

## Commentary on vitrectomy without encircling band for rhegmatogenous retinal detachment with inferior break utilizing 3D heads up viewing system

Rhegmatogenous retinal detachments with inferior breaks are considered to be comparatively difficult<sup>[1-3]</sup> because of various reasons including the difficulty in achieving complete tamponade inferiorly by silicone oil,<sup>[4]</sup> more chances of PVR (proliferative vitreoretinopathy) due to the inflammatory cells and retinal pigment epithelial cells settling at the inferior retina because of gravity.<sup>[5]</sup>

Difficulty in achieving complete peripheral base shaving due to difficulty in visualization and incomplete removal of the vitreous near the anterior edge of a break especially in cases of inferior breaks can lead to higher chances of redetachments.

Many techniques, including the use of encircling bands to support the peripheral vitreous base, the use of heavy silicone oil for tamponade and peripheral vitrectomy under PFCL (perfluorocarbon liquid) have been used, but they have their own advantages and disadvantages.<sup>[4,6,7]</sup>

In this study, the authors try to emphasize the role of better visualization leading to better completion of peripheral vitreous base shaving and better single-operation success rate.

The study included 22 patients with primary rhegmatogenous retinal detachment with inferior breaks between 4 O'clock and 8 O'clock meridian. Surgeries were performed by a single experienced surgeon with the use of constellation vitrectomy system 23 G platform, Ngenuity 3D (three-dimensional) visualization system with contact-type wide-angle lens and using the technique of interface vitrectomy.

Ngenuity is known to provide better magnification, better resolution, and increased depth of field compared with conventional microscopes.<sup>[8-10]</sup> Author states the usefulness of this for better peripheral vitreous visualization and better base shaving results leading to better surgical outcomes.

Author also emphasizes on the usefulness of the technique of interface vitrectomy<sup>[11]</sup> under air where vitreous is cut at the interface between the vitreoretinal tissue and air. Air being immiscible in aqueous provides better retinal stability and also provides better surface tension at the site of the break.

With the use of 3D system and interface vitrectomy technique, the author could complete vitreous base shaving

without the need for scleral indentation. This can be helpful in the absence of a trained assistant and where self-indentation is difficult. However, it is up to the operating surgeons to use the technique that best suits their hand to provide a better outcome for their patients.

In this study, the authors achieved single operation success in 21 out of 22 eyes with the described technique with one eye needing another surgery due to the development of recurrent retinal detachment secondary to proliferative vitreoretinopathy and at the conclusion of the study, 100% overall rate of retinal reattachment was observed after 2 to 3 months of oil removal.

Although the ideal way of treating rhegmatogenous retinal detachment with inferior breaks is still debatable, we believe that improved visualization definitely plays an important role in better surgical outcomes.

**Shrinivas Joshi, Giriraj Vibhute, Apoorva Ayachit,  
Guruprasad Ayachit**

Department of Vitreoretina, M M Joshi Eye Institute, Hosur, Hubli,  
Karnataka, India

**Correspondence to:** Dr. Shrinivas Joshi,

Department of Vitreoretina, M M Joshi Eye Institute, Hosur,  
Hubli - 580 021, Karnataka, India.  
E-mail: shrinivasmjoshi@gmail.com

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