Commentary: Macular hole surgery – A tweak here and there

Macular hole surgery is one of the most hotly debated topics in retina circles, with many groups demonstrating innovative surgical approaches with promising results. The standard technique of vitrectomy with internal limiting membrane (ILM) peeling remains the gold standard for small to medium-sized macular holes.

When it comes to large macular holes things get a little tough. Large macular holes have been classified by Gass[1] as those with a minimum linear diameter (MLD) of 400 μ or more. The Manchester eye study[2] described excellent success rates for macular holes with size less than 600 μ with even the conventional ILM peeling techniques.

Michalewska *et al*.[3] described the technique of inverted ILM peeling for large macular holes (>400 μ), where instead of completely removing the ILM, Part of it attached to the margins of the hole was left in place. This ILM remnant was then inverted upside down to cover the macular hole. They achieved 98% closure rates with this technique compared to 88% closure rates with conventional surgery. With this technique, Mahalingam and Sambhav[4] successfully achieved 100% closure rate and improved visual acuity in macular holes with a mean MLD of 811.4 μ. Khodani *et al*.[5] achieved type 1 closure in four out of five patients with a mean visual improvement of approximately three lines in patients with a macular hole base diameter ranging from 1280 to 1480 μ with this technique. Kuriyama *et al*.[6] found this technique to be a good adjuvant in macular hole retinal detachments as well.

For the cases where ILM around the macular hole has already been peeled and for refractory macular hole cases, the technique of autologous ILM transplantation[7] or ILM translocation[8] where a free ILM graft is taken from peripheral retina and transplanted at macular hole has shown encouraging anatomical and visual outcomes. A direct comparison between the techniques inverted ILM peel and ILM transplant by Park *et al*.[9] found out that both the techniques were equally effective for closure of macular holes, but for recovery of photoreceptor layers and ultimately visual outcomes, the inverted ILM peel technique provided better results.

Another technique of macular hole hydrodissection is described where soft tip extrusion cannula is used to reflux balanced salt solution (BSS) into the macular holes, lysing adhesions and helping in closure. This technique was also found to be useful for anatomical and functional outcomes in persistent/refractory/large macular holes.[10,11] Subretinal injection of BSS was also proven to be of value in achieving improved anatomical and functional outcomes in refractory macular holes.[12]

Lens capsule and autologous blood have also been used to stuff recurrent/refractory macular holes.[13,14]

Grewal and Mahmoud first described the neurosensory retinal graft technique in closing a refractory MH.[15] Since then multicenter international studies have proven the efficacy and safety of this procedure in refractory macular holes.[16,17]

Our experience of inverted ILM peel and neurosensory graft for large and refractory macular holes has provided encouraging results.

The technique of ILM tailoring described by the author in this article seems like a logical, thoughtful and a comparatively safe approach for treating large macular holes although its comparison with the inverted flap technique with adequate sample size would be of great help to understand the outcome differences/success rates of the two techniques.[18]

Even though multiple techniques are available, in our opinion operating surgeons need to choose the technique that works best in their hands considering available facilities and patient factors for the best outcomes in their patients.

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