

Sir,

### Phacoemulsification cataract surgery and unplanned anterior vitrectomy—it can be bad news

We read with interest the article by Tan and Karwatowski regarding phacoemulsification cataract surgery and unplanned anterior vitrectomy.<sup>1</sup> We agree with these authors as well as others that unplanned anterior vitrectomy is not always bad news since the majority of patients do relatively well postoperatively.<sup>1–4</sup> However, we wish to highlight that in patients who sustain posterior capsule rupture during cataract surgery, vitreous loss requiring anterior vitrectomy is a risk factor for poor visual outcome.<sup>5</sup>

Between July 1995 and December 1998, surgeons in our institution were required to report all intra- and postoperative complications as part of a clinical audit programme. During this period, of the 8230 cataract operations performed, posterior capsule rupture occurred in 155 (1.9%) cases. We analysed 142 of these cases after excluding 13 because of missing data or insufficient follow-up. A total of 90 cases (63.4%) underwent phacoemulsification, while 52 cases (36.6%) underwent extracapsular cataract extraction (ECCE). Vitreous loss requiring anterior vitrectomy occurred in 91 (64.1%) of the 142 eyes with posterior capsule rupture.<sup>5</sup>

We found that of the eyes with posterior capsule rupture, those with vitreous loss requiring anterior vitrectomy were associated with a poorer short-term visual outcome (defined as best-corrected visual acuity (BCVA) worse than 6/12 between 6 weeks and 3 months postoperatively). Of those eyes with vitreous loss, 36.3% had a poor visual outcome compared to only 17.7% of eyes that did not require anterior vitrectomy ( $P=0.02$ ).<sup>5</sup> Excluding eyes with pre-existing ocular pathology that could account for a poor visual outcome, 87% of our patients with posterior capsule rupture had a BCVA of 6/12 or better at 6 weeks to 3 months postoperatively.<sup>5</sup>

In summary, our data suggest that vitreous loss requiring anterior vitrectomy is a risk factor for a poor short-term visual outcome in patients with posterior capsule rupture. However, the majority of these patients do relatively well in the early postoperative period.

### References

- 1 Tan JHY, Karwatowski WSS. Phacoemulsification cataract surgery and unplanned anterior vitrectomy—is it bad news? *Eye* 2002; **16**: 117–120.
- 2 Blomquist PH, Rugwani RM. Visual outcomes after vitreous loss during cataract surgery performed by residents. *J Cataract Refract Surg* 2002; **28**: 847–852.
- 3 Ah-Fat FG, Sharma MK, Majid MA, Yang YC. Vitreous loss during conversion from conventional extracapsular cataract extraction to phacoemulsification. *J Cataract Refract Surg* 1998; **24**: 801–805.
- 4 Balent A, Civerchia LL, Mohamadi P. Visual outcome of cataract extraction and lens implantation complicated by vitreous loss. *J Cataract Refract Surg* 1988; **14**: 158–160.
- 5 Chan FM, Mathur R, Ku JK, Chen C, Chan SP, Yong VSH *et al*. Short-term outcomes of eyes with posterior capsule rupture during cataract surgery. *J Cataract Refract Surg*, in press.

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*Eye* (2003) **17**, 679. doi:10.1038/sj.eye.6700432

Sir,

### Reply

We appreciate the comments made by Chan and Au Eong.

The methodology and results of their study compare well with ours. Both these studies are audit-based retrospective studies looking at the visual outcome of patients who underwent complicated cataract surgery, with vitreous loss requiring anterior vitrectomy. Our study excluded patients undergoing extracapsular cataract extraction and only included patients having phacoemulsification cataract surgery.

An acceptable visual outcome defined as the best-corrected acuity (BCVA) of 6/12 or better is identical in both studies. Our study found that 86% patients without pre-existing ocular pathology requiring anterior vitrectomy achieved this level of vision. This compares well with Chan and Au Eong's findings of 87%. However, we are unable to comment on the group of patients who had vitreous loss without the need for anterior vitrectomy as our study included patients requiring an anterior vitrectomy.

The results of the BCVA obtained in our study group ranged from 2 to 24 weeks postoperatively with a mean of 11.8 weeks. The aim of our study was to ascertain the best achievable visual outcome and therefore it is impossible to extrapolate this information to a specific time frame. Thus, we are unable to comment on the short-term visual outcome, but agree that complicated cataract surgery poses a risk to a poorer visual outcome with a high incidence of post-operative cystoid macular oedema as shown in our study.

We look forward to reading Chan and Au Eong's paper in depth and are most reassured with the similarities in our findings.

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*Eye* (2003) 17, 679–680. doi:10.1038/sj.eye.6700433

The study indicated that the rate of vitreous loss during phacoemulsification surgery was higher when performed by junior trainees. Correlation of the rate of vitreous loss with the presence of predisposing factors, pre-existing eye disease and the grade of the surgeon, and degree of supervision can show the true nature of the problem. With careful selection of cases for junior trainees, modular stepwise training in performing phacoemulsification surgery, adequate supervision and mandatory completion of the basic microsurgical course can decrease the problem of vitreous loss during surgery.

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*Eye* (2003) 17, 680. doi:10.1038/sj.eye.6700463

Sir,

**Phacoemulsification cataract surgery and unplanned anterior vitrectomy—is it bad news?**

We read the article 'Phacoemulsification cataract surgery and unplanned anterior vitrectomy—is it bad news?' Published in March 2002 *Eye* with interest. The study noted that out of 92 patients who required anterior vitrectomy, 65 did not have pre-existing eye disease; 49 out of the 57 achieved visual acuity of 6/12 or better. However, the visual outcome for the 27 who had pre-existing eye disease is not mentioned. The authors were implying that unplanned vitrectomy was not bad news; however, will this be the case if the outcome of all unplanned anterior vitrectomies were taken into consideration? Considering the 65 study patients without pre-existing eye disease, assuming the worst-case scenario, 16 (25%) had poor visual outcome, which is bad news. We would like clarification from the authors about their conclusion 'patients who undergo complicated phacoemulsification cataract surgery do comparatively well' when all the patients (including those with pre-existing eye disease) who underwent such procedure were not included in their study.

Sir,

**Reply**

We appreciate the comments from Kolli and Vempali. This study is a measure of visual outcome in patients undergoing complicated phacoemulsification cataract surgery requiring an anterior vitrectomy. A successful visual outcome is defined as the best-corrected visual acuity of 6/12 or better. In an attempt to isolate the effect of anterior vitrectomy on the visual outcome of cataract surgery, we excluded patients with pre-existing ocular conditions that may have affected the final visual outcome notwithstanding any surgical complications. Thus, we believe that our study is a more realistic reflection of visual outcome in complicated cataract surgery in those having no pre-existing problem. We feel that the 86% figure found is a comparatively good result, but this objective figure is obviously open to subjective interpretation.

We have acknowledged that there was a correlation between the rate of vitreous loss during phacoemulsification and the level of inexperience of the surgeon, which is purely an observational correlation. We