

Visual Hallucinations in an Old Patient after Cataract Surgery and Treatment

Yaşlı Bir Hastada Katarakt Ameliyatı Sonrası Ortaya Çıkan Görsel Halüsinasyonlar ve Tedavisi

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Abstract

Sensory visual pathologies, accompanying simple or complex visual hallucinations that occur in visually-impaired individuals due to ophthalmologic or brain pathologies related to visual pathways in patients without mental disorders, are defined as Charles Bonnet syndrome. Between 10% and 60% of the patients having age-related eye diseases involving retina, cornea and the lens, commonly with macular degeneration experience complex visual hallucinations depending on the severity of visual problems. The neurophysiology of the visual hallucinations in Charles Bonnet Syndrome is not clearly known, and they may differ in content and severity over time. In differential diagnoses of Charles Bonnet Syndrome, many aetiologies (drugs, uraemia, exposure to toxic materials, neurodegenerative and psychiatric conditions) need to be ruled out. In the treatment of Charles Bonnet syndrome, first the management of the reason of visual loss should be clarified if possible. If needed, neuroleptics, anticonvulsants, antidepressants, benzodiazepines, cognitive enhancer agents such as cholinesterase inhibitors can be used also. In this case, an 83-year-old female patient experiencing visual hallucinations as burning candles in both eyes' visual field after left eye cataract surgery, treated with 0.5 milligram/day risperidone will be presented.

Keywords: Charles Bonnet, cataract, visual hallucination, treatment

Öz

Herhangi bir psikiyatrik hastalığı olmadığı halde görme yollarını ilgilendiren beyin ya da oftalmolojik patolojileri olan insanlarda görülen duysal görsel patolojinin eşlik ettiği basit ya da karmaşık görsel halüsinasyonların olduğu durum Charles Bonnet Sendromu olarak tanımlanmaktadır. Yaşla ilişkili başta maküler dejenerasyon olmak üzere retina, kornea, lense tutan göz hastalıkları olan insanların %10-60'ının görme probleminin şiddetiyle ilişkili olarak karmaşık görsel halüsinasyonlar yaşadıkları bildirilmiştir. Charles Bonnet Sendromu'nda görülen halüsinasyonların nörofizyolojisi tam olarak bilinmemekle birlikte bu halüsinasyonlar içerik ve şiddet açısından değişiklik göstermektedir. Charles Bonnet Sendromu'nun ayırıcı tanısında ilaç kullanımı, üremi, toksik maddelere maruziyet, nörodejeneratif hastalıklar ve psikiyatrik durumlar düşünülmelidir. Charles Bonnet Sendromu'nun tedavisinde ilk olarak mümkünse görme sorununa yol açan tedavi edilmelidir. Eğer gerekli görülürse nöroleptikler, antikonvulsanlar, antidepresanlar, benzodiazepinler, kolin esteraz inhibitörleri gibi bilişsel güçlendirici ajanlar kullanılabilir. Bu olgu sunumunda 83 yaşında sol göz katarakt ameliyatı sonrası her iki göz görme alanında yanan mumlar görme şeklinde görsel halüsinasyonları olan ve risperidon 0,5 miligram/gün tedavisi ile düzelen bir hasta sunulacaktır.

Anahtar Kelimeler: Charles Bonnet, katarakt, görsel halüsinasyon, tedavi

Introduction

Visual hallucination is defined as a visual percept, experienced when awake, with no stimulus. Visual hallucinations may occur in a wide-range of organic and psychiatric conditions such as eye diseases, Alzheimer's disease, Parkinson's disease, Dementia with Lewy Bodies, delirium, sensory and sleep deprivation, psychosis and migraine [1, 2]. Between 10% and 60% of the patients having age-related eye diseases

involving retina, cornea and the lens, commonly with macular degeneration experience complex visual hallucinations depending on the severity of visual problems [3-5]. Sensory visual pathologies, accompanying simple or complex visual hallucinations that occur in visually-impaired individuals due to ophthalmologic or brain pathologies related to visual pathways in mentally normal individuals, are defined as Charles Bonnet syndrome (CBS) [5, 6]. Here we report an 83-year-old female, who was referred to our psychiatry out-

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patient clinic by the department of ophthalmology, with the complaint of permanently seeing burning candles in the visual field of both eyes that emerged after having a left eye cataract surgery.

Case Report

An 83-year-old female patient was admitted to our hospital's ophthalmology department. Pre-op vision on her left eye was 5/20 improving to 10/20 after surgery. Vision on the right eye was 6/20, right eye cataract surgery was planned one month later. On ophthalmological examination, no relevant pathology was found. In fundus examination, peripapillary atrophy and retinal atrophy possibly as age related degeneration were detected. We could not perform visual field examination due to non-cooperation of the patient. She was on an ACE inhibitor treatment for the diagnosis of hypertension nearly for 25 years. The neurological examination was unremarkable. On mental state examination, she was fully conscious, her appearance was compatible with her socio-cultural level, speech was clear and orientation to time, place and person was intact. Immediate, recent and remote memory was normal. Her manner was slightly anxious, mood was euthymic. No pathology was defined in thought structure, process and content. Her cognitive status was thought as within normal limits according to her anamnesis and examination. She expressed seeing simple visual hallucinations such as burning candles. She defined these visions as obtrusive and causing diminishment of her daily living. Routine laboratory tests including electrolytes, liver and kidney function tests, complete blood count, thyroid hormones, vitamin B12 and folate levels were within normal ranges. Brain MRI could not be performed due to her claustrophobia. She was diagnosed as hallucinosis due to organic etiology (cataract surgery), an atypical antipsychotic agent risperidone 0.5 mg/day usage and clinical follow-up was recommended. Visual hallucinations disappeared a few weeks later, her daily activities were normal. We planned to taper and cut the dosage of risperidone in 3 months unless the symptoms reappear. Her clinical follow-ups were normal for the first month. Then, we could not reach the patient at the second month of therapy by phone number that she had given us, so we do not know how her currently clinical situation and cognitive status is.

Discussion

In CBS, hallucinations may differ in content and severity over time. Complex and full images of people are most commonly encountered. Therewithal, they can be seen in just one eye's visual field or both. Timing and frequency of the hallucinations may vary, can be episodic, periodic and

chronic [3, 6, 7]. The hallucination episodes can last seconds to hours, the duration may last from days to years. Several risk factors for developing CBS have been described. Older age, visual impairment, cerebral damage and social isolation are defined as the most important risk factors for developing CBS [3]. The majority of patients with CBS are elderly with a mean age of 70 to 85 years. Moreover, social or physical isolation, dimly lit conditions, evening hours and states of drowsiness have all been associated with recurrent hallucinations in CBS. As a difference of neurodegenerative and psychiatric disorders, patients with CBS do not experience hallucinations in other sensory modalities [3, 8]. The neurophysiology of the visual hallucinations in CBS is not clearly known. It is suggested that visual hallucinations arise because of dysfunctions involving visual processing [1]. A currently accepted theory suggests that vision loss leads to visual sensory deafferentation of the visual association cortex, causing disinhibition and later spontaneous firing of the visual cortical regions similar in phantom limb or phantom pain syndromes. Another theory on the release phenomenon suggests that missing input to primary visual areas causes a disinhibition of visual association areas, and a release of visual hallucinations [9]. In a functional MRI study, increased activity in the ventral occipital lobe during the hallucinations was found [10]. A single photon emission computed tomography study showed occurring hyperperfusion areas in the lateral temporal cortex, striatum and thalamus during the hallucinations [11]. In differential diagnoses of CBS, many aetiologies (drugs, uraemia, toxic materials, neurodegenerative and psychiatric conditions) need to be ruled out [5]. In the literature, individuals having visual hallucinations after different ophthalmologic surgeries [12, 13] have been reported. Moreover, cases having CBS related to cataract and disappearance of these hallucinations after cataract surgery have been reported in the literature [14]. To the best of our knowledge, our case is the first report representing a case with CBS after one eye cataract surgery. There is no current established treatment for the hallucinations in CBS. If patients are not bothered by visual hallucinations, treatment may also not be necessary. Only education and reassurance of the benign nature of the events, improving the quality of life may be enough for the patients [8, 15]. Hallucinations may also resolve spontaneously [6]. If improvement does not occur, first step should be the management of cause of visual loss if possible. If needed, neuroleptics, anti-convulsants, antidepressants, benzodiazepines and cognitive enhancer agents such as cholinesterase inhibitors can be used [3, 8, 15, 16]. Our patient has also been treated successfully with a neuroleptic agent, 0.5 milligram/day risperidone. With this case, we aimed to attract the attention of clinicians to visual hallucinations related to eye diseases and eye surgeries as a rare side effect especially for ophthalmologists,

who apply cataract surgery, and psychiatrists and neurologists, who deal with symptoms as visual hallucinations often in their daily practice. Duration of the treatment period of CBS is not clear, it is implemented to control the symptoms, generally tapering the dosage of treatment is suggested in a few months, but if symptoms resist or reappear, the duration of the treatment should be longer [16, 17].

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