Surgical Retina

# INVERTED INTERNAL LIMITING MEMBRANE FLAP TECHNIQUE ADAPTATION IN VERY LARGE MACULAR HOLE SURGERY

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PURPOSE: Describe and evaluate the use of internal limiting membrane (ILM) or anterior capsule, when vitrectomy is combined with phacoemulsification, and its transposition over very large, chronic, full thickness macular holes, followed by use of a viscoelastic adhesive as a ballast to keep the free flap in the correct position, to achieve the closure and anatomical improvement of these macular holes.

METHODS: We retrospectively reviewed the cases and imaging of seven patients in which this technique was performed.

RESULTS: The patients presented with stage 4, long-term evolved, very large macular holes. All of them presented with a size greater than 850 μm. ILM was used as the flap in 4 of the cases, and the anterior lens capsule was used in 3 cases. Viscoelastic adhesive and dye were used in all cases. Optical coherence tomography performed 24 hours after surgery in all cases showed the flap was well positioned. Moreover, flap macular hole closure was achieved in all cases.

CONCLUSIONS: Viscoelastic adhesive is a good choice to hold the flap in the correct position, and it avoids the need for the "tuck technique" and its possible mechanical damage to the retinal pigment epithelium (RPE) layer and foveal choroid. The use of the anterior lens capsule as flap presents several advantages and could be an especially useful alternative when there is fibrosis of the ILM. Based on our outcomes, we suggest performing this technique in chronic, long-evolved, full-thickness and persistent macular holes larger than 650 μm.