CASE REPORT

Pregabalin in the treatment of Charles Bonnet Syndrome

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Abstract

Charles Bonnet syndrome is a condition characterised by the presence of visual hallucinations in patients having visual impairment most commonly reported in the seventh decade. We describe a case of a 55-year-old lady who had developed retinopathy causing significant visual loss secondary to diabetes mellitus. She had started seeing images of men for the past 2 months which made her feel uncomfortable and seek psychiatric help. She was aware that the hallucinations were not real but a part of her imagination. A detailed history did not reveal any psychopathology but the patient had several medical complications due to her uncontrolled diabetes. Pregabalin, which was started for her neuropathy, dramatically remitted her symptoms within 2 days.

Keywords: Charles Bonnet syndrome, Visual hallucinations, Pregabalin.

Introduction

Charles Bonnet syndrome (CBS) is an illness characterised by the presence of visual release hallucinations in patients with ocular compromise. This phenomenon occurs because of loss of sensory input to the visual cortex due to the underlying ocular pathology, causing compensatory cerebral excitability, which in turn leads to release of visual hallucinations. Over the years, this syndrome has been found in 11%-15% of patients with visual impairment.[1-3] Though it occurs in all age groups, including children, most patients with CBS are elderly between 70 - 85 years.[4] The most common conditions in which CBS has been reported are age-related macular degeneration, cataract, glaucoma, diabetic eye disease, pregnancy, optic neuritis and migraine.[3,4] There is no substantial evidence regarding the course, management and prognosis of this syndrome. We report CBS in a case that presented to psychiatry with visual hallucinations and several medical complications, and responded dramatically to pregabalin leading to the resolution of her symptoms.

Case Report

A 55-year-old housewife sought psychiatric referral for seeing images of men since the past 2 months, which made gestures and laughed at her. She was able to see these visual hallucinations 3-4 times a day for a few hours and they distressed her, resulting in disruption of her daily chores. On detailed questioning about the hallucinations, she reported that they resembled characters she had seen on television and they would often sit beside her. Though they never said anything to her, their presence made her feel uncomfortable and despite being aware that these people did not exist in reality, she found it difficult to carry on with her daily life. She did not have a history of delusions or hallucinations in any other modality. There was no cognitive, intellectual or behavioural impairment expressed by the patient which was confirmed by her husband.

However, she complained about objects appearing large and bright in front of one eye and small and dull in front of the other (metamorphopsia). Further enquiry revealed a sudden onset progressive loss of vision in both her eyes which resulted in impairment in her daily activities. Her vision was severely restricted to only being able to make out things at her eye level.

The patient was a known case of hypertension and diabetes mellitus on oral hypoglycaemics, but was currently non-compliant and her blood glucose levels were uncontrolled. Her medical examination revealed complications of diabetic retinopathy, nephropathy and neuropathy together with hypertension for which she was referred to an ophthalmologist, endocrinologist, nephrologist and a physician for the respective management.

On ophthalmological evaluation, she was diagnosed as having non-proliferative diabetic retinopathy with field losses viz. right homonymous hemianopia with bi-temporal field defects. In view of her uncontrolled diabetes, insulin was started and dietary modifications were advised for her nephropathy. Antihypertensives were increased suitably to bring her blood pressure to normotensive levels.

A brain MRI/MR angiography was carried out to rule out an organic pathology. It revealed T2 hypertensive signal in the bilateral occipital region, with mid segment narrowing of the basilar artery suggestive of dissection,

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with hypertensive encephalopathy.

In view of her visual hallucinations, a diagnosis of CBS was considered. As she was distressed, tablet clonazepam (0.25mg) was given to allay her anxiety.

Since she also complained of neuropathy, tingling numbness in extremities and some sensory impairment, tablet pregabalin (75mg) was started. On taking pregabalin for 2 days, the patient reported that her visual hallucinations had completely disappeared and she no longer saw the men. She was hospitalised for 20 days and saw an improvement in her primary medical problems, reflected in an increase in her clarity of vision. She was discharged on pregabalin and her medical line of treatment. She has been followed up for 2 months and does not report any release hallucinations.

Discussion

This patient who presented with visual hallucinations, was considered for various psychiatric diagnoses like delirium, dementia (especially Lewy Body),[5] infarcts[6] and schizophrenia before considering a diagnosis of CBS.

The most common forms of visual hallucinations noted are simple or complex. In simple hallucinations, patients visualise simple patterns, grids, lines or abstract designs depending on the background, whereas in the complex type, presentations of insects, animals and even entire scenes with unknown people can be visualised and are often non-frightening. It has been postulated that there is sensory deprivation of the occipital lobes which result in projection of such images.[7]

As our patient showed improvement with pregabalin,[8] we did a literature search and came across only one study which showed similar finding of rapid improvement with the drug. Pregabalin is related to gabapentin and has a similar mode of action, modulating calcium influx and thus reducing the release of excitatory neurotransmitters and influencing GABAergic neurotransmission. Hence gabapentin has also been documented to be effective in the management and resolution of these symptoms.[9] However, its mode of action in ameliorating visual hallucinations in CBS is still unknown. Several case studies exist regarding the efficacy of different categories of drugs in ameliorating the symptoms of CBS. Antiepileptics like carbamazepine and valproate have been used with variable success in elderly patients with visual hallucinations associated with CBS.[10] It has been proposed that carbamazepine may be effective in suppressing the visual pseudo-hallucinations of CBS because of its inhibitory action on the increased ventral extrastriate neuronal activity in patients with CBS that persists between the attacks of hallucinatory symptoms. Serotonin antagonists like ondansetron and cisapride have also been found to be effective in CBS. Recurrence of the hallucinations on stopping ondansetron was reported in a case with resolution of the symptoms on restarting the medication. Other drugs include risperidone, an antipsychotic, and diazepam, a benzodiazepine, which have also been used.[10]

Conclusion

Most cases remit within 12-18 months if the underlying condition is maintained. The most important prognostic factor in the treatment of this condition is the effective management of the underlying medical condition and visual problem. However, further research is needed in the field of CBS and its effective treatment as it is a heterogeneous condition which requires different management for every patient.

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