

EVALUATION OF INTERNAL LIMITING MEMBRANE GRAFT TECHNIQUE WITH NO FOVEAL PEEL IN IDIOPATHIC MACULAR HOLE

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Introduction

A macular hole is a full-thickness retinal tissue defect involving anatomical fovea and, in particular, foveola in the eye.

The inverted ILM flap technique prevents a macular hole from appearing flat-open post-operatively and increases both the functional and anatomical results of vitrectomy for macular holes with a diameter greater than 400 μm . Spectral optical coherence tomography with the inverted ILM flap technique after vitrectomy suggests improved foveal anatomy relative to regular surgery.

Dissociated optic nerve fiber layer (DONFL) appearance is defined as arcuate retinal striae along the optic nerve fibers in the macular region. Is associated with ILM peeling, with visual acuity, visual field testing, and SLO microperimetry showed no abnormalities. The authors propose that the presence of DONFL could be secondary to mere movement of optic nerve fibers rather than degradation due to loss of support for Müller cells or postoperative regenerative processes of Müller cells or astrocytes. The correspondent image on B-scan OCT is seen as “dimples” in the inner retinal layers that seem to be the result of an interplay between trauma and healing processes constrained by nerve fiber layer and it is not associated with adverse effects on the visual function, as detected by visual acuity and scanning laser ophthalmoscopy microperimetry.

METHODS:

This was an interventional prospective study, where the procedure was explained to subjects eligible for inclusion and the consent form was signed.

All patients had undergone 23G three-port pars plana vitrectomy. Brilliant Blue G dye was used to stain the ILM. For group A PFC was injected, then ILM graft was harvested from the inferior part of the macular area just inside the arcade with pinch technique and relocated under perfluorocarbon liquid to patch the macular hole, Fluid air exchange then gentle removal of the PFC and finally the vitreous cavity was filed with gas (SF6) 20%.

Results

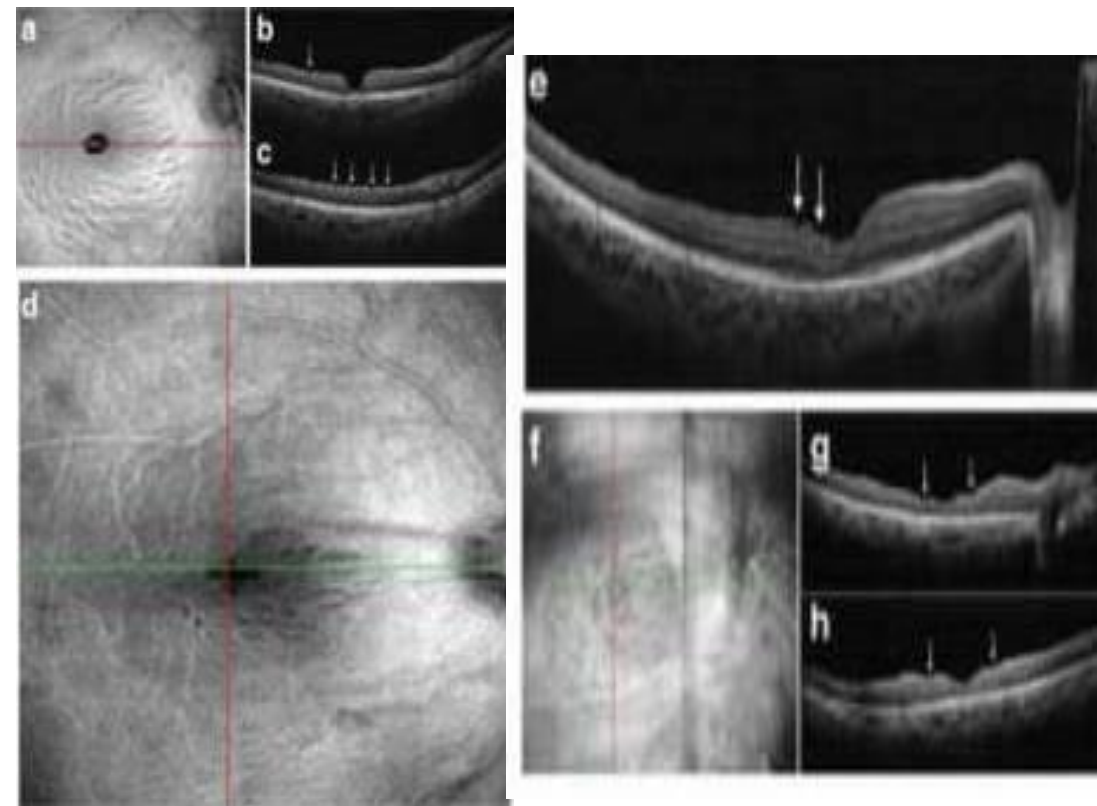


Figure 1: OCT and IR images show dimples of nerve fiber layer; and dark striae were found predominantly occurred in papillomacular bundle

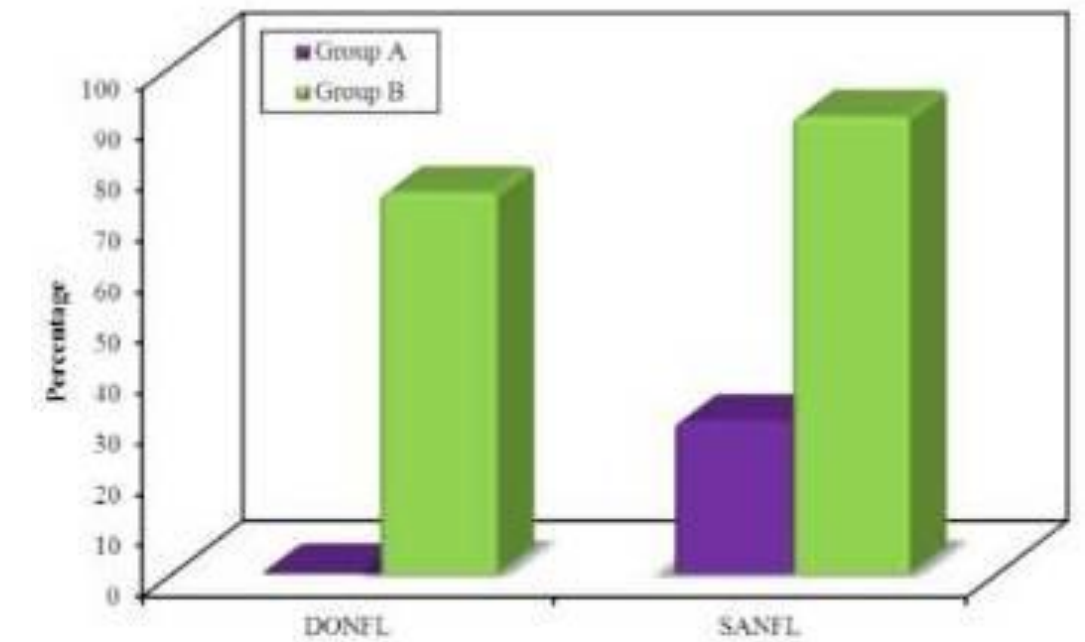


Figure 2: Comparison between the two studied groups according to DONFL and SANFL.

Conclusion

1. There was no statistical difference between inverted ILM flap technique and ILM graft technique as regard postoperative visual acuity and closure rate.
2. ELM restoration was associated with better BCVA.
3. ILM graft technique was associated with fewer cases of DONFL, SANFLS and dimples which were statistically significant.
4. DONFL appears only in areas where ILM was peeled suggesting that it's a direct effect of this procedure.
5. ILM graft technique has the advantage of being less traumatizing to the RNFL.

Aim of the work

The aim of this work was to evaluate the ILM graft technique with no foveal peel in the treatment of idiopathic macular hole.

Subjects and Methods

SUBJECTS:

This study included forty eyes with large full thickness idiopathic macular holes (more than 400 microns diameter in base diameter).

The included eyes will be randomly assigned to one of two groups.

Group A will be subjected to PPV, PVD, ILM graft with no foveal peel, air fluid exchange and SF6 20%

Group B will be subjected PPV, PVD, classic ILM inverted flap, air fluid exchange and SF6 20%