• Comment and Response •

Regarding successful use of 23G cutter for anterior vitrectomy and scleral-fixated intraocular lens implantation

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Dear Editor,

I read with interest the article reporting encouraging results of anterior vitrectomy using 23G cutter during scleral-fixated intraocular implantation (SFIOL)[1]. I have a few observations to make.

1) The authors "extrapolated values of 2.7, 2.8, and 2.9 logMAR to represent hand movement, light perception, and no light perception, respectively"[1]. However, according to Holladay, light perception (LP) or no LP, are not strictly a quantification of the visual acuity, rather they just denote a detection of light[2]. Also, PL and no PL have been denoted with multiple values in different publications (2.3, 3[3]; 2.6, 2.9[4]), which makes comparison and interpretation difficult. PL and no PL should better be avoided from the statistical calculations in any study[2]. Also, large values allotted to them may unnecessarily shift the central tendency (mean) to a falsely higher level.

2) I use 9-0 polypropylene suture with straight needles for SFIOL which is a stronger suture than 10-0 polypropylene and may reduce the chances of suture breakage. I agree with the authors that if the pupil is well dilated, an entry of the vitrectomy cutter through corneal wound gives better control over anterior vitrectomy and may avoid unnecessary vitreous traction due to pars plana entry. The recent high-speed 23G or 25G+ vitrectomy cutters are helping surgeons to manage anterior vitreous efficiently without causing much vitreous traction during SFIOL implantation.

3) Only one case (2%) in this series[1] developed a retinal detachment (RD) in a follow-up of 12-40mo. Previously, serious complications have been reported with SFIOL in non-vitrectomized eyes resulting in a final vision of hand movements or worse in 10 of 65 eyes (15.4%)[5]. Bourke *et al*[6] analyzed 39 patients undergoing SFIOL and found 8 cases which developed a retinal detachment. However, the axial length of the eyes developing RD was significantly higher than the non-complicated group, denoting that the eyes may have been at higher risk of RD due to myopia[6]. Due to the risk of RD, some surgeons still believe that each SFIOL requires a pars plana vitrectomy with the induction of posterior vitreous separation and vitreous base shaving. However, whether such an approach actually decreases the risk of retinal detachment is yet to be explored. A thorough examination of the peripheral retina for breaks or other predisposing lesions remains a must for SFIOL. A very large series[7] on 624 patients undergoing secondary SFIOL noted that 92% eyes maintained or improved vision. RD developed in only 1.4% cases. Other complications noted were suture erosion (17.9%), cystoid macular edema (5.8%), vitreous hemorrhage (1%), and severe uveitis (0.5%)[7]. Thus, the current study[1] may indicate that with current procedures of SFIOL with anterior vitrectomy using modern cutter may actually reduce the chances of vision-threatening complications, and SFIOL with current techniques may have complication rates which are almost comparable to other intraocular surgeries.

ACKNOWLEDGEMENTS

Conflicts of Interest: Tripathy K, None.

REFERENCES

1 Liang YB, Fong YYY, Cheng LL, Young AL. High speed small gauge anterior vitrectomy cutter for scleral fixated intraocular lens implantation. *Int J Ophthalmol* 2017;10(1):77-80.

2 Holladay JT. Visual acuity measurements. *J Cataract Refract Surg* 2004;30(2):287-290.

3 Lee JW, Lai JS, Yick DW, Tse RK. Retrospective case series on the long-term visual and intraocular pressure outcomes of phacomorphic glaucoma. *Eye (Lond)* 2010;24(11):1675-1680.

4 Niederer RL, Sharief L, Bar A, Lightman SL, Tomkins-Netzer O. Predictors of long-term visual outcome in intermediate uveitis. *Ophthalmology* 2017;124(3):393-398.

5 Yang YF, Bunce C, Dart JK, Johnston RL, Charteris DG. Scleral-fixated posterior chamber intraocular lenses in non-vitrectomized eyes. *Eye (Lond)* 2006;20(1):64-70.

6 Bourke RD, Gray PJ, Rosen PH, Cooling RJ. Retinal detachment complicating scleral-sutured posterior chamber intraocular lens surgery. *Eye (Lond)* 1996;10(Pt 4):501-508.

7 Uthoff D, Teichmann KD. Secondary implantation of scleral-fixated intraocular lenses. *J Cataract Refract Surg* 1998;24(7):945-950.

Author Reply to the Editor

Dear Editors,

We appreciated Dr. Koushik Tripathy's interests and the valuable comments on our recent article[1]. We would like to address Dr. Koushik Tripathy's comments as follows.

1) Regarding to the using of "a value of 1/400 Snellen (logMAR=2.6) to represent vision of counting fingers and used extrapolated values of 2.7, 2.8, and 2.9 logMAR to represent hand movement, light perception, and no light perception, respectively". There is no unified formula to convert the hand movement, light perception, or no light perception into a numerical scale. We agree with Dr. Koushik Tripathy that light perception (LP) and no LP should better be avoided from the statistical calculation. This kind of replacement may induce the mean value of vision to a falsely higher level. However, if we exclude the data with light perception, hand movement, or light perception, we may miss many information or underestimate the effect what we expect. Since many cases may have such poor vision in our real world practice.

2) We actually agree with the suggestion with regards to 9.0 polypropylene. After the period of the study, the authors had already switched from 10.0 polypropylene to 9.0 polypropylene.

3) Regarding to the rate of retinal detachment in this case series, we completely agree with you, it is the point that we publish the paper. With current advancing techniques, the complications of SFIOL has significantly reduced.

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REFERENCE

1 Liang YB, Fong YY, Cheng LL, Young AL. High speed small gauge anterior vitrectomy cutter for scleral fixated intraocular lens implantation. *Int J Ophthalmol* 2017;10(1):77-80.