Six months later, her visual function and examination findings were unchanged.

Comment. Improvement in vision rarely occurs in patients with AION due to GCA, presumably because there has been complete occlusion of the posterior ciliary arteries causing optic nerve head infarction. Although some series have reported improvement in up to one-third of patients, there has often not been an improvement in the visual field, suggesting that the apparent recovery could be an artifact of visual acuity testing (eg, learned ability to eccentrically fixate). In series in which visual acuity and visual field changes have been reported, improvement in both has been observed in 4% to 5% of eyes, although the improvement was not substantial in most cases. Factors that predict visual recovery remain unclear, although the chance of improvement might be higher when treatment with corticosteroids is started early.

Our patient with biopsy-proven GCA initially had no light perception in one eye, associated with signs of AION. She was immediately treated with prednisone and subsequently experienced dramatic improvement in both visual acuity and visual field over subsequent weeks. The presence of hyperemic rather than pallid optic disc edema and the delayed rather than absent chorioidal filling on fluorescein angiography suggest that there was severe inflammatory narrowing, rather than complete occlusion, of the posterior ciliary arteries or development of collaterals. We propose that this unusual extent of vision recovery occurred because there was reversible ischemia rather than infarction of the optic nerve head. We suggest that hyperemic optic disc edema and delayed chorioidal filling without posterior ciliary artery occlusion could predict a chance of improvement in patients with AION due to GCA.

Matthew J. Thurtell, MBBS, FRACP
Randy H. Kardon, MD, PhD

Author Affiliations: Departments of Neurology (Dr Thurtell) and Ophthalmology and Visual Sciences (Drs Thurtell and Kardon) and Veterans Affairs Medical Center (Drs Thurtell and Kardon), University of Iowa, Iowa City.

Correspondence: Dr Thurtell, Department of Ophthalmology and Visual Sciences, University of Iowa, 200 Hawkins Dr, PFP, Iowa City, IA 52242 (mj.thurtell@gmail.com).

Financial Disclosure: None reported.

Additional Contributions: Sohan S. Hayreh, MD, PhD, provided helpful discussions.


Morning Glory Disc Anomaly in Association With Ipsilateral Optic Nerve Glioma

Morning glory disc anomaly (MGDA) is typically a unilateral congenital disorder characterized by the funnel-shaped excavation of an enlarged optic disc. Retinal vessels emanate radially beyond a central white core, and the disc itself is encircled by an elevated region of chorioretinal pigmentation. Severe and, less commonly, rhegmatogenous retinal detachment may coexist. Infants with MGDA often manifest strabismus or leukokoria. Morning glory disc anomaly is associated with other midline developmental or vascular malformations. We describe a patient with MGDA and concurrent ipsilateral optic nerve glioma.

Report of a Case. A 26-month-old previously well Asian boy had a 12-month history of exotropia. There were no associated developmental delays, dysmorphic features, or neurocutaneous stigmata. Neurological examination findings were normal. Ophthalmologic examination revealed poor fixation of the right eye with a concomitant exotropia of 40 prism diopters at distance and near. Visual acuity was 20/360 OD and 20/47 OS with Teller acuity cards and there was a trace afferent pupillary defect (early release). Indirect ophthalmoscopy demonstrated classic features of MGDA, poor foveal definition, and possible shallow serous detachment (Figure 1). The left eye was normal.

Magnetic resonance imaging studies revealed enlargement of the prechiasmatic optic nerve and right lateral aspect of the optic chiasm with minimal peripheral enhancement along the retrobulbar right optic nerve and chiasm, consistent with an optic pathway tumor (Figure 2). A retinal defect was noted in the globe near the insertion of the optic nerve, and a shallow detachment was found. The left orbit and optic nerve were nor-

Figure 1. Fundus photograph of the right eye demonstrating morning glory disc anomaly with a central glial tuft, a radially oriented pattern of emergence of retinal vessels, and retinal detachment.
mal. Magnetic resonance angiographic and venographic findings were normal. The hypothalamic-pituitary axis was normal.

**Comment.** To our knowledge, we report the first case of an infant diagnosed as having MGDA and ipsilateral optic pathway glioma. Optic pathway tumors may lead to progressive vision loss and visual field defects.² Our patient has no vision deficit in the contralateral eye at this time.

The etiology of MGDA is yet unknown but may result from abnormal development of the lamina cribrosa and posterior sclera.¹ Persistent fetal vasculature in association with MGDA has been described. Vision is typically poor, with only 30% of patients achieving a visual acuity of 20/40 or better. Afferent pupillary defect is also common because the disorder is typically unilateral and retinal detachment can occur in the affected eye.

Morning glory disc anomaly has been reported in association with a variety of midline defects including hypertelorism, cleft lip and palate, agenesis of the corpus callosum, type I Chiari malformation, encephalocoele, and endocrinologic abnormalities involving the pituitary gland.³,⁴ Central nervous system vascular anomalies including moyamoya syndrome are seen with increased frequency.³ Morning glory disc anomaly is rarely associated with genetic disorders, although 2 cases have been reported in the setting of neurofibromatosis type 2, with distinctive clinical features not found in our case.⁶

We recommend that any patient with MGDA undergo dedicated magnetic resonance imaging for evaluation of other midline defects as well as magnetic resonance angiography given the association with vascular abnormalities. Early recognition and management of amblyopia and possible retinal detachment are essential to optimize visual acuity. Our patient, whose MGDA is seen in association with optic nerve glioma, faces the additional risk of vision loss in the contralateral eye. Thus far, he has not required any tumor-directed therapy. It is important that clinicians and radiologists be aware of this possible association of MGDA with optic nerve glioma as change in visual acuity or visual fields would prompt tumor-directed therapy to preserve vision in the contralateral eye. This report expands on the spectrum of clinical associations with MGDA.

**Author Affiliations:** Department of Pediatric Oncology, Dana-Farber Cancer Institute (Drs Bandopadhayay and Robison) and Departments of Ophthalmology (Dr Dagi), Neurosurgery (Dr Goumnerova), and Neurology (Dr Ullrich), Boston Children’s Hospital, Boston, Massachusetts

**Correspondence:** Dr Ullrich, Department of Neurology, Boston Children’s Hospital, 300 Longwood Ave, Boston, MA 02115 (nicole.ullrich@childrens.harvard.edu).

**Financial Disclosure:** None reported.


---

**Orbital Silicone Oil Granuloma Discovered During Enucleation**

Silicone oil tamponade is commonly used in surgical repair of recalcitrant retinal detachments. Complications of intravitreal silicone oil include corneal decompensation, cataract formation, and glau-