## LETTER TO THE EDITOR

## Charles Bonnet syndrome and Terson's syndrome from subarachnoid hemorrhage: good news from bad news

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## Dear Editor,

We read with interest the report by Cebulla et al. [1] reporting visual hallucinations associated with Charles Bonnet syndrome (CBS) in a patient with bilateral dense vitreous hemorrhage from subarachnoid hemorrhage. The authors report rapid improvement in her cognition and cessation of the hallucinations after pars plana vitrectomy was performed in one eye. This is consistent with earlier reports where improvement of visual acuity leads to a reduction or cessation of the hallucinations in CBS [2–4].

The authors referred to the "commonly limited prognosis for hallucinations" in CBS[1]. While it is true that the hallucinations do persist in some patients, in others these hallucinations may cease spontaneously after a period of time, even if the visual loss is irreversible. In fact, it has been suggested that an acute change in visual acuity may be the trigger for the onset of visual hallucinations in CBS [5, 6] and the hallucinations cease once the visual acuity has stabilized. Patients with CBS have been treated with a variety of drugs to control the hallucinations. However, in our experience, reassurance that the hallucinations are normal, and that they are not "mad" or suffering from a psychiatric disease, are a source of great relief to patients [3].

We would also like to point out that although older age is a risk factor for CBS, this condition can occur in patients of

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any age group [3], even in the pediatric age group [7, 8]. Therefore, it is important to consider this diagnosis even in younger patients who present with visual hallucinations without other neurological causes.

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## References

- Cebulla CM, Minning C, Pratt C, Lubow M (2012) Charles Bonnet syndrome and Terson's syndrome from subarachnoid hemorrhage: good news from bad news. Graefes Arch Clin Exp Ophthalmol. doi:10.1007/s00417-012-2040-6
- Fernandez A, Lichtshein G, Vieweg WV (1997) The Charles Bonnet syndrome: a review. J Nerv Ment Dis 185(3):195–200
- Tan CS, Lim VS, Ho DY, Yeo E, Ng BY, Au Eong KG (2004) Charles Bonnet syndrome in Asian patients in a tertiary ophthalmic centre. Br J Ophthalmol 88(10):1325–1329
- 4. Teunisse RJ, Cruysberg JR, Verbeek A, Zitman FG (1995) The Charles Bonnet syndrome: a large prospective study in The Netherlands. A study of the prevalence of the Charles Bonnet syndrome and associated factors in 500 patients attending the University Department of Ophthalmology at Nijmegen. Br J Psychiatry 166(2):254–257
- Tan CS, Sabel BA, Goh KY (2006) Visual hallucinations during visual recovery after central retinal artery occlusion. Arch Neurol 63 (4):598–600
- Tan CS, Sabel BA (2006) Dynamic changes in visual acuity as the pathophysiologic mechanism in Charles Bonnet syndrome (visual hallucinations). Eur Arch Psychiatry Clin Neurosci 256(1):62–63
- 7. Schultz G, Melzack R (1991) The Charles Bonnet syndrome: 'Phantom visual images'. Perception 20:809–825
- Schwartz TL, Vahgei L (1998) Charles Bonnet syndrome in children. J APOS 2(5):310–313

