To summarize, this is the first reported case, to our knowledge, of choristomatous brain tissue in the retina. In this case, because the eye was blind and the diagnosis was in question, the most prudent method of management was to proceed with enucleation. Heterotopic brain choristoma, though extremely rare, should be added to the expanding differential diagnosis of leukocoria.

Evelyn A. Paysse, MD
David Coats, MD
Patricia Chévez-Barrios, MD
Houston, Tex

This study supported in part by an unrestricted grant from Research to Prevent Blindness, Inc, New York, NY.

Corresponding author: Evelyn A. Paysse, MD, Baylor College of Medicine, Texas Children’s Hospital, 6701 Bates St, CC 640.00, Houston, TX 77030 (e-mail: epaysse@bcm.tmc.edu).


**Ocular Hypotony Secondary to Spontaneously Ruptured Posterior Staphyloma**

We describe a woman with ocular hypotony secondary to a spontaneously ruptured posterior staphyloma. The staphyloma was effectively treated with a retrobulbar injection of autologous blood. A high-resolution 3-T magnetic resonance imaging (MRI) scan was useful in demonstrating retrobulbar fluid. We hypothesize that the injection of retrobulbar blood prompted the formation of a fibrotic scar that sealed the filtering site.

**Report of a Case.** A 39-year-old woman with high myopia was referred for further management of hypotony of the right eye that had been present for 1 month. Her ocular history was significant for high myopia treated with bilateral radial keratotomy 10-years prior to this episode and a choroidal neovascular membrane in the right eye that was treated with photocoagulation 4 years prior to this episode.

The patient’s current episode involved a history of acute loss of peripheral vision in the right eye while straining at the stool. She reported no pain with this episode but stated that her eye subjectively felt “soft and squishy.” An examination was performed 2 days later by an ophthalmologist who found the intraocular pressure (IOP) to be 2 mm Hg OD. No leaks were found in the keratotomy scars. Other than the submacular scar, the examination findings were normal. There was no history of retrobulbar injection. The hypotony with blurring persisted prompting her to seek care by another ophthalmologist. He diagnosed presumed leaks in her keratotomies. Sutures were placed in these scars, but the hypotony and blurred vision persisted despite no identifiable anterior leaks. The patient also reported an intermittently present “pocket of fluid” in the right inferior conjunctival cul-de-sac that persisted after the suturing.

Our examination recorded an uncorrected visual acuity of 4/400 OD and 20/40 OS. Intraocular pressures by applanation tonometry were 4 mm Hg OD and 12 mm Hg OS. The right pupil was pharmacologically fixed and dilated without an afferent pupillary defect. Confrontational fields and rotations were normal. Slitlamp examination results were significant for radial corneal scars in both eyes that were negative for leaks by Seidel test with and without mild digital pressure on the globe. Five sutures were in place across 2 of the right cornea scars. The anterior chambers were deep and clear. Gonioscopy in the right eye showed the ciliary body band to be 360° without evidence of a cyclodialysis cleft. Funduscopic examination showed a swollen optic nerve head and choroidal folds consistent with hypotony. A scar in the right macula consistent with the history of photocoagulation was also noted (Figure 1). Temporal to the right macula was a posterior staphyloma with a full-thickness chorioretinal defect (Figure 2). The temporal aspect of this defect revealed mobile sclera that would flap or un-

![Figure 1](https://archophth.jamanetwork.com/)

**Figure 1.** Right fundus with a swollen disc and choroidal folds consistent with ocular hypotony and a macular scar consistent with a history of previous photocoagulation.

![Figure 2](https://archophth.jamanetwork.com/)

**Figure 2.** Temporal to the right macula is a full-thickness chorioretinal defect with a posterior staphyloma.
B-scan ultrasound revealed a hypoechoic region posterior to the chorioretinal defect consistent with fluid (Figure 3). Orbital imaging with a 3-T MRI scanner was performed. On the T2-weighted images, there was increased signal consistent with fluid posterior to the right globe in the region of the chorioretinal defect (Figure 4) and a probable retro-orbital tract could be identified. Based on findings from the clinical examination and supporting imaging studies, a diagnosis of ocular hypotony was made.

Treatment options were evaluated with the goals of restoring the integrity of the right eye and improving the peripheral vision. Therapies for staphylomas have traditionally involved providing anatomical support with scleral patching. Given the difficulty of obtaining surgical exposure to our patient's posteriorly located scleral defect, a more conservative approach was aimed at scarifying or sealing the posterior filtering site. Instead of surgical patching, a retrobulbar injection of 2.5 mL of autologous blood was performed without complications. Both 1 day and 1 week after the blood injection, the IOP remained less than 5 mm Hg OD. Six weeks later the IOP increased to 10 mm Hg OD. The patient also reported the improvement of her peripheral vision in the right eye. For 3 months subsequent to the retrobulbar blood injection, the patient was seen by her primary ophthalmologist. Intracocular pressures remained between 12 and 13 mm Hg. Eleven months later she continued to report that the vision in her right eye was back to the level present before the hypotonic episode.

Comment. This case demonstrates what we believe to be the first reported case of a ruptured posterior staphyloma with ocular hypotony successfully treated with retrobulbar blood injection. The 3-T MRI and B-scan ultrasonography were useful in confirming the diagnosis of a posterior filtering site.

As with anterior blood patches, it is hypothesized that retrobulbar blood injection prompts an inflammatory response that may induce a fibrotic scar. Although it is certainly possible that the scleral defect would have closed spontaneously had we not performed the retrobulbar blood injection, both the lack of improvement before the injection and the timing of resolution afterward suggest that the blood injection may have facilitated the healing. In the present case, we believe the physiologic closure of the posterior filtering site was caused by the formation of a fibrotic scar secondary to the blood patch. Although the posterior rupture of a staphyloma leading to hypotony is an uncommon event, a posterior blood patch is a relatively noninvasive procedure that was beneficial in this case and provides a therapeutic option.

Michael A. Mahr, MD
James A. Garrity, MD
Dennis M. Robertson, MD
David C. Herman, MD
Rochester, Minn

This study was supported in part by Research to Prevent Blindness, New York, NY, and by the Mayo Foundation, Rochester, Minn.

This study was presented in part by Dr Robertson at the 12th Annual Angiography Conference, Girwood, Alaska, June 24, 2000.

The authors have no proprietary interest in any materials mentioned in this article.

Corresponding author and reprints: Michael A. Mahr, MD, Department of Ophthalmology, Mayo Clinic,
Primary Orbital Angiomatous Meningioma

The first tangible description of an intraorbital meningioma can be credited to Antonio Scarpa in 1816. Since then, our knowledge of meningiomas and especially intraorbital meningiomas has greatly expanded. In 1938, Cushing and Eisenhardt described 4 main subcategories of meningiomas, of which the vascular or angiomatous tumor was a minor subtype. We describe what we believe to be the first reported case of an angiomatous meningioma arising primarily from within the orbit.

Report of a Case. A 17-year-old adolescent girl had a 3-month history of progressive painless proptosis of the right eye (Figure 1). The proptosis appeared to worsen in the morning with progressive improvement throughout the day. An initial examination revealed evidence of mild resistance to retropulsion. Her ocular history was otherwise significant only for mild refractive error. A systematic medical record review was noncontributory. Her best-corrected near and distance visual acuity was 20/20 OU. Exophthalmometry revealed a 4-mm proptosis of the right eye. No afferent papillary defect was noted, and extraocular motility was full. A slit-lamp examination was unremarkable in both eyes. A dilated fundus examination revealed normal fundi as well as normal and symmetric optic nerves. Humphrey visual field tests revealed a possible nasal defect, which was not subsequently confirmed with Goldmann perimetry. A magnetic resonance imaging scan was performed. On the coronal T1-weighted, fat-suppressed, contrast-enhanced sequence, a lobulated mass was seen in the superomedial orbit; it partially encased the optic nerve, which was displaced inferolaterally (Figure 2). On the axial proton density series, the mass was seen to cause proptosis without any globe deformity (Figure 3). Within the mass, there was at least 1 vascular flow void.

The presumptive diagnosis was that of an orbital cavernous hemangioma. After informed consent was obtained, the patient underwent a combined medial and lateral orbitotomy with excision of the right orbital tumor. Surgical exploration revealed a poorly defined vascular tumor encasing the optic nerve, but it was not readily separable from the nerve with blunt dissection. The base of the tumor was therefore ligated, and the remaining portion of the mass was excised. Numerous sections at multiple levels were obtained from the specimen for review. A histopathologic examination revealed large intravascular spaces lined by endothelial cells and containing erythrocytes. Multiple septa were noted showing intense focal basophilia that did not stain for calcium. The pupils were found to be equal and reactive to light. The fi