A 61-Year-Old Inpatient with Visual Hallucinations and Agitation

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The psychiatry team was consulted to see a 61-year-old woman for the chief complaint of visual hallucinations and agitation for more than 1 week since her hospital admission. These hallucinations were episodic and lasted from a few minutes to hours a day. The patient was unable to identify any specific factors that triggered the onset or resolution of these hallucinations, such as agitation or mood changes.

The hallucinations were clear and vivid, consisting of people’s faces in her doorway or in the corner of her room. The patient reported that she felt that she was seeing those faces as in a “warehouse.” The patient could not understand this unusual phenomenon, which caused her to become frightened, frustrated, and agitated. While experiencing these hallucinations, the patient had no mental status changes and maintained full insight and awareness. She reported left homonymous hemianopia, with her vision improving from light perception to hand motion. She stated she had no auditory or other hallucinations.

Her medical history included significant cerebrovascular disease, Takotsubo cardiomyopathy, seizures, hypothyroidism, hypertension, renal artery clot, and stage III sacral ulcer. Takotsubo cardiomyopathy is a stress-induced, non-ischemic cardiomyopathy in which there is a sudden temporary weakening of the muscular portion of the heart. This is often triggered by severe emotional distress or significant anxiety.

Of note, her history was relevant for cortical blindness and the development of Anton syndrome after an ischemic cerebrovascular event. She reported vision improvement during the hospital course. She reported no past psychiatric history.

Upon examination, the patient was oriented to place, person, and time but had some fluctuation in attention. She was distressed, anxious, and agitated during the interview. She also had affect lability but did not report any visual hallucinations during the psychiatric assessment. Her blood pressure was 149/80 mm Hg, pulse rate was 91 beats per minute, respiration was 16 breaths per minutes, temperature was 35.9°C, and oxy-
genation saturation was normal with 99% on room air. Her primary team consulted with ophthalmology, vascular medicine and surgery, endocrinology, plastic surgery, physical and occupational therapy, and neurology.

Laboratory tests showed a hemoglobin of 9.2 g/dL, an erythrocyte sedimentation rate of 116 mm/hr, and an activated clotting time of 253 seconds. Computed tomography (CT) of the brain without contrast revealed bilateral evolving acute infarcts in the watershed territories between posterior cerebral artery and middle cerebral artery as well as in cerebral ventricles, with no evidence of intracranial mass. A CT head angiogram showed persistent decrease in caliber of bilateral middle cerebral and anterior cerebral arteries, with no occlusion. Carotid Doppler ultrasound showed atherosclerosis of right distal common carotid artery, left distal common carotid artery, and left carotid bulb.

Initially, the patient was prescribed 1 mg of haloperidol orally every 12 hours as needed for agitation or hallucinations. Subsequently, she was prescribed 5 mg/day of aripiprazole, which was gradually increased to 15 mg daily, with 5 mg daily of escitalopram added for anxiety and irritability.

**CHARLES BONNET SYNDROME**

Based on clinical history and physical examination, the psychiatric consultation-liaison (CL) team made a diagnosis of Charles Bonnet syndrome (CBS). When the team saw her for a follow-up visit 1 month later, she was calm and no longer anxious but still complained of some visual hallucinations. However, the frequency and intensity of the hallucinations were significantly decreased.

**DISCUSSION**

CBS is a disorder of complex visual hallucinations in a person with partial or severe blindness (Table 1). The syndrome was first described in 1760 by Charles Bonnet, a Swiss philosopher. He reported the syndrome in his grandfather, who was blind secondary to cataracts but experienced visual hallucinations. It was subsequently labeled Charles Bonnet syndrome in 1967 by George de Morsier, a Swiss scientist. In the absence of other psychiatric disorders, patients with CBS usually have good insight into their condition. Visual hallucinations in CBS occur more often with the eyes open than closed. Patients typically have good insight into these hallucinations and usually can stop them by closing their eyes or by looking away. Also, the content of the hallucinations remains stable across cultures: patients commonly see distorted faces with prominent eyes and teeth.

Although case reports have been published, the exact mechanism of visual hallucinations in CBS is still unknown. The most widely accepted theory is that visual hallucinations occur when the visual sensory differentiation leads to disinhibition of visual cortical regions, which then fire spontaneously. It has been shown in a functional magnetic resonance imaging study that active hallucinations were associated with spontaneous activity.
CASE CHALLENGE

in the ventral occipital lobe. The strongest risk factors for CBS include bilateral visual impairment, declining visual acuity, cerebral damage, cognitive defects, social isolation, and sensory deprivation.

All patients with new-onset visual hallucinations should undergo a complete neurologic evaluation with particular screening for cognitive impairments and Parkinson’s disease. Psychiatric evaluation should be requested to rule out any psychiatric disorder or any substance-induced withdrawal or intoxication. Ophthalmologic examination is most helpful to rule out any organic conditions. In addition, a careful review of the patient’s current medication list is indicated as medications that are known to cause visual hallucinations should be discontinued. Table 2 provides a list of medications that are associated with visual hallucinations.

Currently, there is no known treatment for CBS. In some cases, the visual hallucinations resolve once the underlying cause for the vision loss is rectified, but they can often be persistent. In patients with persistent hallucinations, typical and atypical antipsychotics have yielded some benefit. Atypical antipsychotic medications such as risperidone, quetiapine, and olanzapine have been used with varying success. According to individual case reports, other medications that have been used are donepezil, carbamazepine, clonazepam, valproate, gabapentin, escitalopram, cisapride, and venlafaxine. We treated this patient with a combination of aripiprazole and escitalopram, which resulted in partial remission of her hallucinations.

The psychiatric CL team facilitated communication between the patient and the multidisciplinary team members, provided the proper diagnosis, and greatly improved the patient’s understanding of her illness and her treatment plan. The team informed and educated the patient about her symptoms, which decreased her distress and anxiety and improved her ability to work with the different medical specialty teams, her treatment compliance, and her overall quality of life.

CONCLUSION

CBS should be considered in all geriatric patients who present with visual hallucinations, in particular in the context of decreased visual acuity. However, other causes of hallucinations should be considered and ruled out, as CBS is a clinical diagnosis of exclusion. Visual hallucinations usually cause distress and anxiety in such patients with CBS; therefore, increased awareness of this condition can ensure that clinicians properly diagnose this syndrome and counsel their patients about the symptoms.

The psychiatric CL service serves patients best by working closely and continuously with oth-
er specialties. Facilitation of good collaboration and liaison between the diverse specialties, in conjunction with the psychiatrist’s consultation function, provides better patient care and may improve recovery and outcomes, shorten the length of hospital stay, and ultimately lead to decreased health care costs.

REFERENCES