Jpn J Ophthalmol
Vol 51: 68–81, 2007

Spontaneous Separation of Thick Epiretinal Membrane After Photocoagulation for Leber's Multiple Miliary Aneurysms

Epiretinal membrane (ERM) in children or adolescents is usually a secondary phenomenon and has been reported after pars planitis, ocular toxocariasis, sickle cell retinopathy, and Coats' disease. Spontaneous separation of the ERM associated with posterior vitreous detachment (PVD) after photocoagulation has been reported.[1–3] We describe a case of ERM associated with Leber's multiple miliary aneurysms. Indirect photocoagulation surrounding the aneurysms led to PVD, which resulted in spontaneous peeling of the ERM with notable improvement in the visual acuity.

Case Report

A 17-year-old boy was referred to the Kyushu Kouseinenkin Hospital for metamorphopsia and blurred vision. Upon our initial ocular examination, his best-corrected visual acuity was 0.2 in the right eye and 1.0 in the left eye. His medical history was unremarkable, and there was no significant ocular history. In the right eye, fundus examination showed a thick macular ERM with radiating folds and distorted blood vessels (Fig. 1a). There was no PVD. Fluorescein angiography demonstrated mild leakage from these distorted vessels. In the peripheral retina, microaneurysms with fluorescein leakage, minimal hard exudates, and capillary dropout were observed (Fig. 1b), although there were no massive subretinal exudates. The anterior segments of the right eye were unremarkable.

The aneurysms in the peripheral retina of the right eye were treated with photocoagulation to prevent secondary exudative changes, which could cause further deterioration of visual acuity. We performed argon green laser photocoagulation with a 500-μm spot size, a duration of 0.2 s, and power settings sufficient to achieve gray-white burns. Photocoagulation was directed at areas of capillary nonperfusion surrounding the aneurysms. The total number of photocoagulation burns was about 200.

One month after the photocoagulation, the patient's best-corrected visual acuity improved to 1.0 in the right eye. The ERM spontaneously peeled off and contracted to a small white gliotic mass (Fig. 2a). Since a typical Weiss' ring was not observed, PVD appeared to be partial without the full thickness of the posterior vitreous membrane. The aneurysms showed less leakage in the fluorescein angiogram (Fig. 2b); consequently, no further photocoagulation directed to the aneurysms was performed.

Comments

Leber's multiple miliary aneurysms demonstrate vascular findings similar to those observed in Coats' disease, namely telangiectatic or aneurysmal vascular channels, vessel wall beading, and zones of capillary nonperfusion. The most characteristic ophthalmoscopic finding of Coats' disease is the massive subretinal exudates secondary to these vascular changes. Leber's multiple miliary aneurysms, which lack subretinal exudates, are considered to be an early or noninvasive form of Coats' disease.[4] Some reports describe

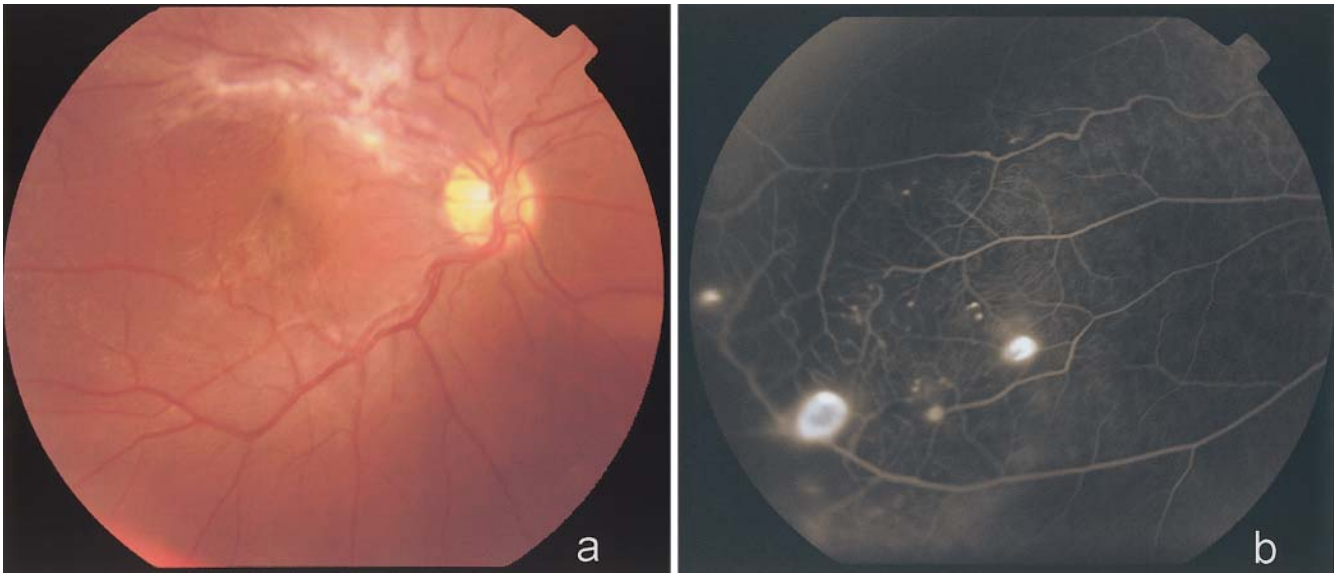

Figure 1. a Fundus of the patient's right eye at the initial examination. Epiretinal membrane is observed. **b** Fluorescein angiogram showing microaneurysms, telangiectatic capillaries, and capillary nonperfusion.

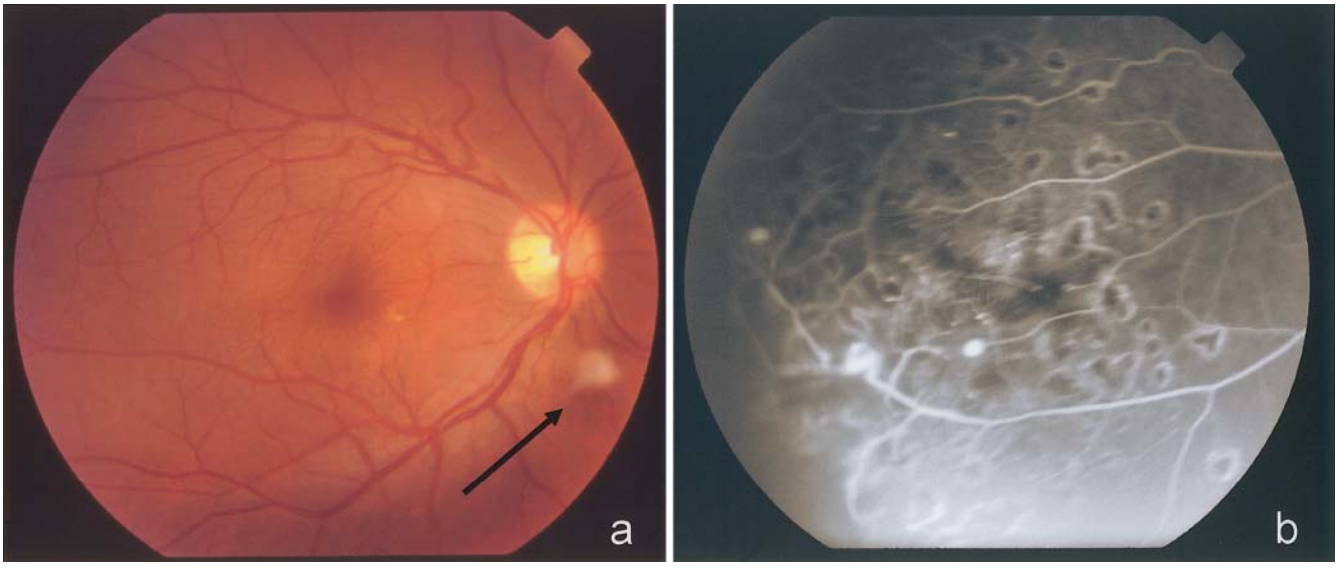

Figure 2. a Photograph of the patient's right fundus at 1 month after photocoagulation. The epiretinal membrane has peeled off and white gliotic material (*arrow*) floats in the vitreous cavity. **b** Fluorescein angiogram showing microaneurysms with less fluorescein leakage.

spontaneous peeling of an ERM in eyes of Coats' disease patients after photocoagulation to the aneurismal vessels.[2,3] In these reports, it was hypothesized that PVD induced by photocoagulation led to the peeling of the ERM. The present case demonstrated that even multiple miliary aneurysms that do not cause massive subretinal exudates have a potential to induce ERM formation. ERM associated with peripheral retinal aneurysms in young patients can sometimes evolve favorably without therapeutic intervention but just observation. Spontaneous separation of the ERM could occur in association with PVD induced by photocoagulation or mild chronic inflammation of the vitreous caused by aneurysms.[5]

Before considering vitrectomy, observation or photocoagulation to the retina around the aneurysms with exudative changes should be the treatment of choice for an ERM associated with so-called Leber's miliary aneurysms in young patients.

Key Words: epiretinal membrane, Leber's multiple miliary aneurysms, photocoagulation, posterior vitreous detachment, spontaneous separation

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DOI 10.1007/s10384-006-0390-5

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Optic Nerve Dysfunction Secondary to Long-Term Use of Lithium Carbonate

Lithium carbonate is widely used to treat psychiatric disorders, and papilledema secondary to lithium-induced pseudotumor cerebri has been reported in some cases.[1–3] Reports on this rare side effect are still scarce, with no report describing lithium-induced optic nerve dysfunction in Japanese patients.