

## LETTERS

doi:10.1017/S104161021100072X

**“Do your eyes play tricks on you?” Asking older people about visual hallucinations in a general eye clinic**

Visual hallucinations are well recognized in individuals with low vision and intact cognition (Charles Bonnet syndrome) (Teunisse *et al.*, 1996). Visual hallucinations also occur in those with early manifestations of dementia with Lewy bodies (McKeith *et al.*, 2005) and Parkinson's disease dementia (Williams and Lees, 2005). Typically, visual hallucinations in these conditions are complex recurrent hallucinations of people and animals and frequently reported as being unpleasant (Mosimann *et al.*, 2006). Individuals with visual hallucinations are often reluctant to disclose details of their symptoms (Menon, 2005), but may instead report non-specific visual difficulties to their family physician or optometrist, resulting in referral to an eye clinic. Failure to elicit the presence of visual hallucinations may lead to inappropriate treatment of age-related ocular comorbidity, such as early cataract.

In order to evaluate the use of a single question to elicit symptoms of visual hallucinations, we asked 50 consecutive patients, aged over 70 years, who had been referred to the general ophthalmology clinic for consideration for cataract surgery, the following standardized question, which attempts to normalize the experience of hallucinations:

“It is common for the eyes of patients with visual difficulties to play tricks on them so that they see things that are not really there. Does this ever happen to you?”

We recorded their answer to this question and if they answered “yes” then details of their visual experiences were explored. No one refused to answer the question or expressed offence at being asked about visual hallucinations in this way.

We found that 13 of the 50 patients answered “yes” to the above question. Three had complex visual hallucinations of animals or insects; the remaining 10 experienced presence or passage hallucinations. Those with presence hallucinations ( $n = 8$ ) described the vivid sensation of the presence of a person or object in the room; those with passage hallucinations ( $n = 3$ ) described brief visions of an animal or object passing sideways (Fenelon *et al.*, 2000). No referral letters mentioned visual

hallucinations and in no cases were the symptoms volunteered without direct questioning. For all those patients who were experiencing complex visual hallucinations, referral to a psychiatrist was made.

We conclude that undisclosed visual hallucinations are common among older people presenting to general eye clinics, with over a quarter of patients admitting to visual hallucinations in this sample. Visual hallucinations are rarely brought to light by the referral letter or indirect questioning. However, we found that a single, simple question which attempts to normalize the experience of visual hallucinations was acceptable to our patient sample, and successful in eliciting these symptoms in a significant number of people referred for cataract surgery. A limitation of our study in asking patients about “seeing things that are not really there” is that it may fail to elicit visual hallucinations in those patients who are experiencing visual hallucinations but who are convinced that the images are real. The sensitivity of the question could be improved by asking it in the presence of a family member, friend or spouse who knows the patient well.

For some, visual hallucinations may be the undisclosed reason for seeking an ophthalmic consultation. Failure to elicit this agenda may lead to inappropriate investigation or treatment of age-related comorbidity. In most of our cases, visual acuity was only moderately reduced. In the absence of formal cognitive assessment, it is not possible to exclude a neurodegenerative cause for the hallucinations experienced by our patients. Clinicians should be aware of this phenomenon when assessing older people with visual symptoms and encourage patients to disclose hallucinations. If present, patients may need further investigation for any potential underlying neurodegenerative cause.

**Conflict of interest**

None

**Acknowledgment**

This work was supported by the UK NIHR Biomedical Research Centre for Ageing and Age-related Disease award to the Newcastle upon Tyne Foundation Hospitals NHS Trust.

**References**

- Fenelon, G., Mahieux, F., Huon, R. and Ziegler, M. (2000). Hallucinations in Parkinson's disease:

prevalence, phenomenology and risk factors. *Brain*, 123, 733–745. doi:10.1093/brain/123.4.733.

**McKeith, I. G. et al.** (2005). Diagnosis and management of dementia with Lewy bodies. Third Report of the DLB Consortium. *Neurology*, 65, 1863–1872. doi:10.1212/01.wnl.0000187889.17253.b1.

**Menon, G. J.** (2005). Complex visual hallucinations in the visually impaired: a structured history-taking approach. *Archives of Ophthalmology*, 123, 349–355. doi:10.1001/archoph.123.3.349.

**Mosimann, U. P. et al.** (2006). Characteristics of visual hallucinations in Parkinson disease dementia and dementia with lewy bodies. *American Journal of Geriatric Psychiatry*, 14, 153–160. doi:10.1097/01.JGP.0000192480.89813.80.

**Teunisse, R. J., Cruysberg, J. R., Hoefnagels, W. H., Verbeek, A. L. and Zitman, F. G.** (1996). Visual hallucinations in psychologically normal people: Charles Bonnet's syndrome. *Lancet*, 347, 794–797. doi:10.1016/S0140-6736(96)90869-7.

**Williams, D. R. and Lees, A. J.** (2005). Visual hallucinations in the diagnosis of idiopathic Parkinson's disease: a retrospective autopsy study. *Lancet Neurology*, 4, 605–610. doi:10.1016/S1474-4422(05)70146-0.

JOANNA M. JEFFERIS,<sup>1</sup> URS P. MOSIMANN,<sup>2</sup>  
JOHN-PAUL TAYLOR<sup>3</sup> AND MICHAEL P.  
CLARKE<sup>4</sup>

<sup>1</sup>Research Fellow, Institute of Neurosciences and Institute for Ageing and Health, Newcastle University, Newcastle Upon Tyne, UK

<sup>2</sup>Professor of Old Age Psychiatry, University of Bern, Switzerland

<sup>3</sup>Wellcome Intermediate Clinical Fellow, Institute for Ageing and Health, Newcastle University, Newcastle Upon Tyne, UK

<sup>4</sup>Consultant Ophthalmologist, Department of Ophthalmology, Royal Victoria Infirmary, Newcastle upon Tyne UK

Email: j.m.jefferis@ncl.ac.uk

doi:10.1017/S1041610211000809

## Musical hallucination in acquired and pre-lingual deafness

There is little in the literature on auditory hallucinations in the deaf, although the phenomenon is obviously genuine. Bearing this in mind there is hardly anything on non-verbal hallucinations, let alone musical ones.

It is generally accepted that ear disease can give rise to musical hallucination. The most commonly reported ear disease is deafness, which is true especially in the elderly (Pasquini and Cole, 1997). We conducted a Medline search of the relevant literature and found 28 papers (1978–2009) associating musical hallucinations and deafness. Most papers were case reports of one or more cases of psychiatric, neurological and ear diseases with different etiological factors and even side-effects of medications. One paper was found on pre-lingual deafness.

In this paper we report 24 new cases of acquired hearing impairment ranging from mild hearing impairment to severe deafness. The patients were seen in the outpatients clinic over a ten-year period; 16 were female (67%) and 8 (33%) were male. The mean age  $\pm$  SD was 79 years  $\pm$  11.07 (range: 51–95 years). Of these 24 patients, 14 had no other mental or physical health problems apart from hearing impairment but the rest had other conditions. Table 1 shows the demographic characteristics of all patients in this study.

In three cases the onset of musical hallucinations coincided with an alteration in hearing ability due to: (i) proximity to an exploding grenade; (ii) removal of wax from the ear; and (iii) a cochlear implant. In the first case, musical hallucination started in early adult life following exposure to a grenade explosion; in the second case the music was very distinct and familiar to the patient; in the third case having a cochlear implant has helped to cure the musical hallucinations almost completely. Two patients had both hearing and visual impairment resulting in a major decrease in sensory perception. Three of the patients showed signs of mild cognitive impairment and one had had a stroke. Three suffered from depression and one had shingles. The rest of the patients had no significant mental or physical health problems.

One woman reported that the songs in her head held no special significance for her and she did not like them. She had tried playing a CD of her preferred music in a bid to replace something unpleasant with something more to her taste. Unfortunately, when the new tunes appeared in her hallucinations, they were often sung in a distorted and distressing manner.

The musical hallucinations reported by the patients were generally Christmas carols, religious songs, men's choral music, tunes or operatic non-vocal pieces and orchestral music. The musical hallucinations were identified as emanating from the nearby environment and one woman even described it as "those girls singing very loudly upstairs".