Reply to the comment on “Outcomes of transconjunctival sutureless 27-gauge vitrectomy with silicone oil infusion”

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Dear Editor,

We wish to thank Drs. Takkar, Venkatesh, Azad, and Temkar for their kind, timely, and spot-on commentary on our manuscript, “Outcomes of transconjunctival sutureless 27-gauge vitrectomy with silicone oil infusion”, and are happy to respond to the valid questions and points made.

The three patients who ended with no light perception (NLP) vision slowly migrated to this as retinal ischemia worsened throughout the follow-up period. None of these eyes acutely worsened to NLP immediately after surgery. Drs. Takkar, Venkatesh, Azad, and Temkar are absolutely correct that the fluidics of small-gauge surgery may pose challenges. Fortunately, the infusion cannula flow restrictions are accompanied by aspiration side flow limitations so that when all three ports are 27-gauge, the infusion pressures need not be elevated beyond the typical 25–35 mmHg range employed in larger gauge surgery. The infusion pressures used during our 27-gauge silicone oil series were all in the 25–35 mmHg range. Active intraocular pressure (IOP) controlling algorithms are now offered by more than one manufacturer and

may further enhance confidence when using lower infusion pressures with small gauge vitrectomy surgery.

We also agree that the “docking” maneuver is awkward and that hybrid 27/25-gauge techniques may reduce this. The problem with hybrid PPV is that the 25-gauge trocar is associated with extra cost, as well as better flows which may not balance with the 27-gauge infusion (during aspiration maneuvers) or 27-gauge venting (during injection maneuvers). This may result in elevated IOPs that, we agree, may pose a risk especially in ischemic diabetic eyes. The awkwardness of this scenario, as well as the inability to freely move 25-gauge instrumentation in and out of the remaining 27-gauge cannulas is the reason we chose the docking approach. Fortunately, MedOne Surgical (Sarasota, Florida USA) has developed and now offers a 27-gauge silicone oil injection cannula that obviates this entire question. One-handed 27-gauge oil injection is now possible without oil leakage. Injection times for 1,000 cs silicone oil are approximately 1–2 min, and 5,000 cs oil injection time is approximately 3–5 min.

Respectfully,

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest. DMM is a consultant to Synergetics, USA. CDR is a consultant to Alcon, USA and MedOne.

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