and the preferred statistical analysis to those committee members who are responsible for updating the guidelines to keep up with the sometimes rapid, but always fascinating, developments in cataract and refractive surgery. The prospective randomized intraindividual comparative trial we contributed comes naturally with a high level of evidence. Probably some of our readers will follow the conventional wisdom of not fixing things that are not broken.—H. Burkhard Dick, MD, PhD, Tim Schultz, MD, Fritz H. Hengerer, MD, PhD, Ina Conrad-Hengerer, MD

REFERENCES

OTHER CITED MATERIAL

Effect of cataract surgery on visual hallucinations in older adults

We read with interest the article by Jefferis et al.1 describing the effect of cataract surgery on cognition, mood, and visual hallucinations in older adults. In this study, a small number of patients experienced complex visual hallucinations at baseline, with 2 of these patients reporting complete resolution of the visual hallucinations after cataract surgery.

Although there are many potential causes of visual hallucinations in older adults, among patients who have no psychiatric history, an important condition for ophthalmologists to consider is Charles Bonnet syndrome. Charles Bonnet syndrome is a rare condition in which patients who are of sound mind and not cognitively impaired experience complex formed visual hallucinations as a result of visual impairment.2,3 The prevalence of Charles Bonnet syndrome has been reported to vary between 0.5% and 13.0%2,3 and increases with age. Charles Bonnet syndrome might be caused by a variety of ocular diseases, including age-related macular degeneration, diabetic retinopathy, retinal vein occlusion, glaucoma, or optic nerve atrophy.2

There are reports of patients with cataracts who have visual hallucinations that are characteristic of Charles Bonnet syndrome.2,3 In our practice, we have seen several patients with visually significant cataracts who experienced complex formed visual hallucinations that were diagnosed as Charles Bonnet syndrome. After cataract extraction, the hallucinations resolved in some of the patients. Interestingly, in 1 study,4 3 patients reported visual hallucinations

Figure 1. Spherical equivalent refractive accuracy in the femtosecond laser–assisted cataract surgery (LCS) group and in the standard group 6 months postoperatively (Datagraph version 4.20). Six months postoperatively, 71% and 100% (n = 196 eyes) in the standard group were within ±0.5 D and ±1.0 D, respectively, of their intended refractive outcome and 92% and 100% in the femtosecond laser–assisted cataract surgery group were within ±0.5 D and ±1.0 D, respectively, of the target refraction.

Figure 2. Spherical equivalent refractive accuracy in the femtosecond laser–assisted cataract surgery (LCS) group and in the standard group 6 months postoperatively based on median absolute error. At 6 months, the median absolute error in both study groups showed a mean of 0.33 D ± 0.27 (SD) in the standard group and 0.23 ± 0.17 D in the femtosecond laser–assisted cataract surgery group (P = .003). The median was 0.28 D and 0.19 D, respectively. Seventy-four percent and 100% in the standard group were within ±0.5 D and ±1.0 D, respectively, of their intended refractive outcome, and 90% and 100% in the femtosecond laser–assisted cataract surgery group were within ±0.5 D and ±1.0 D, respectively, of the target refraction.

Figure 2.
when interviewed 1 to 2 days after cataract surgery. It has been suggested that it is the dynamic change in visual acuity, rather than the actual level of visual acuity, that might precipitate the onset of Charles Bonnet syndrome symptoms.\(^5\)

Although the prevalence of Charles Bonnet syndrome is relatively low, it is important for clinicians to be aware of it. Some patients are frightened by these hallucinations, while others keep this to themselves because they are afraid of being labeled “mad” or diagnosed with a psychiatric disorder.\(^2,3\) For this reason, some authors believe the prevalence of Charles Bonnet syndrome might be underestimated.

A variety of treatments has been described for Charles Bonnet syndrome, although many patients generally require a sympathetic ear and reassurance that their symptoms are normal and are not indicative of a psychiatric disease.\(^2,3\)

In summary, patients with visual impairment secondary to cataracts might experience complex visual hallucinations, and it is important to consider the diagnosis of Charles Bonnet syndrome in these patients. Simple reassurance might be sufficient to alleviate the fear and anxiety these patients experience.

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Reply: Dr. Tan et al. make a clear point that for the 2 participants in our study who had complete resolution of their visual hallucinations after cataract surgery, their visual hallucinations might well represent Charles Bonnet syndrome. Although Charles Bonnet syndrome is often not discussed in relation to cataract surgery, there is at least 1 case report of complex visual hallucinations in a patient with cataract that resolved after surgery.\(^A\) As Charles Bonnet syndrome is thought to occur as a consequence of loss of afferent input to the visual association areas, it can be expected to improve if vision is restored after cataract surgery.

The idea that it is the dynamic changes in visual acuity rather than the actual level of visual acuity that is important in precipitating Charles Bonnet syndrome is an interesting one. Of note, the 2 participants in our study who had complete resolution of their symptoms after cataract surgery did not have severely impaired visual impairment at baseline (logMAR corrected visual acuities of 0.26 and 0.16). As Tan et al. state, classic thinking is that patients with Charles Bonnet syndrome are reassured by being told their visual hallucinations are a common consequence of their eye disease.\(^1\) However, visual hallucinations in Charles Bonnet syndrome might not necessarily be trivial to those affected. Up to a third of people with Charles Bonnet syndrome feel that their symptoms have a significant impact on their lives.\(^7\) Furthermore, visual hallucinations might also be a symptom of early neurodegenerative disease and this might not be apparent in ophthalmology clinics where cognition is not routinely assessed.\(^3\)

A recent study that followed 77 people with a diagnosis of Charles Bonnet syndrome\(^4\) showed that 26% of them developed some kind of dementia within the average 3-year follow-up. Therefore, people with complex visual hallucinations, particularly if distressed by their symptoms, might benefit from neuropsychiatric input.—Joanna M. Jefferis, BM BCh, PhD, Michael P. Clarke, PhD, FRCOphth, John-Paul Taylor, PhD, MRCPsych

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