

Inverted macular hole edges following an inverted internal limiting membrane transplantation surgery for large macular hole

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Key words: Inner retinal folds, internal limiting membrane, inverted internal limiting membrane flap, large macular hole

A 60-year-old female had large macular hole (MH) in the left eye (OS) with best-corrected visual acuity (BCVA) of 6/18 [Fig. 1a]. Standard 25-gauge pars plana vitrectomy was done. The internal limiting membrane (ILM) was peeled up to 2 disc diameter around the MH. A small bit of ILM was left behind around the edges of MH without being peeled which was trimmed and folded in MH on a multilayered fashion. Fluid-air exchange followed by fluid-gas exchange (SF6 [20%]) was done. The patient was advised to maintain face-down position for a week.

At the 1-month postoperative visit, BCVA OS was 6/9 with clinically closed MH. Enhanced depth imaging optical

coherence tomography (EDI-OCT) showed ILM remnant in the center with MH edges encroached on it [Fig. 1b]. Subsequent EDI-OCT scans (at 3 and 6 months) showed further

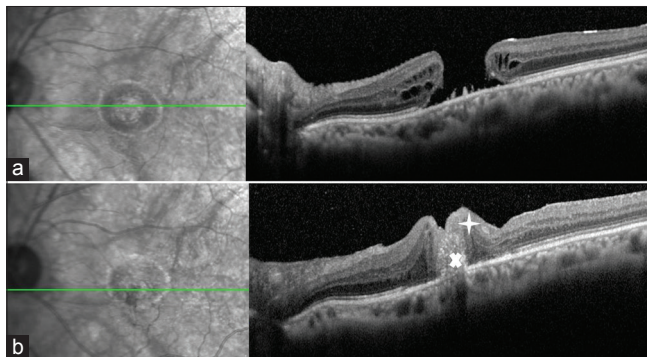


Figure 1: Montage picture showing (a) preoperative optical coherence tomography scan through large full-thickness macular hole with a minimal diameter of 922 μm , basal diameter of 1800 μm with elevated and cystoid edges; (b) 1-month postmacular hole surgery showing closed macular hole with central internal limiting membrane glial tissue plug (cross) and infoldings in inner layers

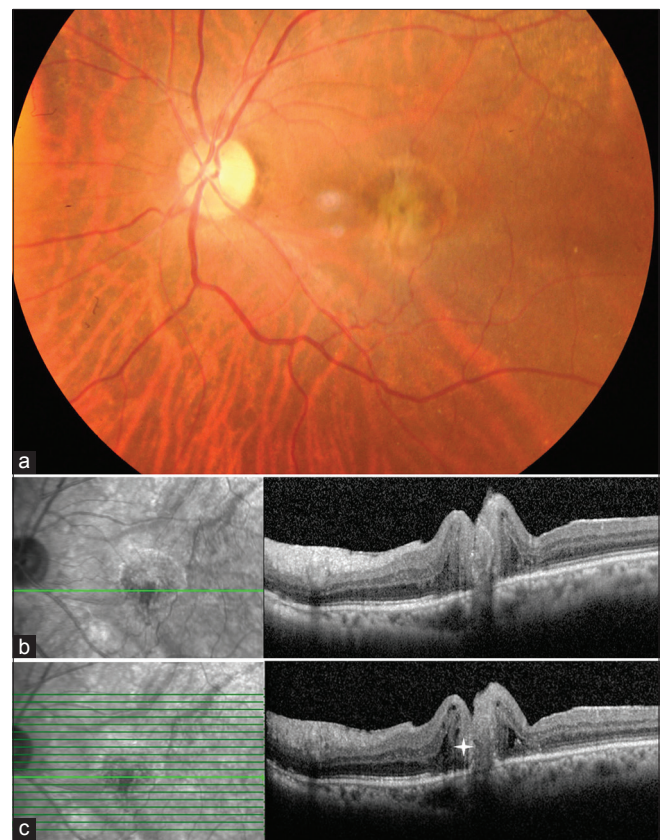


Figure 2: Montage picture with (a) color fundus picture at 6 months showing closed macular hole with vertical retinal folds around the central glial plug. (b) Optical coherence tomography at 3 months and (c) optical coherence tomography at 6-month postsurgery showing increase flipped in macular hole edge

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encroachment of the edges of MH over the central glial tissue causing infoldings in inner retinal layers [Fig. 2a-c]. At 6-month follow-up, BCVA OS was 6/12 with flipped in MH edges over central glial plug with few cystoid changes. Since the patient was comfortable with BCVA, no further intervention was done.

Comment

Single-layered ILM transplantation for large MHs is more physiological but technically challenging.^[1] On the other hand, the multilayered inverted flap is surgically easy but less physiological than single-layered flap.^[2,3] The excess redundant flap may sometimes cause a mechanical barrier for centripetal migration of MH edges leading to persistent central glial tissue remnant.^[4] In the present case, excess glial tissue in the center could have possibly prevented MH from classical "U" or "V" shape closure, rather the edges flipped in on the glial tissue resulting in inversion of MH edges.

Conclusion

Vitreoretinal surgeons should keep the possibility of persisting glial tissue causing inversion of MH edges in mind in patients undergoing inverted ILM transplantation for the management of large MH.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have

given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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