

Case Report

Multimodal Hallucinations in a Visually Impaired Elderly Female: Is it a Variant of Charles Bonnet Syndrome?

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ABSTRACT

Charles Bonnet Syndrome (CBS) is a common cause of visual hallucinations seen in elderly people with visual impairment. Well-formed visual hallucinations in clear consciousness with preserved insight are commonly reported in literature. We report a case of CBS having multisensory hallucinations. An elderly patient with visual impairment fulfilling the criteria of CBS presents with various modalities of hallucinations viz. visual, auditory and tactile hallucinations improved completely with low dose of antipsychotics. Atypical features are common in CBS and thus often make it difficult to diagnose this condition.

Key words: *Atypical features, Charles Bonnet syndrome, visual hallucinations*

INTRODUCTION

Charles Bonnet syndrome (CBS) is a syndrome of well-formed complex visual hallucinations in clear consciousness, seen in elderly persons with diminished vision in both eyes.^[1] The prevalence of CBS ranges from 0.4% to 1.5%, but most cases do not seek treatment because of fear and stigma related to the symptoms.^[2] Literature suggests wide variations in the symptomatology of CBS and such cases are termed as “atypical CBS.”^[3] Hallucinations in other modalities such as auditory and olfactory hallucinations are described in this condition.^[4,5] We report a rare case of acute onset of multimodal hallucinations in a patient

having a bilateral visual impairment, most probably a variant of CBS.

CASE REPORT

An elderly female, 70-year-old, was brought to psychiatry OPD of a tertiary hospital with the complaints of seeing snakes, multiple in number surrounding all around her, different shapes and sizes of toys made of wood and a tall person wearing a black dress, unknown to her, either staring at her or following

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her for the last 20 days. The symptoms started abruptly one evening when the patient was sitting outside her house. The snakes would nod their heads and utter sounds “shoo” “shoo” occasionally which makes her more frightened. On some instances, the snakes would spit out some liquid from their mouth which she could feel over her skin, causing a transient burning sensation along with itchiness over the affected area. Often, the snakes, toys, and the tall person followed her wherever she went. Symptoms would exacerbate during evening hours after sunset. Snakes would be seen over her bed when she had difficulty with sleep and on such occasions, she would be afraid to sleep on her own bed had to sleep at her neighbor’s house. Patient during these experiences became disturbed but could clearly state that these were experienced only by her, and they are not disturbing other family members. On mental status examination, there was anxious affect with visual (predominant), auditory and tactile hallucinations with good insight. There were no recent stressors, memory problems suggesting dementia, no signs of confusion or disorientation. The patient during examination reported low vision in both eyes for last 2 years which has deteriorated over last 3 months. Ophthalmological examination revealed visual acuity of 3/60 in both eyes with bilateral dense nuclear cataract (NO5NC5 by lens opacities classification system III classification). Bilateral optic fundi were normal. Peripheral disturbance in the field of vision due to lenticular changes was seen in perimetric examination. Intraocular pressure was within normal range. Electroencephalogram showed no epileptiform activity and neuroimaging (magnetic resonance imaging [MRI] - brain) revealed age-related cortical atrophy. The patient was admitted and started on tablet clonazepam 0.5 mg twice daily along with reassurance during which her symptoms improved by 50%. Tablet aripiprazole at low dose 2.5 mg/day was started, and the patient was discharged after 10 days of hospital stay when her hallucinations disappeared completely. Neuropsychological testing and cataract surgery was planned during follow-up.

DISCUSSION

CBS is a common cause of visual hallucination in elderly people with visual impairment named after Swiss naturalist, biologist, and philosopher Charles Bonnet who described it in his philosophical treatise on “the mind, soul, and brain” in 1769 based on his observations of his grandfather who had cataract and visual hallucinations with clear awareness along with an insight to the phenomenon.^[3] In 1936, de Morsier, a neurologist, coined the eponym CBS in recognition of Bonnet,^[6] and described it as visual hallucinations that occur in older people with otherwise intact mental

functioning, but unlike Charles Bonnet, he did not emphasize that visual impairment is a possible cause of the visual hallucinations.^[7-11]

Over the years, various criteria exist for diagnosing CBS without any general agreement as to which criteria to be used. The debated criteria include the requirement of reduced vision; absence of additional auditory or olfactory hallucinations; absence of control over hallucinations; and disappearance of hallucinations on closing the eyes; the absence of delusions.^[8,12,13]

The following criteria have been adopted by us to diagnose Bonnet syndrome (sometimes referred to as CBS) as it appears best serve our clinical needs, namely, visual hallucinations in visually impaired individuals with full alertness, unimpaired cognition, with absent psychosis.^[14]

Reviewing the Indian studies, the core clinical features generally include the presence of complex visual hallucinations with preserved insight, presence of (bilateral) visual impairment especially in elderly people and absence of psychosis, dementia, delirium, or other neurological disorder.^[15] It is seen mostly in people with cataract, glaucoma, or age-related macular degeneration.^[16]

In our patient, other than significant fear and anxiety there were no features of major depression or psychotic disorder. There was no evidence of any cognitive impairment, or substance abuse, or a general medical condition. It occurred for the first time in her life without noteworthy psychosocial stressors or social isolation. Thus, the above clinical picture with bilateral cataract with visual impairment in our patient warrants a consideration of CBS. Atypical CBS appeared to be the most appealing diagnosis in this clinical situation. The acute onset of the symptoms and evolution over a short period remains perplexing. A combination of mild neurological and visual impairment seems to be the pathological basis for the condition. Peduncular hallucinosis remained a serious contender for a differential diagnosis, but MRI brain and neurological assessment did not provide supporting evidence for it. Furthermore, improvement after low dose of benzodiazepine initially points toward an atypical cause. Cataract surgery which is awaited will provide a much clearer picture of the condition.

While describing hallucinations in CBS, most studies report only visual mode of hallucination, which are transient in nature, unrelated to the patient’s life events (neutral in content, devoid of emotional significance or personal meaning), at times pleasurable and include groups of people, animals, or panoramic

landscape.^[17] However, atypicality is also reported about other aspects of the hallucinations, i.e., presence of other modalities of hallucinations, persistent nature of hallucinations, hallucinations distressing the patient, etc.^[3,17] Our patient had multimodal hallucinations including visual, auditory, and tactile uncommonly reported in CBS. However, the content of hallucinations was meaningfully connected in the three different modalities and was unconnected to the patient's past life or current stressors. Essentially, the most robust of these hallucinations were visual which were well-formed and clearly delineated, whereas auditory and tactile hallucinations manifested later and were transient in occurrence. Complex visual hallucinations have been known to occur (11%–15%) in people with visual impairment.^[8] The neurobiological explanation of visual hallucinations in CBS is presumed to be an increased visual cortical firing as a result of sensory deafferentation of visual association cortex or a disinhibition of visual association area secondary to lack of input from the primary visual area leading to a release phenomenon, akin to hallucinations observed in visual deprivation experiments (denervation hypersensitivity).^[18,19] However, the neurobiological basis for other modalities of hallucinations is not explained in literature. If a patient comes with relapse of symptoms subsequently, cataract surgery will be considered as most cases of CBS improve after correction of visual impairment where ever this has played a primary role.^[20]

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Conflicts of interest

There are no conflicts of interest.

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