

Commentary: A novel, standardized, reproducible method to calculate the area of internal limiting membrane peeled intraoperatively in macular hole surgery using a video overlay: A long-term study in cases of idiopathic macular holes

Surgery for macular hole (MH) is one of the most successful vitreo-retinal procedures in this era, with hole closure rates at more than 90%.^[1] However, there are attempts to further increase the success rate especially in large MH. Area of internal limiting membrane peeling (AILMP) has been associated with postoperative hole closure, though limited publications about this exist in literature.^[2,3] We congratulate the authors for conducting this study which throws light on the need for large AILMP, especially in large MH.^[4] Surgeries done by three different surgeons by adopting the procedure over a long period of clinical practice explains the positive acceptability of the same by other surgeons.

However, some points in this study need to be commented on. First, the comparable number of cases (unlike 75 cases in group 1 and 30 cases in group 2) in both groups would have given more robust statistical results. Second, a subgroup analysis of cases of AILMP less than three disc diameter (DD), e.g., 1–2 DD, 2–3 DD etc., would have given better validation. Though the authors have briefly mentioned this in their discussion, statistical analysis would have given better results. Bae *et al.* described 97% closure rate in both 0.75 disc radius (1.5 DD) and 1.5 disc radius (3DD) groups.^[2] Third, this study is a prospective but nonrandomized study. Randomization of different cases would have been more ideal. Cases with size of MH more than 400 microns and AILMP less than 3 DD could have been addressed properly in randomization. Fourth, total eight cases failed to close after first surgery and all are in group 1 (i.e., AILMP more than 3 DD). So, whether these cases were very large MH or any other factor (incomplete intraoperative drying of the posterior pole during fluid air exchange, inadequate positioning of the patient etc.) that lead to the failure needs to be addressed.

This study carries many future perspectives. In this technology proficient era, different software like adobe photoshop CS2, image J etc., should be used in comparative studies for calculation of AILMP and for better acceptability among surgeons. Very large MH are prone to fail postoperatively. So, additional methods like need for autologous whole blood, serum, and platelet concentrates need to be used in these cases in addition to a large AILMP.^[1] The authors mention that surgeon can continuously notice the ILM peeled area intraoperatively in the television (TV) panel, centering the macular hole and enlarging the AILMP in necessary cases. Incorporation of the software in digitally assisted vitreoretinal surgery systems (DAVS) will obviate the need for additional TV panel and help in ergonomics. There are studies showing similar efficacy of MH closure with added advantages of better ergonomics.^[5,6] In addition to the comparison of successful MH closure rates, it will be good to study the anatomical factors such as change in disc to fovea distance (DFD), extent of dissociated optic nerve fiber layer (DONFL), and functional factors like postoperative visual acuity and metamorphopsia.^[2,3] Studies comparing AILMP restricted to the temporal part of the macula,

avoiding the papilo-macular bundle versus 360° AILMP centred around the fovea needs to be carried out. Shiono *et al.* compared hemi-temporal ILM peeling with 360° ILM peeling and concluded similar primary closure rate in both the techniques.^[7] So, further studies comparing AILMP centred around the fovea and those eccentric to the temporal fovea will be interesting.

Chitaranjan Mishra, Kim Ramasamy

Aravind Eye Hospital, Madurai, Tamil Nadu, India

Correspondence to: Dr. Kim Ramasamy,

Department of Vitreo-Retinal Services, Aravind Eye Hospital, Anna Nagar, Madurai - 625 020, Tamil Nadu, India.

E-mail: kim@aravind.org

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