reported to reduce the macular edema and to improve visual acuity.\(^3\)

In both patients, no tissue growth factor was used to pharmacologically assist in the closure of the macular hole. Although these two patients represent a limited experience, patients with proliferative diabetic retinopathy and a macular hole may have a poorer visual prognosis after hole closure than patients with idiopathic macular hole.

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Macular Hole Following Severe Hypertensive Retinopathy

Macular holes occur most commonly in predominantly healthy women in their seventh decade of life.\(^1\) We followed up a young patient for 6 years who developed a full-thickness macular hole following an episode of hypertensive retinopathy. We propose a multifactorial cause of this macular hole.

Report of a Case. A 21-year-old black Haitian woman presented with decreased visual acuity and floaters of 4 months’ duration. She was receiving hemodialysis support three times per week for chronic renal failure with biopsy-proven membranoproliferative glomerulonephritis and seronegative systemic lupus erythematosus. Her visual acuity was 20/400 OU. The slit-lamp examination findings were normal. She had a minor vitreous hemorrhage in her left eye. Her fundus showed bilateral disc edema with diffuse retinal edema and hard exudates (Figure 1). There was no retinal neovascularization or serous retinal detachment. Cystoid macular edema was not noted and fluorescein angiography was not performed. The patient’s blood pressure was 210/120 mm Hg. She was admitted to the hospital with malignant hypertension.

The patient returned to the clinic 6 months later with continued poor visual acuity in her left eye.

She denied any history of trauma. Her visual acuity was 20/40 OD and 20/200 OS. The left fundus showed resolving vitreous hemorrhage and a stage 3 macular hole (Figure 2).

She returned to the clinic 6 years later after failing her driver’s license examination. Her visual acuity was 20/25 OD and 20/200 OS. The fundus showed peripheral pigmented abnormalities bilaterally and a macular hole in the left eye.

Comment. Atraumatic macular holes in young patients are rare. They have been reported in patients younger than 25 years in association with a lightning strike and congenital retinal arteriovenous malformation.\(^2,3\)

We suspect that several processes contributed to the development of our patient’s macular hole. The vitreous hemorrhage could have induced contraction of her prefoveal vitreous. Tangential vitreous traction on the fovea can cause formation of a full-thickness macular hole.\(^1\) Our patient had diffuse retinal edema with foveal hemorrhages. Structural damage from edema and hemorrhage combined with ischemic injury from vasoconstriction may have weakened her fovea, making her prone to develop a

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Figure 1. Fundus photograph of the left eye of the patient on presentation with a 4-month history of decreased visual acuity and blood pressure of 210/120 mm Hg. Note the disc edema, vascular sheathing, and widespread presence of hard exudates.

Figure 2. Fundus photograph of the left eye of the patient 6 months later. Visual acuity was 20/200 and she had developed a stage 3 macular hole.
full-thickness macular hole despite her youth.

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Painless Diplopia Caused by Extraocular Muscle Sarcoid

Orbital sarcoid is rare and almost always unilateral when it does not involve the lacrimal glands.1 To our knowledge, only two cases of orbital sarcoid limited to extraocular muscle have been verified by biopsy and reported in the literature.2,3 We describe the first case of a painless external ophthalmoplegia attributable to extraocular muscle sarcoid.

Report of a Case. A 43-year-old black woman, who was referred to the University of Maryland Eye Clinic, Baltimore, had painless horizontal and vertical diplopia for 3 months. Her relevant medical and ocular history were unremarkable. On examination in September 1992, the patient had visual acuity of 20/30 OD and 20/25 OS. Exophthalmometry readings were 20 mm OU, with a Hertel’s base of 102 mm. The patient had limitations in supraduction and infraduction of the right eye and in adduction of the left eye (Figure 1). Forced ductions revealed full range of motion, with normal resistance in the affected fields of gaze. Test results for the pupils, Amsler grid, and color vision were normal in each eye. The results of the slitlamp examination, the intraocular pressures, and fundi were unremarkable in both eyes. The results of a general physical examination were normal, and the patient was neurologically intact.

Findings from thyroid studies (thyroxine, 117 nmol/L; triiodothyronine uptake, 0.29; ultrasensitive thyrotropin [thyroid-stimulating hormone], 1.41 mU/L) and for erythrocyte sedimentation rate (16 mm/h) showed no abnormalities. The chest roentgenogram showed no abnormalities. A T1-weighted magnetic resonance image of the orbits revealed enlarged right superior, right inferior, and left medial recti, as well as enlarged lacrimal glands (Figure 2). The magnetic resonance image with gadolinium contrast medium revealed diffuse enhancement of the recti.

Biopsy specimens of the left medial rectus and the left lacrimal gland showed multiple, well-formed, noncaseating granulomas on light microscopy. Special stains for organisms, including periodic acid-Schiff, Grocott-Gomori methenamine silver nitrate, and acid-fast, were negative.

The patient was diagnosed with orbital sarcoid and oral prednisone (80 mg/d) was prescribed for 2 weeks followed by a very slow taper of the corticosteroid. The serum lysozyme (12.1 µg/mL) and serum calcium (10.1 mg/dL) levels were normal. The angiotensin converting enzyme level was initially 2700 nmol-L-1·s-1 but decreased to 1050 nmol-L-1·s-1 in the first month of treatment (normal range, 720 to 2280

Figure 1. Extraocular movements on presentation showing limited right supraduction, right infraduction, and left adduction.

Figure 2. Coronal T1-weighted magnetic resonance image of orbits showing enlarged right superior, right inferior, and left medial recti (asterisks), as well as enlarged lacrimal glands (arrows).