tially in the right eye and completely in the left eye. The NVI disappeared, leaving no trace on clinical or fluorescein angiography, and intraocular pressures remained lower than 22 mm Hg. At 5 months’ follow-up, both eyes remained stable without NVI or glaucoma.

Case 2. A 7-month-old girl was initially seen with bilateral leukocoria from bilateral advanced retinoblastoma. Both eyes showed retinal detachment, subretinal seeds, and large retinoblastomas measuring up to 14-mm base and 7-mm thickness in the right eye and 24-mm base and 13-mm thickness in the left eye. The left eye further displayed diffuse vitreous seeds overlying total retinal detachment (Figure 2). Additional NVI was detected in the left eye and intraocular pressures were 18 mm Hg in both eyes. There was no angle closure or iris ectropion related to the NVI and the anterior chamber depth was normal in both eyes. As an alternative to enucleation, she was treated with high-dose chemoreduction as described earlier. Both eyes were also treated simultaneously with subconjunctival carboplatin for 3 cycles. At 1 month following initiation of therapy, the retinoblastomas regressed to a greatest dimension of 13-mm base and 3-mm thickness in the right eye and 14-mm base and 6-mm thickness in the left eye. The retinal detachment resolved completely in the right eye and partially in the left eye. The NVI disappeared based on clinical examination and fluorescein angiography. At 8 months’ follow-up, both eyes remained stable without NVI or glaucoma.

Comment. Iris neovascularization associated with retinoblastoma has been classically treated with enucleation. Enucleation is indicated in these cases because NVI generally reflects advanced retinoblastoma, extensive retinal detachment, and possible posterior segment ischemia. Additionally, NVI is a known risk factor for optic nerve and choroidal invasion of retinoblastoma, and these features predict potential metastatic disease. Children with histopathologic evidence of optic nerve or choroidal invasion are often treated with chemotherapy (same regimen as chemoreduction) following enucleation to prevent metastatic disease.

Currently, the decision for management of an eye with NVI and retinoblastoma depends on many factors, including the status of the opposite eye. If the opposite eye is normal or with less advanced retinoblastoma, then enucleation of the eye with NVI is justified because this likely reflects massive retinoblastoma or total retinal detachment, often with poor visual outcome. However, if both eyes are equally advanced, then initial chemoreduction as an option to bilateral enucleation might be warranted, especially in light of the 2 cases reported herein.

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Surgical Management of Macular Retinoschisis Associated With High Myopia

Macular retinoschisis is an uncommon complication of high myopia. Limited data are available on surgical management of macular retinoschisis in high myopia, and these reports involve patients with concurrent localized retinal detachment. We describe visual acuity and optical coherence tomography (OCT) outcomes following surgical management of macular retinoschisis (without retinal detachment) associated with high myopia.

Report of Cases. Case 1. A 53-year-old man with 14 diopters (D) of myopia experienced progressive visual loss over 2 years in the left eye, from best-corrected visual acuity (BCVA) of 20/30 to BCVA of 20/200, due to progressive macular retinoschisis. Fluorescein angiography showed no retinal vascular leakage or cystoid macular edema. Optical coherence tomography showed macular retinoschisis with outer retinal cystic spaces and a macular pseudohole. The central foveal thickness measured 519 µm (Figure 1A); there was no retinal detachment. Eight months after pars plana vitrectomy, removal of the posterior hyaloid, internal limiting membrane peeling, and fluid-gas exchange using 16% perfluoropropane gas, BCVA was 20/801 and OCT showed resolution of the macular retinoschisis and a central foveal thickness of 151 µm (Figure 1B).

Case 2. A 31-year-old woman with 18 D of myopia (axial length, 26.2 mm) experienced progressive...

visual loss over 18 months in the right eye, from BCVA of 20/30 to BCVA of 20/200, due to progressive macular retinoschisis. Fluorescein angiography showed no retinal vascular leakage or cystoid macular edema. Optical coherence tomography showed macular retinoschisis with outer retinal cystic spaces, traction from an attached posterior hyaloid, and a pocket of subfoveal fluid. The central foveal thickness measured 517 µm (Figure 2A). Seven months after pars plana vitrectomy, removal of the posterior hyaloid, and fluid-gas exchange using 16% perfluoropropane gas, BCVA was 20/40 and OCT showed improved macular retinoschisis, an absence of vitreomacular traction, and a small amount of subretinal fluid. The central foveal thickness measured 229 µm (Figure 2B).

Case 3. A 69-year-old woman with 17 D of myopia experienced progressive visual loss in the left eye over the previous year. During the previous 4 months, BCVA decreased from 20/50 to 20/400 OS due to progressive macular retinoschisis. Fluorescein angiography showed no vascular leakage or cystoid macular edema. Optical coherence tomography showed macular retinoschisis, tenting of the fovea as a result of vitreomacular traction centrally, and no subfoveal fluid. The central foveal thickness measured 577 µm (Figure 3A). One month following pars plana vitrectomy, removal of the posterior hyaloid, internal limiting membrane peeling, and fluid-gas exchange using 16% perfluoropropane gas, BCVA was 20/50. Optical coherence tomography showed no subfoveal fluid and the central foveal thickness was 279 µm (Figure 3B).
showed an improved foveal contour and absent vitreomacular traction, but there was residual macular retinoschisis. The central foveal thickness measured 279 µm (Figure 3B).

Comment. The existence of macular retinoschisis in highly myopic eyes has been described previously. In 2 of these articles including OCT evaluations, macular retinoschisis was accompanied by foveal detachment; also, treatment with pars plana vitrectomy, removal of the posterior hyaloid, internal limiting membrane peeling, and gas tamponade was associated with improved visual acuity and resolution of the foveal detachment. The only published study of the natural history of macular retinoschisis in high myopia included 21 eyes, 13 of which were followed up for 12 or more months. In the latter study, macular retinoschisis was found to be fairly stable in terms of visual acuity and retinal thickness; however, in 2 of the 4 eyes with foveal traction (presumably from the posterior hyaloid), a full-thickness macular hole developed.

Eyes with pathologic myopia may have multiple causes of poor vision, including chorioidal neovascularization, lacquer cracks, geographic atrophy of the retinal pigment epithelium, macular hole, and posterior staphyloma. In addition to macular hole, macular retinoschisis represents another category of maculopathy in these eyes that may be amenable to surgical management. As with macular hole, visual acuity outcomes are limited by the complex pathology in these highly myopic eyes. In our study, surgical management of macular retinoschisis without retinal detachment was associated with improved visual acuity and full or partial resolution of the macular retinoschisis. The patients described in this series had progressive vision loss over 12 to 24 months preoperatively; visual acuity and OCT changes improved postoperatively.

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Contractile Morning Glory Disc Causing Transient Monocular Blindness in a Child

Transient monocular visual loss is a rare complaint in children since they lack the vascular risk factors found in the elderly population. I recently examined a boy who experienced numerous daily episodes of intermittent monocular visual loss that corresponded to contraction of a morning glory disc anomaly in the involved eye.

Report of a Case. A 10-year-old boy complained of multiple daily episodes of sudden and complete monocular visual loss that lasted from 10 to 40 seconds and were followed by complete visual recovery. These episodes often occurred without any apparent stimulus or warning but were sometimes precipitated by turning his head abruptly, heat, and exercise. He had a history of migraine headaches but was otherwise healthy and taking no medications. Results of magnetic resonance imaging and magnetic resonance angiography were normal.

On examination, visual acuity was 20/20 OU. Both pupils reacted briskly to light and there was no afferent pupillary defect. Titmus testing showed 40 seconds/arc. Extracocular movements were full. There was no strabismus, nystagmus, or microphthalmos. Results of slit-lamp examination were normal. Retinoscopy disclosed a mildly myopic refractive error in both eyes. Retinal examination results were normal in the right eye but disclosed a morning glory disc anomaly in the left eye (Figure 1A).

At the onset of the visual loss, the left optic disc became smaller and hyperremic, with dilation of the retinal veins (Figure 1B). When these episodes of visual loss occurred, the patient’s left pupil became unreactive to light, and he developed a left afferent pupillary defect. Treatment with oral Benadryl, pseudoephedrine, and verapamil hydrochloride (60 mg twice daily for 1 week) yielded no improvement in symptoms. The patient has experienced no residual visual deficits from these episodes over 2 years of follow-up.

Comment. Optic disc contractility has been associated with the morning glory disc anomaly, optic disc coloboma, and peripapillary staphyloma. The posterior sclera and choroid of humans and monkeys normally contain nonvascular contractile cells with adjacent nerve terminals, suggesting active neural control. Histologically, the majority of optic nerve head colobomas have heterotropic intrascleral and choroidal smooth muscle fibers oriented concentrically around the distal optic nerve. Functional smooth muscle in this heterotropic location would explain the observed contractility in some of these excavated optic discs. Pollock attributed optic disc contractility to a passive flow of peripapillary subretinal fluid in his patient with morning glory disc anomaly and peripapillary retinal detachment. However, no peripapillary subretinal fluid was visible in the present case.

The rarity of transient monocular visual loss in association with contractile optic discs probably reflects the generally poor vision in the involved eye. However, Graether described similar symptoms in a 34-year-old man who had experienced complete loss of vision in his left eye as long as he could remember (Figure 2). The patient had no fam...