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CLINICAL VIGNETTE

The Fuzz

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Case Report

A 91-year-old woman presented to urgent care for evaluation of a change in vision. The patient was recently discharged from a skilled nursing facility (SNF). She had been at the SNF for physical therapy and occupation therapy after a hospitalization for a chronic obstructive pulmonary disease (COPD) exacerbation. While at the SNF, the patient developed a visual disturbance that had persisted since she arrived home. The patient reported seeing “fuzz” covering her body all day long. The images frequently alternated in color from blue to orange to purple. She had never had this symptom before. She had no recent falls or head trauma. The patient and her daughter reported no active memory issues and stated that her change in vision was making her anxious.

Her medical history included coronary artery disease, pacemaker, moderate aortic stenosis COPD, hypertension, aneurysm of thoracic aorta, multinodular goiter, gastroesophageal reflux disease, urinary incontinence, osteoporosis, colon cancer, and anxiety. In addition, she had a history of macular degeneration, floaters, and glaucoma suspect involving both eyes.

On examination the patient was alert and oriented. Her vital signs were stable and her physical examination was normal. A Mini-Cog © (3-minute instrument that can increase detection of cognitive impairment in older adults) was performed, and she scored 3/3 on recall and 0/2 on her clock drawing. The clock had poor placement of numbers and the patient was unable to place the time due to her vision impairment. Her neurologic examination included grossly intact CNII-XII and normal sensation to light touch intact bilaterally. Throughout her visit the patient was focused on and bothered by the presence of “fuzz.”

The patient and her daughter were informed that she was experiencing visual hallucinations. She was scheduled for computed tomography (CT) of the brain to evaluate for a possible source and a laboratory tests for possible contributing factors. A trial of low dose quetiapine was ordered to reduce her visual hallucinations and related anxiety. The daughter was advised that the patient required 24 hour care at this time.

Discussion

The patient has Charles Bonnet Syndrome (CBS). CBS is a condition of visual hallucinations in patients with vision loss.

The syndrome was initially described by scientist Charles Bonnet in 1760 when he noted the visual hallucinations that his cognitively intact and visually impaired grandfather experienced.^{1,2} Unfortunately, Charles Bonnet also suffered from visual hallucinations due to severe vision impairment of an unknown etiology at 40 years old.³

Patients with CBS have lost over 60% of their vision.^{1,2} CBS can occur at any age, though it is more common in the elderly.⁴ These symptoms occur in patients with visual acuity loss or visual field loss from any cause that affects any part of the visual pathway from the eye to the visual cortex. CBS does not occur in patients with congenital blindness. Common causes of visual loss in patients with CBS are age-related macular degeneration, glaucoma, diabetic retinopathy, and cerebral infarction.³

Visual hallucinations in CBS have notable features. Some see simple, non-formed images such as lines, light flashes or geometric shapes, while others are more complex, with formed images such as people, animals, or scenes.³ The images are usually colored, at times animated, and may be static or active. Patients with CBS have no associated auditory or other sensory hallucinations.

The differential diagnosis for visual hallucinations is diverse. Potential diagnoses include migraine aura, epileptic seizures, neurodegenerative disease, such as dementia with Lewy bodies and Parkinson Disease; drugs, alcohol intoxication, or withdrawal; metabolic encephalopathy, or delirium; peduncular hallucinosis; narcolepsy; and psychiatric disease.^{3,5} If CBS is not recognized, a patient’s symptoms may be misdiagnosed as psychosis or early dementia,

Visual hallucinations have variable intensity, impact, and prognosis in patients with CBS. The underlying source of the vision impairment will potentially predict the outcome. Visual deficits that can be corrected, such as cataracts, may lead to resolution of CBS. The length of vision impairment after a stroke is unpredictable and patients may or may not continue to have CBS. Chronic visual issues such as macular degeneration are associated with long standing CBS.

CBS may lead to functional disability and ongoing anxiety. About one third of patients are distressed and feel that CBS has a negative effect on their quality of life.⁶ For those with

continuous visual hallucinations or disturbing images, medical treatment should be pursued. Treatment options include anti-psychotic agents such as olanzapine and quetiapine, cholinesterase inhibitors such as donepezil, anti-seizure drugs such as gabapentin, carbamazepine, and divalproex and miscellaneous medications including serotonin reuptake inhibitors.⁶ These agents may help decrease visual hallucinations, however, the symptoms are often difficult to treat and continue for years. One survey reported visual hallucinations lasted for 5 years or more in 75% of patients with CBS.²

Patients and their families need to be educated about the diagnosis of CBS, treatment options and expectations. Patients should have regular follow-up with their ophthalmologist for assessment and management of their visual impairment and related diagnoses. A psychiatrist may be needed to help with the management of the visual hallucinations and anxiety.⁵

This patient had a normal CT brain and normal blood test results. The diagnosis of CBS was explained to the patient and her daughter. Her contributing visual impairment included macular degeneration, floaters, and glaucoma suspect. The patient's visual hallucinations persisted after the trial of quetiapine. She was referred to an outpatient psychiatrist and tried on olanzapine with no improvement. Two weeks later the visual hallucinations worsened and the patient was hospitalized at a neuropsychiatric unit for treatment of her visual hallucinations and anxiety. Six months later, at a follow-up visit, the patient was still having visual hallucinations. She stated that she saw white-yellow mucus coming out of her whole body and reported less anxiety. She continued to follow-up with her psychiatrist who had just started divalproex 125 mg at dinner.

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