



Figure 3 ICG angiography before MTX injection.

choroidal neovascular (CNV) membrane in the left eye (OS) for 2 weeks. Best-corrected visual acuity was 20/20 in both eyes. The anterior segment was quiet. Some yellowish-gray lesions were also present in the right eye.

Fluorescein angiography (FA) showed early hypofluorescence and late hyperfluorescence due to staining at the level of the lesions. Acute lesions on indocyanine green (ICG) angiography were hypofluorescent. Both revealed a CNV membrane in the OS. (Figures 1 and 2).

Sarcoidosis, tuberculosis, and presumed ocular histoplasmosis syndrome were excluded. Blood analysis excluded other infectious and inflammatory causes.

The patient received three intravitreal (IVT) injections of ranibizumab in the OS spaced 1 month apart. The CNV membrane disappeared, but 2 months later it reappeared and vision decreased to 20/80. Three additional injections were administered whereby vision stabilized at 20/63. FA was repeated. No leakage was present. However, the ICG showed small hypofluorescent spots within 3 DD of the lesion that suggested inflammatory activity in the choroid. (Figure 3).

We performed an IVT injection of 400 µg methotrexate (MTX) in 0.1 ml. Vision improved to 20/25 over 3 months. The vision remained stable with no flare up for over 20 months.

Comment

CNV occurs in up to one third of patients with MFC. Numerous therapies have been proposed, including thermal laser, subretinal surgery, PDT, local and systemic corticosteroids, anti-VEGF therapy, and immunosuppressive agents.¹

IVT MTX, used as chemotherapy, is effective in inducing a clinical remission of intraocular tumor in primary central nervous system lymphoma.² MTX has also been used in unilateral intermediate or posterior uveitis, and cystoid macular edema.³ Its anti-inflammatory effect is well known, but it can also decrease VEGF.⁴ For instance, Byun *et al*⁵ used topical and subconjunctival MTX for corneal neovascularization with good results. We achieved improved vision and no CNV membrane recurrence by administering IVT MTX. The absence of recurrence can be due to MTX's dual mechanism of action: anti-inflammatory and anti-angiogenic. MTX should be considered as a treatment option for CNV membrane especially in cases with an inflammatory etiology.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Fine HF, Zhitomirsky I, Freund KB, Barile GR, Shirkey BL, Samson CM *et al*. Bevacizumab (avastin) and ranibizumab (lucentis) for choroidal neovascularization in multifocal choroiditis. *Retina* 2009; **29**(1): 8–12.
- 2 de Smet MD, Vancs VS, Kohler D, Solomon D, Chan CC. Intravitreal chemotherapy for the treatment of recurrent intraocular lymphoma. *Br J Ophthalmol* 1999; **83**(4): 48–51.
- 3 Taylor SR, Habet-Wilner Z, Pacheco P, Lightman SL. Intraocular methotrexate in the treatment of uveitis and uveitic cystoid macular edema. *Ophthalmology* 2009; **116**(4): 797–801.
- 4 Park SK, Kim HI, Yang YI, Hur DY. Effects of methotrexate on vascular endothelial growth factor, angiotensin 1, and angiotensin 2 in nasal polyps. *Am J Rhinol Allergy* 2011; **25**(4): e129–e132.
- 5 Byun YS, Chung SK. The effect of methotrexate on corneal neovascularization in rabbits. *Cornea* 2011; **30**(4): 442–446.

A Mateo-Montoya¹, E Baglivo² and MD de Smet¹

¹Clinique de Montchoisi, Ophthalmology Service, Retina and Inflammation Unit, Chemin des Allinges 10, Lausanne, Switzerland

²Geneva University Hospital, Rue Alcide-Jentzer 22, Geneva, Switzerland
E-mail: arancha.mateo@gmail.com

Eye (2013) **27**, 277–278; doi:10.1038/eye.2012.262;
published online 7 December 2012

Sir, Vitrectomy for epiretinal membrane secondary to treatment for juvenile Coats' disease

We report the management of an epiretinal membrane secondary to treatment of juvenile Coats' disease by 23-G vitreous surgery.

Case report

A 10-year-old boy was diagnosed to have right eye (OD) Coats' disease on routine eye examination. The vision in

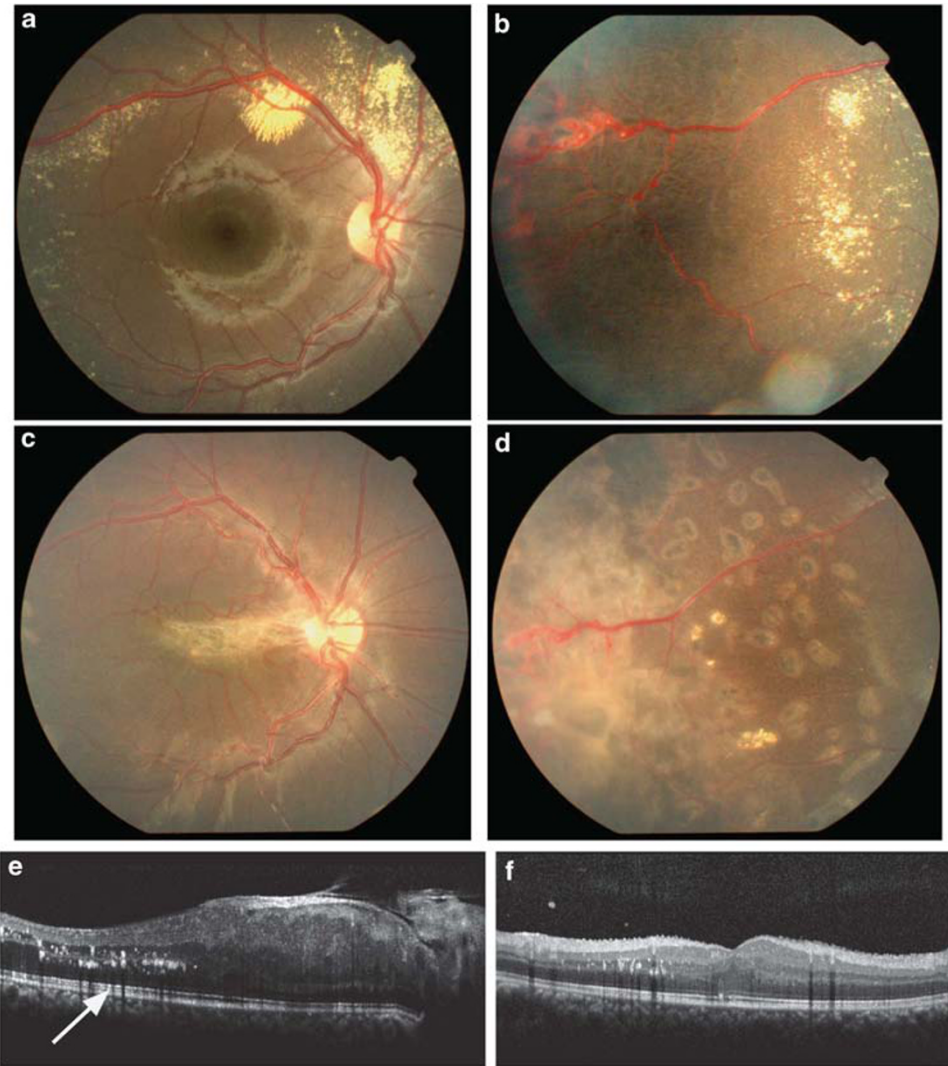


Figure 1 (a) Subretinal exudates seen, sparing the fovea. (b) Dilated telangiectic vessels, focal aneurysms, and subretinal exudates in the temporal quadrant. (c) The fundus photo showing thick epiretinal membrane. (d) The temporal periphery showing laser marks and reduction in the caliber of the dilated and telangiectic vessels. (e) The preoperative SDOCT image showing ERM, the loss of foveal contour, and a well-maintained IS/OS layer (arrow). (f) Three months postsurgery, the foveal contour has improved.

both the eyes was 20/20. The OD fundus examination showed extra foveal subretinal exudates in all the four quadrants, and dilated and telangiectic vessels in the inferotemporal quadrant (Figures 1a and b). The left eye fundus was normal. Three sittings of laser and cryopexy over a period of 2 years led to the absorption of the subretinal exudates and elimination of the telangiectic vessels (Figure 1c). The vision decreased over a period of 5 months to 6/24 due to the formation of a thick epiretinal membrane (Figure 1d). The patient underwent spectral domain optical coherence tomography (SDOCT), which showed a thick hyper reflective epiretinal membrane, with intact inner segment/outer segment (IS/OS) junction (Figure 1e). The patient underwent 23-G minimally invasive vitreous surgery with a high speed cutter (constellation vision system, Alcon). The epiretinal membrane (ERM) removal by forceps helped in inducing the posterior vitreous detachment. No intraocular dye

was used to stain the ERM. The postoperative SDOCT at 3 months showed a near-normal foveal contour (Figure 1f). The vision improved to 20/20 after the procedure.

Comments

Coats' disease is a unilateral exudative retinopathy, more commonly seen in males.^{1,2} Retinal photocoagulation/cryopexy can lead to premacular fibrosis. ERM is a rare cause of visual loss in Coats' disease. In two large case series, ERM was noted in 2.5–4.4% of the cases,^{2,3} but there was no mention of any treatment for the ERM. Only one case report, till date, shows good anatomical and visual improvement after vitrectomy and ERM removal in a case of adult onset Coats' disease.⁴ There is no report of vitrectomy being performed for secondary ERM in a patient with juvenile Coats'. Our case did well after

vitrectomy and ERM removal; thus, patients having ERM should be given the benefit of early surgery.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Morales AG. Coats' disease. Natural history and results of treatment. *Am J Ophthalmol* 1965; **60**: 855–865.
- 2 Rishi P, Rishi E, Uparkar M, Sharma T, Gopal L, Bhende P *et al*. Coats' disease: an Indian perspective. *Indian J Ophthalmol* 2010; **58**(2): 119–124.
- 3 Shields JA, Shields CL, Honavar SG, DeMirci H. Clinical variations and complications of Coats' disease in 150 cases: the 2000 Sanford Gifford memorial lecture. *Am J Ophthalmol* 2001; **131**: 561–571.
- 4 Shukla D, Chakraborty S, Behera UC, Kim R. Vitrectomy for epimacular membrane secondary to adult-onset coats' disease. *Ophthalmic Surg Lasers Imaging* 2008; **39**(3): 430–431.

NK Yadav¹, K Vasudha², K Gupta¹ and KB Shetty³

¹Narayana Nethralaya, Retina Services, Bangalore, Karnataka, India

²Narayana Nethralaya, Department of Pediatric Ophthalmology and Strabismus, Bangalore, Karnataka, India

³Narayana Nethralaya, Bangalore, Karnataka, India
E-mail: vasudha.naresh@gmail.com

Eye (2013) **27**, 278–280; doi:10.1038/eye.2012.275;
published online 21 December 2012

Sir,
Novel technique for silicone oil retention suture with secondary auto capsulotomy of fibrin membrane

Silicone oil is toxic to the cornea causing endothelial failure and band keratopathy.¹ In traumatic aniridia and aphakia, there lacks a barrier for silicone oil between the

posterior and anterior chambers. Therefore, if retinal surgery is also required, silicone oil tamponade may cause the cornea to decompensate unless an artificial barrier can be constructed. We report a novel technique in a patient following globe rupture.

Case report

A 43-year-old male who had previous penetrating keratoplasty for keratoconus endured blunt trauma to his left eye. He had total iris loss and required a repeat penetrating keratoplasty and lensectomy due to the globe rupture. Three weeks later, he had a total retinal detachment with severe proliferative vitreoretinopathy (PVR). He underwent pars plana vitrectomy, retinectomy, PVR membrane peel, laser, and silicone oil tamponade. Before silicone oil injection, 360-degree conjunctival peritomy was performed, and an artificial barrier was formed using a continuous 10/0 prolene suture (Ethicon W1713, Somerville, NJ, USA) placed 2.5 mm from the corneal limbus (Figure 1a).

Within 2 months, he developed a membrane at the level of the retention suture, separating the silicone oil from the anterior chamber. Laser capsulotomy was initially planned, but he subsequently spontaneously developed a central opening within the membrane (Figure 1b). His retina remained flat under oil, and visual acuity at 4 months follow-up was counting fingers.

Discussion

Retention sutures are effective in preventing corneal decompensation in aniridic eyes requiring silicone oil tamponade.² This is because of the surface tension of silicone oil and its propensity to stay as a single bubble within the vitreous cavity. The method described above allows for one continuous suture to be used in forming the barrier, and is an alternative to the previously described technique using multiple sutures. It is not known if the hexagonal shape is better than others at stimulating peri-silicone proliferation and membrane formation,³ the rate of which may also vary between patients and with topical steroid use. In our case, an opening in the membrane formed spontaneously, but in others, laser capsulotomy may be required.

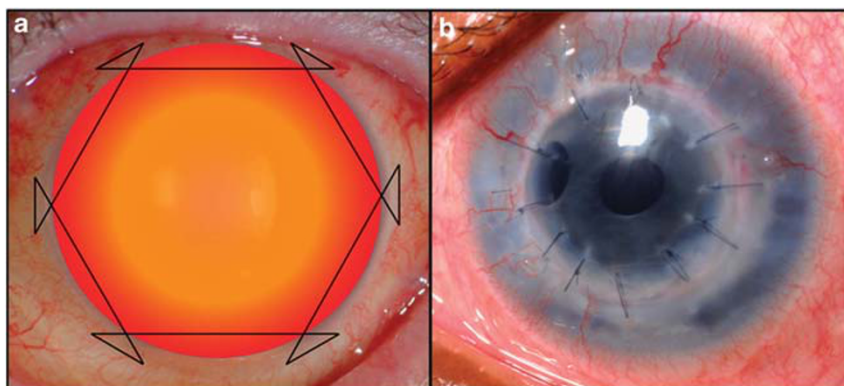


Figure 1 (a) Schematic diagram of hexagonal silicone oil retention suture and (b) Opening in peri-silicone oil membrane present 4 months following surgery.