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

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.

(2) We are wondering why the postoperative anterior segment score did not include the grading of anterior chamber cells/flares, which is also a very important parameter in evaluating postoperative anterior segment status.²

(3) The authors may consider using the ultrasound biomicroscopy (UBM) to evaluate the sclerotomy sites, as UBM can provide more objective information about the architecture of the sclerotomy sites.³

(4) The authors may need to specify the possible causes and treatments of postoperative hypotony in this study. Knowing what had possibly caused the postoperative hypotony may allow us to evaluate the function of the two different sizes of sclerotomy sites more objectively.

(5) We are curious about how well the air/gas tamponade filled the vitreous cavity in the early postoperative period (eg, 1 day and 1 week postoperatively). The percentage of the air/gas tamponade occupying the vitreous cavity may reflect the 'self-sealingness' of the sclerotomy sites. The more the gas that leaks from the sclerotomy sites, the less the percentage of gas that fills the vitreous cavity.

(6) Finally, the authors may also need to specify the method they used to detect wound leakage. It is critical to know whether the method used was appropriate or not, as wound leakage was one critical parameter in evaluating the function of the sclerotomy sites.

Conflict of interest

The authors declare no conflict of interest.

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Sir,
Reply to Hu *et al*

We thank Drs Hu, Chen, and Hou¹ for their comments on our recently published article 'Comparison of 25- and

23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases'.

We would like to answer the questions raised as follows:

(1) We made a clear corneal incision, which should induce less postoperative astigmatism and less conjunctival hyperaemia. We placed a closing suture during the vitrectomy procedure and removed the suture at the end of the operation in most cases.

(2) The main purpose of evaluating the postoperative anterior segment score was the evaluation of patients' discomfort during the immediate postoperative period in an objective manner. In addition, although we had looked at the grading of AC cells/flare at each visit, we were not able to notice any significant difference between 25- and 23-gauge groups.

(3) We did not have UBM at the time of the study, and therefore did not evaluate the sclerotomy sites with UBM. However, studying the architecture of sclerotomy sites is beyond the scope of this particular study.

(4) It is difficult to specify the causes of mild postoperative hypotony in each case. Nevertheless, most MIVS surgeons are aware that a mild degree of hypotony is observed rather frequently immediately after MIVS, without definite wound leakage, which resolves spontaneously with/without a pressure patch. We also managed our cases showing mild hypotony with a pressure patch for 1–2 days.

(5) We did not observe any case of significant air/gas leakage to the subconjunctival space during the immediate postoperative period. We believe one should close sclerotomies if 'self-sealingness' is not securely maintained.

(6) Finally, we carefully evaluated each sclerotomy site with a slit-lamp biomicroscope. For those cases with hypotony, we used sterile fluorescein staining to detect any sign of fluid around the sclerotomy sites.

Once again we appreciate Hu *et al*'s interest and questions on our article. We believe that sharing surgical experiences between MIVS surgeons will certainly contribute to the further progress of MIVS.

Conflict of interest

The authors declare no conflict of interest.

Reference

- 1 YJ Hu, WQ Chen, P Hou. Comparison of 25- and 23-gauge sutureless microincision vitrectomy surgery in the treatment of various vitreoretinal diseases (Correspondence). *Eye* 2010; **24**: 191–192.

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