

## Management of macular epiretinal membrane by vitrectomy and intravitreal triamcinolone

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A patient underwent successful vitrectomy for macular epiretinal membrane with anatomical and functional improvement. 10 weeks later, there was a recurrence of macular edema with corresponding visual decline. An intravitreal injection of triamcinolone acetonide not only restored the macular anatomy

but also improved the visual outcome beyond that achieved after surgery.

**Key words:** Epiretinal membrane, intravitreal triamcinolone injection, macular edema, vitrectomy

Macular epiretinal membranes (ERM) occur in 7-12% of individuals over 50 years of age; only about 15% are symptomatic and merit surgical intervention.<sup>[1]</sup> Surgical outcomes are generally excellent as most patients improve; though only 25-50% of patients improve to 20/40 or better.<sup>[1]</sup> We report management of an idiopathic ERM where post-operative worsening of surgical outcomes was not merely reversed but augmented by intravitreal triamcinolone.

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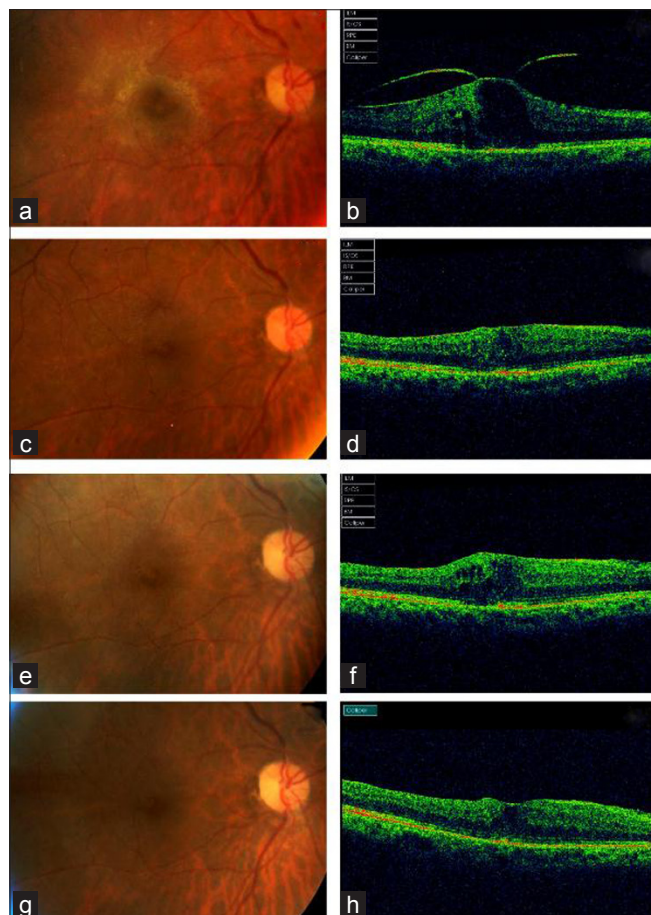
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## Case Report

A 73-year-old diabetic patient presented with a recent-onset visual decline OD. His best-corrected visual acuity was 20/80 OD and 20/20 OS. Anterior segment was unremarkable OU, except a posterior-chamber intraocular lens. Fundus examination showed a macular ERM OD [Fig. 1a] with mild non-proliferative diabetic retinopathy with no macular edema; left fundus was normal. Optical coherence tomography (OCT) revealed vitreomacular traction; central macular thickness (CMT) was 630 $\mu$ m [Fig. 1b]. After obtaining an informed consent from the patient, he underwent vitrectomy, ERM removal, and membrane peeling with dual staining: Trypan Blue dye 0.15% (Retiblu, Aurolab, Madurai, India) for ERM and Brilliant Blue G 0.05% (Oclublue Plus, Aurolab, Madurai, India) for internal limiting membrane. Sulfur hexafluoride 20% was used for post-operative tamponade. 4 weeks later, BCVA had improved to 20/40; CMT was 379  $\mu$ m [Fig. 1c, d]. Over the next 6 weeks, BCVA gradually declined to 20/60 with CMT increasing again to 412  $\mu$ m and recurrence of macular cystic changes [Fig. 1e, f]. The patient received intravitreal triamcinolone acetate (IVTA, 4 mg/0.1 mL) OD. Within



**Figure 1:** (a) Fundus OD reveals macular epiretinal membrane, (b) Horizontal OCT scan reveals vitreomacular traction; central macular thickness (CMT) is 630 $\mu$ . Note the central defect in the inner segment-outer segment (IS-OS) junction, (c, d) One month postoperatively, macula is free of membrane, OCT shows partial recovery of foveal contours (CMT: 379 $\mu$ ), (e, f) 2.5 months postoperatively, macula developed cystoid thickening (CMT: 412 $\mu$ ), (g-h) Six months postoperatively, macular edema resolved (CMT: 319 $\mu$ ), with an intact IS-OS junction and external limiting membrane

4 weeks, BCVA recovered to 20/40 (CMT: 323  $\mu$ m). Over the next 10 weeks, the BCVA improved to 20/20 OD [Fig. 1g, h]; intraocular pressure remained normal.

## Discussion

Persistence of macular edema after vitrectomy for ERM removal is well-known; and is generally attributed to chronic vascular leakage.<sup>[1]</sup> But recurrence of edema after an initial post-surgical resolution has been rarely reported. Consequently, no treatment has been suggested in the literature for such a recurrence. It is possible that gas tamponade delayed the vascular leakage in our patient. We attempted treatment of recurrent macular edema with IVTA on the basis that it would favorably affect macular edema due to both vascular and inflammatory etiologies. Remarkably, IVTA did not merely restore the post-operative visual outcome, but improved it to 20/20; a rare event in ERM surgery in spite of the excellent visual gains reported.<sup>[1]</sup> This outcome was obtained in spite of an interrupted inner segment-outer segment (IS-OS) junction in the pre-operative OCT [Fig. 1b]: a documented negative prognostic factor.<sup>[2]</sup> Finally, visual recovery is reported to peak around 12-24 months after ERM removal with reconstitution of IS-OS junction;<sup>[3,4]</sup> we obtained both the milestones much earlier, at 6 months postoperatively in this case. Konstantinidis *et al* used IVTA routinely after vitrectomy for ERM; they reported excellent visual outcomes, which were obtained in a short time, as in our case.<sup>[5]</sup> However, proactive use of IVTA as reported by these authors may invite other problems like secondary glaucoma and cataract; and can be recommended as a default part of surgical protocol only after a head-to-head trial against vitrectomy without IVTA for ERM. I propose a case for using IVTA to enhance surgical outcome when residual or recurrent macular edema is observed after ERM removal.

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