

CASE REPORT

The curious case of an invisible dog: a patient with non-psychiatric visual hallucinations

Gaurav Singh Gulsin^{1,*}, Swetha Gali², Prashanth Patel², and Pankaj Gupta²

¹Department of Cardiovascular Sciences, University Hospitals of Leicester NHS Trust, Glenfield General Hospital, Leicester, UK, and ²Department of Chemical Pathology, University Hospitals of Leicester NHS Trust, Leicester Royal Infirmary, Infirmary Square, Leicester, UK

*Correspondence address. Department of Cardiovascular Sciences, University Hospitals of Leicester NHS Trust, Glenfield General Hospital, Groby Road, Leicester LE3 9QP, UK. Tel: +44-300-303-1573; Fax: 0116 256 3228; E-mail: gaurav.gulsin@nhs.net

Abstract

A 74-year-old man reported experiencing hallucinations of a dog standing on his right side, following a recent episode of infective endocarditis. There was no history of reduced conscious level, psychosis or substance misuse. Neurological examination revealed an isolated right inferior quadrantanopia, and the hallucinations were visible only in the area of the visual defect. A computed tomography scan confirmed a left occipital lobe infarct, congruent with the clinical signs. The infarct was deemed to have originated from a septic embolus of his infected aortic valve and he was diagnosed with Charles Bonnet's syndrome (CBS). CBS is characterized by the presence of stereotyped visual hallucinations on a background of partial sight and in the absence of any psychotic illness. Early recognition can prevent wrongful diagnosis of a psychiatric condition, which may provide comfort to patients. Management is centred on reassurance and counselling, with medical therapies reserved only for patients experiencing distressing hallucinations.

INTRODUCTION

Charles Bonnet's syndrome (CBS) is characterized by the presence of stereotyped visual hallucinations on a background of partial sight and in the absence of any psychotic illness [1]. The condition has extensively been described in patients with ocular disease; most commonly age-related macular degeneration, diabetic retinopathy, cataract and glaucoma [2]. Disruption of visual pathways secondary to underlying neurological disease, such as stroke, is also a recognized precursor for the development of CBS [3]. However, no published reports describe CBS occurring after septic embolus from a preceding episode of infective endocarditis.

The content of hallucinations in CBS is variable; typically patients report seeing people, animals or geometric patterns [2, 4]. Reported prevalence rates of CBS are variable and have been estimated at 10–60% in patients with visual impairment [1, 4, 5]. It is

likely that actual prevalence is greater than estimates suggest, as patients often do not report hallucinations because they are worried that they represent underlying psychiatric disease [1].

A number of theories have been proposed to explain the pathogenesis of hallucinations in CBS, the simplest being that they are the consequence of increased excitability of the visual cortex secondary to reduced stimulation of the visual system; a type of 'phantom vision' likened to phantom pain experienced by limb amputees [4]. Correct diagnosis is crucial as a third of patients fear that they are developing a mental illness, despite the benign nature of the condition.

CASE REPORT

A 74-year-old man, attending a routine Lipid Clinic outpatient appointment, reported seeing images of a dog following him on

Received: November 3, 2015. Accepted: December 10, 2015

© The Author 2016. Published by Oxford University Press.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact journals.permissions@oup.com



Figure 1: An illustration representing the patient's visual hallucination of a dog standing by his side.

his right side (Fig. 1). These hallucinations occurred in clear consciousness and were distressing to him. There was no history of psychosis or substance misuse. The patient had, however, suffered a preceding episode of infective endocarditis affecting his aortic valve for which he had received complete treatment.

Neurological examination revealed an isolated right inferior quadrantanopia. The unusual visual hallucination was elicited only in the area of the visual field defect. There was no headache, disturbance of conscious level, nor other evidence of psychosis or substance misuse. His mental state examination was unremarkable.

A computed tomography head scan confirmed a left occipital lobe infarct (Fig. 2), congruent with the clinical signs. The aetiology of the infarct was attributed to an embolus from the patient's infected aortic valve. There was no evidence of ocular disease.

Discussion with a neurologist yielded a diagnosis of CBS secondary to a septic embolus. Other considered diagnoses included, epilepsy, neurodegenerative disease (e.g. Parkinson's disease and Lewy body dementia) and psychiatric disease (e.g. affective disorder and schizophrenia).

The innocuous condition was explained to the patient, much to his reassurance. He continues to experience the stereotyped visual hallucination with no ill effect. No further treatment was necessary in this case.

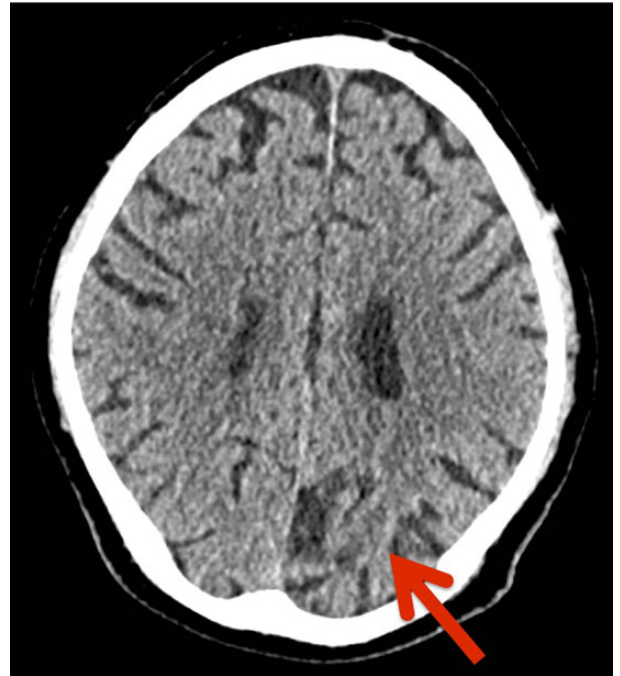


Figure 2: The patient's CT head scan. Arrow denotes an old left occipital lobe infarction.

DISCUSSION

Early recognition of CBS can prevent wrongful diagnosis of a psychiatric condition and provide comfort to patients. Management is centred on reassurance and counselling, although psychological therapies such as hypnosis are thought to have a role. Anticonvulsants, such as carbamazepine, have demonstrated success, although these are reserved for patients experiencing distressing hallucinations [1]. Key learning points include:

- Not all visual hallucinations represent psychosis, cognitive impairment or substance misuse.
- CBS is a common and under-recognized condition, and its diagnosis should be considered in patients with non-psychiatric visual hallucinations.
- Early recognition of CBS will prevent inappropriate diagnoses and provides great reassurance to patients fearful of an underlying psychiatric condition.

The patient kindly gave an account of his experience during the course of the onset, diagnosis and management of his illness:

In June 2012, I suffered an episode in the night of violent shaking which would not stop. My wife called the ambulance service and I ended up in a hospital in France, where I remained for three weeks. I was diagnosed with endocarditis and this appears to have been caused by an abscess in a loose tooth.

While in hospital I started having strange visions in my right eye, of things like fingers coming towards me and of dogs walking and standing to the right side of me. These did not always appear to be of the same sort of dog, i.e. from terriers to large, brown dogs. Also there were visions of a woman coming from behind me. These continued throughout my stay in the hospital and also continued during a later stay at my local hospital in the UK.

Since then the visions of dogs still appear, but the visions of fingers and women have gone away. It is now some 5 months since the

attack started. I mentioned this problem to my doctor at the Lipid Clinic, who started me on this journey. Once the diagnosis was given to me, I felt relieved that this was not life threatening.

CONFLICT OF INTEREST STATEMENT

None declared.

FUNDING

There were no sources of funding.

ETHICAL APPROVAL

None required.

CONSENT

Full written informed consent was obtained from the patient to publish this case report.

GUARANTOR

Dr Gaurav Singh Gulsin is the guarantor for this publication.

REFERENCES

1. Teunisse RJ, Cruysberg JR, Hoefnagels WH, Verbeek AL, Zitman FG. Visual hallucinations in psychologically normal people: Charles Bonnet syndrome. *Lancet* 1996;**347**:794–797.
2. O'Farrell L, Lewis S, McKenzie A, Jones L. Charles Bonnet syndrome: a review of the literature. *JVIB* 2010;**104**: 261–274.
3. Vaphiades MS, Celesia GG, Brigell MG. Positive spontaneous visual phenomena limited to the hemianopic field in lesions of central visual pathways. *Neurology* 1996; **47**:408.
4. Menon GJ, Rahman I, Menon SJ, Dutton GN. Complex visual hallucinations in the visually impaired: the Charles Bonnet syndrome. *Surv Ophthalmol* 2003;**48**:58–72.
5. Cox TM, FFytche DH. Negative outcome Charles Bonnet syndrome. *Br J Ophthalmol* 2014;**98**:1236–1239.