Short communication

Alice in Wonderland syndrome

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ABSTRACT

Case report: A case of Alice in Wonderland syndrome is described as the only sign of Epstein–Barr virus infection.

Discussion: Epstein–Barr virus infection may include visual symptoms as the first or only signs of disease. All patients presenting with a clinical picture consistent with the Alice in Wonderland syndrome should undergo serological testing for Epstein–Barr virus infection.

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Síndrome de Alicia en el país de las maravillas

RESUMEN

Caso clínico: Se describe el caso de un varón de 19 años con un síndrome de Alicia en el país de las maravillas como única manifestación de infección del virus de Epstein–Barr.

Discusión: La infección por el virus de Epstein-Barr puede tener síntomas variados, y los visuales pueden ser la primera o la única clínica de la enfermedad. A todos los pacientes con síndrome de Alicia en el país de las maravillas se les debería realizar una serología del virus Epstein Barr.

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Introduction

The Epstein–Barr virus (EBV) is a gammaherpesvirus which infects a significant number of the population. The primary infection can be asymptomatic. In some cases it can evolve to infectious mononucleosis (IM), characterized by the typical triad of fever, pharyngitis and lymphatic adenopathies, together with the presence of atypical lymphocytosis. Generally, infectious mononucleosis is a young people’s disease. The “Alice in Wonderland syndrome” (AIWS) is characterized by the presence of distortion in the bodily image and

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the perception of size, distance, form or spatial relationships of objects (metamorphopsia). Copperman described three patients with AIWS as a first expression of IM. This paper describes a young patient with AIWS without clinical signs or symptoms suggesting active infectious mononucleosis.

**Clinic case**

A University student, 19, without relevant personal or familial history, was referred to our practice by the primary health care doctor to discard possible central serous maculopathy. The patient referred that since 2 weeks he began to see “things smaller than usual and difficulty for reading because the lines appeared crooked” with both eyes, particularly with the right eye, during 5 min several times a day, “although now it lasts longer”. The patient was not on medical treatment and denied taking drugs or psychotropic preparations. Best corrected visual acuity in each eye was 1. Anterior and posterior pole examination, performed with Zeiss SL 115 and three-mirror Goldmann lens, was normal. Visual field and color tests were normal in both eyes. Optic coherence tomography and macular scan centered on the fovea were performed with normal results (Fig. 1). Physical and neurological studies were also normal, as well as EEG. Cerebral and orbitary nuclear magnetic resonance did not identify pathologies. The physical exploration was normal, without megalia or adenopathy. Serological studies were performed, with positive IgM antibodies against the EBV viral capsid at 1:890, 2 weeks later at 1:1450 and 16 weeks later at 1:250. With this information, AIWS associated to EBV infection was diagnosed. Three months after the first visit the patient was asymptomatic.

**Discussion**

EBV is broadly extended. It is estimated that 95% of adults between 35 and 40 years of age have been infected. EBV clinic is broad and highly varied, including infectious mononucleosis, personality changes, depression, meningoencephalitis, mononeuritis, ataxia, convulsions, retinochoroiditis. In 1955, Todd described AIWS as a visual illusion (metamorphopsia) characterized by distortion in forms, movements, sizes and even colors. AIWS is a perceptual alteration syndrome which occurs in patients with epilepsy or migraines and in drug abusers. However, it has rarely been described in association with EBV. A recently published article related also with the H1N1 influenza. The patient described in this paper had no personal or familial history of epilepsy, migraine or drug abuse and the initial examination was not relevant as it had no signs or symptoms of active EBV infection, which was subsequently demonstrated serologically. The titles of 1:200 or higher indicate active infection. The virus capsid antigen abundantly expresses in the infection and induces a response of the IgM isotype in the primary disease which lasts 2–3 months. The duration of the visual illusion ranges between 2 weeks and 7 months but with complete recovery and all other described cases. Metamorphopsia has been described in retinal pathology and in occipital, occipito-temporal or occipito-parietales injuries, migraines, influenza processes, epilepsy, schizophrenia and psychotropic drugs. By means of functional magnetic resonance, Brumm et al. found in a 12-year-old patient a reduction in the activation of the primary visual cortex and increased activation in the parietal cortex during a AIWS episode. The case presented herein is another example of the variation in the onset symptoms of EBV infection. Accordingly, ophthalmologists must bear in mind the association of AIWS and EBV in patients with visual distortions as the only symptom because they could be considered as psychiatric patients and referred for inadequate treatment.

**Conflict of interest**

No conflict of interest has been declared by the author.

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