEY GmbH Am Weichselgarten Erlangen, Germany). Every testing was repeated 3 times and monitored with camera. Visual evoked potentials showed normal amplitudes (mean 20.3 mV) and latencies (mean 104.9) in both eyes in all patients. Based on these findings, especially on results of visual evoked potentials, it was assumed that there is no objective cause of sudden loss of visual acuity in these patients and they were referred to psychologist or psychiatrist for further treatment. They were diagnosed as dissociative disorder and were treated with cognitive behavioral therapy. On second ophthalmic exam, 6 months after behavioral therapy started, 10 out of 12 patients had improved visual acuity (average improvement of 0.23) (Figure 1). Visual evoked potentials were repeated and the results were the same as the first time (within normal limits).

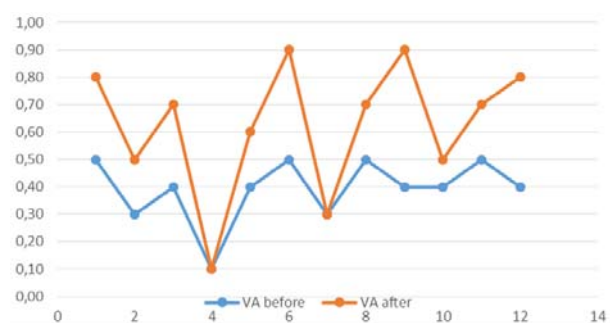


Figure 1. Visual acuity before and after psychotherapy in 12 adolescent patients

DISCUSSION

Establishing a proper diagnosis of visual loss can be demanding in some cases, especially when examination reveals no pathological cause. In these cases, visual evoked potentials can be very useful. In 1983, MacCana et al. (1983) have demonstrated normal values of amplitudes and latencies in both flash and pattern visual evoked potentials in patients they labeled as “hysterical amblyopia”. However, some later studies suggested that subjects can, in some cases, voluntarily alter VEP patterns. This can be achieved by purposely defocusing test stimuli and subsequent retinal blur which may result in decreased amplitudes and prolonged latencies. Careful monitoring is therefore of extreme importance if the results are to be considered as valid (Beatty 1999, Kathol et al. 1983). In our cases, visual evoked potentials in all patients were considered normal. When interpreting this with other clinical findings, it led us to conclusion that visual loss in these cases is not organic. Diagnosing dissociative disorder correctly and on time is vital for further treatment. It is considered that dissociative symptoms that are present for more than a year are often resistant to therapy (Kušević 2015). Treatment of dissociative disorder depends on clinical symptoms, but usually requires some sort of psychoanalytic or psychodynamic therapy, as well as cognitive behavioral therapy or hypnosis. Medical therapy includes anxiolytics, antidepressants and in some cases antipsychotics (Kušević 2015). Finally, relationship between psychopathology and visual disturbances remains complex, requiring further empirical research (Jurišić et al. 2020).

CONCLUSION

Visual evoked potentials could be useful tool when diagnosing sudden visual loss. Normal amplitudes and latencies in visual evoked potentials in patients with decreased visual acuity, especially in young adults and adolescents, can indicate non organic cause of vision loss. When diagnosed properly and on time, dissociative disorder can be treated successfully. It is therefore important to keep this diagnosis in mind in daily clinical practise.

Acknowledgements: None.

Conflict of interest: None to declare.

Contribution of individual authors:

Dobrića Karlica Utrobičić: study concept and design, literature review, data collection, first manuscript draft, manuscript revisions, approval of the final version.

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Zorana Kušević: literature review, manuscript revisions, approval of the final version.

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