

no leakage around excision margin. Until 6 months after surgery (Figure 1b), the patient showed good visual acuity (20/40–20/50) and IOP (14–18 mmHg) without leaking.

### Comment

Surgeons generally find it uncomfortable to manipulate trabeculectomy bleb due to the risk of leaking. Obtaining preoperative knowledge of bleb structures appears feasible in planning safe surgery beforehand to reduce the risk of complications from manipulation.

Noninvasive approaches to examine bleb include ultrasound biomicroscopy and AS-OCT.<sup>1,2</sup> In our case, multiloculated bleb structure of dissecting portion apart from the main cystic bleb was confirmed by preoperative AS-OCT imaging and histological study. Previous reports of overhanging bleb<sup>3–5</sup> stated that leaking was not a common complication even without the safety measure or suture. No leakage of aqueous humour or fast healing might be due to multicystic structures of the overhanging bleb in which the exchange of aqueous humour is suppressed.

We believe our experience with this case help readers understand the physical characteristics of overhanging blebs, as well as the feasibility of AS-OCT in planning safe surgery before bleb manipulation. However, more research and experiences should be carried out to bring up a general conclusion, which can be applied in all overhanging bleb cases.

### References

- 1 Konstantopoulos A, Hossain P, Anderson DF. Recent advances in ophthalmic anterior segment imaging: a new era for ophthalmic diagnosis? *Br J Ophthalmol* 2007; **91**: 551–557.
- 2 Singh M, Chew PT, Friedman DS, Nolan WP, See JL, Smith SD *et al.* Imaging of trabeculectomy blebs using anterior segment optical coherence tomography. *Ophthalmology* 2007; **114**: 47–53.
- 3 Grostern RJ, Torczynski E, Brown SV. Surgical repair and histopathologic features of a dissecting glaucoma filtration bleb. *Arch Ophthalmol* 1999; **117**: 1566–1567.
- 4 Anis S, Ritch R, Shihadeh W, Liebmann J. Sutureless revision of overhanging filtering blebs. *Arch Ophthalmol* 2006; **124**: 1317–1320.
- 5 Ito K, Miura K, Sugimoto K, Malsunaga K, Susoh M, Uji Y. Use of indocyanine green during excision of an overhanging filtering bleb. *Jpn J Ophthalmol* 2007; **51**: 57–59.

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The authors have no proprietary interests in any of the products mentioned in the manuscript.

*Eye* (2008) **22**, 1520–1521; doi:10.1038/eye.2008.166; published online 6 June 2008

Sir,  
**Surgical outcomes of intermittent exotropia associated with concomitant hypertropia including simulated superior oblique palsy after horizontal muscles surgery only** by YA Cho and S-H Kim

We have read the article with the title ‘Surgical outcomes of intermittent exotropia associated with concomitant hypertropia including simulated superior oblique palsy after horizontal muscles surgery only’ by YA Cho and S-H Kim.

We have a few questions about the article.

The Bielschowsky test is one of the adaptation tests to get rid of diplopia because of superior oblique paralysis. According to the Bielschowsky head tilt test, it is known that hyperdeviation increases when the head deviates towards the side of SO paralysis and hyperdeviation decreases or disappears when the head deviates towards the other side of SO paralysis. Therefore, hyperdeviation should be the highest when the head deviates towards the side of SO paralysis, the least when the head deviates towards the other side of SO paralysis, and in between in primary position. It was written in this article that the mean amount of hypertropia was 3.5–1.60 (2–14) PD in primary position, average hypertropia on the hypertropic side was 8.8–4.63 (3–18) PD, and on the nonhyperdeviating side 4.0–4.77 (0–16) PD. How do the authors explain that mean hyperdeviation in primary position is lower than the deviation on the nonparalytic side?

According to our experience, we also observed that hyperdeviation disappears when exodeviation is corrected surgically, as written in this article. But in some of our cases without fusion and with low visual acuity, the deviation recurred a few years after the operation. On the other hand, both horizontal and vertical deviations were controlled with strong fusional convergences in some of our patients.

What were the sensory states of the patients in this article who were tested with Titmus Fly stereotest, Randot stereotest, etc. as mentioned in the Materials and methods section? Have the authors observed any effect of fusional status on the correction of deviation for long-term results? Therefore, can the disappearance of vertical deviation spontaneously after correction of horizontal deviation only be explained by an anatomical or mechanical point of view?

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*Eye* (2008) **22**, 1521; doi:10.1038/eye.2008.228; published online 1 August 2008

Sir,  
**Response to Dr Raza**

Thank you for showing interest in our study. Our explanations are as follows:

Your point regarding the Bieschowsky test is all right. There are several possible explanations for our results.

First of all, we do not believe that our patients did have true paralytic strabismus. The positive Bielschowsky test that is a telltale sign of SO palsy (SOP) would not be applicable to our cases strictly. All SOPs were excluded as we have already mentioned this in the article. So we termed them as ipsilateral (hypertropic) side and contralateral (hypotrophic) side rather than paralytic or nonparalytic side. Therefore we may not obtain the same findings as true SOP. Second, the bilateral cases were included in 30% of our cases as shown in Table 3. The amount of hyperdeviation in the primary position is very small in bilateral cases because one eye had to be used for fixation. It may have caused the mean deviation in primary gaze to be smaller. We gathered the results of Bielschowsky head tilt test in individual cases and averaged those. The individual values may be more understandable, as many of them showed more hypertropia on the hypertropic side.

In our study, all the patients did not have amblyopia. A limitation of the study was not having included the results of the sensory test even if they had been performed. Whenever we see strabismic patients, we check the sensory status with Titmus fly test, Randot stereo test, and Lang test. We absolutely agree with your opinion that the sensory state can affect the surgical

outcome of these cases. However, we did not want the sensory results to obscure our message. Basically, we would like to focus on why hyperdeviation occurs in intermittent exotropia and disappears postoperatively. We think our results for 1-year follow-up are adequate to explain this interesting phenomenon. Hyperdeviation was not observed in the status of good fusion without recurrence. The surgical outcome according to the follow-up period is another concern. Actually, we reported 'Surgical outcome in 585 patients with intermittent exotropia' at the AAPOS annual meeting in USA 2 years ago. They were followed up for more than 5 years.

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*Eye* (2008) **22**, 1521–1522; doi:10.1038/eye.2008.229;  
published online 1 August 2008