



Charles Bonnet Syndrome in a 70-year-old Man with Diabetic Retinopathy

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Abstract. A 70-year-old man visited a psychiatric clinic with persistent visual hallucinations for the past year and a half. Initially, the patient perceived black spots, which would disappear upon closing his eyes and give way to images of a man and an animal. This old man underwent a comprehensive cognitive examination using the Montreal Cognitive Assessment (MoCA-Ina), which showed no cognitive, mood, or delusional disorders. The treatment plan included prescribing risperidone and lorazepam, providing psychoeducation to the patient and his family, and collaborating with the Departments of Internal Medicine and Ophthalmology for comprehensive care.

Keyword: Sindrom Charles Bonnet, Visual hallucinations, Diabetic Retinopathy

Introduction

Complex visual hallucinations characterize Charles Bonnet syndrome (CBS) in individuals with vision loss. Unlike psychosis, CBS patients are aware that their hallucinations are fictitious.[1] Syndrome was first described in 1760 by Swiss philosopher Charles Bonnet, who recounted the hallucinations of his blind grandfather caused by cataracts. The term "CBS" was officially coined by Swiss scientist George de Morsier in 1967. Numerous case reports exist in ophthalmology and psychiatry.[2],[3] Prevalence estimates vary widely, ranging from 0.4% to 12%. Accurately determining the prevalence of the disorder remains challenging.[4]

Underlying ocular pathology, particularly age-related macular degeneration, is often associated with CBS. While commonly seen in older individuals, the syndrome can affect patients of different ages.[5] Patients with CBS experience a range of visual hallucinations, classified as simple or complex. Visual hallucinations involve basic or formed shapes, such as photopsia, lattice-like patterns, or branching patterns. Meanwhile, complex visual hallucinations include intricate images of individuals, faces, vehicles, animals, flowers, trees, plants, and miniature representations of humans and objects.[6] Diagnosing and treating CBS can be challenging, specifically for patients with comorbid psychiatric symptoms and complex medical histories. These patients often have significant mood symptoms and require optimal treatment from a psychiatrist.[7]

Case report

A 70-year-old man visited the psychiatry clinic complaining of visual hallucinations that had persisted for approximately one and a half years. Initially, the patient perceived black spots, which would disappear upon closing his eyes and give way to images of a man and an animal. This old man refrained from sharing this complaint with family members due to concerns about potential labelling as having a mental disorder. The patient consistently saw multiple men carrying sharp objects, leading to feelings of imminent harm and sleep disturbances. Despite trying traditional medicine, the symptoms of the patient did not improve. A cognitive examination using the Montreal Cognitive Assessment (MoCA-1na) showed no evidence of cognitive or mood disorders. Furthermore, no signs of delusional disorder were observed.

The patient reported symptoms of polyphagia, polyuria, polydipsia, and frequent back weakness, which led to referrals to the Internal Medicine and Ophthalmology Departments for comprehensive care. A fasting blood sugar test showed high blood sugar levels of 250 mg/dl, confirming a diagnosis of type 2 diabetes mellitus by the Internal Medicine Department. The Ophthalmology Department diagnosed the patient with diabetic retinopathy due to reduced vision.

The patient was prescribed risperidone and lorazepam as part of their treatment plan. Psychoeducation was provided to this old man and his family, and joint care was coordinated with the Internal Medicine and Ophthalmology Departments. The patient was diagnosed with CBS. After two weeks of medication, the condition of this old man improved, although visual hallucinations persisted. However, the frequency of hallucinations and complaints of insomnia decreased.

Discussion

During the examination, a 70-year-old man was encountered, which aligns with the typical age range of 70-85 years associated with CBS. However, the syndrome is not limited to a specific age group and can manifest across all ages.[2] The prevalence of CBS in patients with low vision problems is about 19.7%.[11] Reports have linked type 2 diabetes mellitus complicated by diabetic retinopathy to CBS.[8],[9] Laser treatments for proliferative diabetic retinopathy decreased visual hallucinations in a patient. Visual hallucinations were less frequent in a patient with subretinal haemorrhage after laser photocoagulation.[12]

Two types of CBS include atypical and typical. In this case, the patient experiences reduced vision without concurrent psychiatric disorders, hallucinations, or cognitive impairment. Notably, the patient remains fully conscious during visual hallucinations.[10] Education and reassurance are pivotal in managing CBS, reducing

distress risk by providing clear information about the condition. Early education and awareness can prevent the misinterpretation of cultural beliefs or mental illness.[13] While dopamine and acetylcholine are implicated in visual hallucination formation, medical treatments targeting these neurotransmitter levels offer limited and temporary results. Pharmacological treatment for CBS is uncommon, lacking consensus on the optimal approach. Psychotropic medications, such as antidepressants, anxiolytics, antipsychotics, and anticonvulsants, are used with mixed outcomes to address CBS-associated hallucinations.[14]

Conclusion

CBS illustrates the high occurrence of visual hallucinations in older individuals with visual impairment. It emphasizes the importance of identifying and understanding symptoms manifesting in visually impaired patients, including visual hallucinations that profoundly affect their quality of life and psychological well-being.

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