Sir,
Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases

We read the article 'Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases' with great interest.¹ Both systems continue to gain increased acceptance in vitreoretinal surgery, but there are limited data comparing their efficacy and uses. Therefore, we commend the authors on conducting a randomized prospective study comparing these two systems across various diseases.

In their report, the authors omitted an important advantage of 23-gauge microincision vitrectomy surgery (MIVS)—the proximity of the cutter port to the tip. The cutting port of 23-gauge MIVS is 30% more proximal to the tip compared with its 25-gauge counterpart (Figure 1). The authors mentioned the 23-gauge system would 'be better than the 25-gauge technique if more advanced cases, such as those with diabetic traction retinal detachment of moderate degree or worse, cases of early proliferative vitreoretinopathy....were included'.¹ We agree with the authors' speculations, but encourage readers to understand the multiple ways in which 23-gauge MIVS may be advantageous in these cases, and the proximity of the cutter port to the tip is crucial.

One of the authors (SKG) has alternatively used 25-gauge and 23-gauge MIVS to obtain transretinal

choroidal biopsy (TRCB) for prognosis and diagnosis in choroidal melanoma. TRCB of large tumours poses little challenge, but one's dilemma is regarding the small tumours, the biopsy of which bears the caveat of an insufficient sample or specimen.

The failure of 25-gauge MIVS to consistently provide sufficient TRCB specimens has been previously recognized.² The proximity of the cutter port to the tip lends 23-gauge MIVS a significant advantage in obtaining TRCB of small tumours. The port's proximity in 23-gauge MIVS can be exploited in other aspects of vitreoretinal surgery, particularly in the delamination and segmentation of fibrovascular membranes in proliferative vitreoretinopathy.

In conclusion, we commend the authors on their contribution, but caution against the article's non-comprehensive technical comparison of these two systems. More research is needed to further elucidate the role of 25- and 23-gauge vitrectors in vitreoretinal surgery. Future investigations may also include development of a new vitrector model combining the advantages of 25-gauge MIVS with the proximal port tip of 23-gauge MIVS.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Nam Y, Chung H, Lee JY, Kim JG, Yoon YH. Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases. *Eye* 2010; **24**: 191.

Figure 1 The 23-gauge vitrector port is 30% closer to the tip when compared with the 25-gauge vitrector tip.

- 2 Sen J, Groenewald C, Hiscott PS, Smith PA, Damato BE. Transretinal choroidal tumor biopsy with a 25-gauge vitrector. *Ophthalmology* 2006; **113**: 1028–1031.

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Sir,
Reply to Gibran and Kapoor

We appreciate the comments made by Drs Gibran and Kapoor¹ regarding our article 'Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery (MIVS) in the treatment of various vitreoretinal diseases'. We fully agree with their opinion that the proximity of the cutter port to the tip is one of the several important advantages of the Alcon 23-g cutter. As Drs Gibran and Kapoor mentioned, this port's proximity certainly allows vitreoretinal surgeons to perform a safe delamination or segmentation of the fibrovascular membrane in proliferative vitreoretinopathy (PVR). With the introduction of preoperative bevacizumab treatment, this feature became particularly useful in operating eyes with advanced fibrovascular diabetic traction retinal detachment (TRD).

Although we routinely use 23-g MIVS for delaminating and shaving the preretinal fibrovascular membrane in advanced diabetic cases, we only included milder diabetic cases in this prospective study because it was designed to randomize cases of either 23-g or 25-g MIVS. Instead, we added 'that the 23-g system would have been shown to be better than the 25-g technique if more

advanced cases, such as those with diabetic TRD of moderate degree or worse, ..., were included.'

In addition to the proximity of the tip, 23-g cutters have greater performance benefits over 25-g cutters because of their increased flow rates, duty cycle, cut rate, and instrument stiffness. Whereas the use of 25-g MIVS is still limited to less complicated vitreoretinal cases, the use of 23-g MIVS has been continuously increasing surgical efficiency and expanding surgical indications covering more advanced vitreoretinal cases of various causes.

Recently, Alcon introduced a new 25-g cutter, called ACCURUS 25+, which has improved nearly all the disadvantages 25-g had compared with 23-g. It has a higher speed cutting rate, better aspiration flow, improved duty cycle, stiffer needle, larger cutting port area, and cutting port closer to the end of the probe (Figure 1). This new 25+ probe may achieve the maximal surgical efficiency of MIVS, with minimal incision when obtaining transretinal choroidal biopsies of small tumours as well as when delaminating the preretinal fibrovascular membrane in eyes with advanced diabetic TRD or PVR, and much more.

With continuing advances in MIVS technology, we believe that such comparative studies should be updated accordingly.

Conflict of interest

The authors declare no conflict of interest.

Reference

- Gibran SK, Kapoor KG. Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases (Correspondence). *Eye* 2010; **24**: 190–191.

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Figure 1 Comparison of Accurus 25+ with Accurus 25Ga. Accurus 25+ has a larger port that was moved closer to the end of the tip. In addition, it has a higher speed cutting rate, better aspiration flow, improved duty cycle, and stiffer needle.

Sir,
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We read with great interest the article 'Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases' by Nam *et al.*¹ We have some questions and comments to share with the authors.

(1) We do not know how the authors made the main incision for phacoemulsification in those patients who underwent combined cataract surgery and vitrectomy. This is important, as the location and architecture of the main incision might affect the postoperative anterior segment scores and the development of postoperative hypotony.