

Visual Hallucinations: A Differential of Charles Bonnet Syndrome

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INTRODUCTION

A patient reported visual hallucinations of ten months' and is being treated as Charles Bonnet Syndrome (CBS). CBS is a condition in which individuals with visual impairment and with no cognitive deficits experience visual hallucinations (1). We discuss the necessary investigations before considering an atypical case of CBS with normal vision and healthy retina (macula).

HISTORY

PC: 72-year-old gentleman presenting with blurred vision.

HPC: Began in August 2020, sudden onset of difficulty to focus and visual hallucinations (described as shadows of faces, animals, and flashes of light, that can present at any time, for up to a few seconds) in the right eye. His left eye was not affected. Six months prior to symptoms, patient had fallen and hit his head, there were no concerns at the time.

PMHx: Malignant neoplasm of prostate (2019), hypertension. No past psychiatric history.
DHx: Apixaban 5mg twice daily (BD), Amlodipine 5mg BD.
SHx: Ex-smoker, 12 units alcohol per week.
FHx: Nil reported.

REFERENCES

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2. Lee JS, Ko K, Oh JH, Lee HK, Kim JG. Charles Bonnet Syndrome after Occipital Infarction. Journal of Neurosonology and Neuroimaging. 2018;10(2);154-157.
3. Senadim S, Balcik ZE, Uygun E, Yusuf M, Tekin B, et al. Visual Hallucinations and Ischemic Stroke: Review of 5 Cases. Journal of Neurology and Neurophysiology. 2017;8;440.
4. Gurley KL, Edlow JL. Avoiding Misdiagnosis in Patients With Posterior Circulation Ischemia: A Narrative Review. Official Journal of the Society for Academic Emergency Medicine. 2019; 26(11):1273-1284.
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CLINICAL COURSE

Aug
2020

Initial Presentation – Eye examination in the emergency department by an ophthalmologist did not reveal any abnormality.



Oct
2020

Seen by Opticians -

Best corrected visual acuity (BCVA):
OD 6/7.5, OS 6/6.

Bilateral intraocular pressure (IOP): 15 mmHg.
Bilateral optic nerve heads pink and healthy.
Neuro-retinal rim (NRR) distinct.

Field test showed right sided homonymous hemianopia.

Urgent neurology opinion sought for the possibility of cerebrovascular accident (CVA).



Oct
2020

Seen by Ophthalmology – Bilateral early nuclear cataract, right eye also has early cortical cataract.. Bilateral posterior vitreous detachment (PVD). Bilateral optic disc and macula no abnormality detected (NAD).



Mar
2021

Optical Coherence Tomography (OCT) – Temporary rim thinning in the right eye. Left eye NAD.



Jun
2021

Magnetic Resonance Imaging (MRI) Brain – No acute infarct. Chronic left posterior cerebral artery (PCA) territory infarct. Incidental pituitary adenoma.



Jul
2021

Pending review with ophthalmology.

DISCUSSION

- CBS is a well recognised entity, commonly associated with advanced Age-Related Macular Degeneration (ARMD) (2). However, it has been reported to occur in the absence of ocular pathology (2).
- In CBS, patients experience vivid and/or troubling visual hallucinations, such as, people, faces, animals or trees (3).
- The exact cause of CBS is unknown, however two explanations have been generally accepted (3):
 - ◆ The Release Phenomenon.
 - ◆ The Deafferentation Phenomenon.
- In addition, it is vital to consider visual field tests and the differential diagnoses in such patients, especially when ocular examination is normal (4).
- This case highlights that symptoms that mimic CBS can develop as a result of undiagnosed cerebral event (4).
- Other differential diagnoses of visual hallucinations include psychosis, dementia, migraines, tumour, delirium and visual hallucinations secondary to drug use (5).

CONCLUSION

Visual symptoms in particular, visual hallucinations, may develop following a cerebrovascular event. When a patient presents with visual hallucinations with normal ocular examination, visual field tests should be performed to exclude the possibility of CVA. Field test could be considered, even in the presence of early to moderate ARMD, to exclude the possibility of cerebral pathology.

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<https://us05web.zoom.us/j/7521832211?pwd=L0pSaDU4Q2I0RjVREdzazVGNEVEUT09>

Meeting ID: 752 183 2211

Passcode: Ucv55v