

UGH: Break an Arm to Save an Eye

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ABSTRACT

A 75 year-old-woman with pseudoexfoliation was referred for evaluation of decreased vision associated with recurrent vitreous hemorrhage in her right eye over several months. The nasal haptic of her posterior chamber intraocular lens was confirmed to be prolapsed into the sulcus in contact with uveal tissue on ultrasound biomicroscopy, and she was diagnosed with UGH plus syndrome. The offending haptic was amputated from the remaining IOL using Duet micro-scissors in the operating room, and two years after surgery, the patient remained symptom free without recurrence of vitreous hemorrhage in her right eye. Multiple surgical options are available for the management of UGH syndrome, however management can be challenging and must be tailored to each individual case.

HISTORY

A 75 year-old-woman was referred for evaluation of decreased vision associated with recurrent vitreous hemorrhage in her right eye (OD). Six months prior to presentation, she initially had episodes of painless intermittent blurry vision which occurred at a frequency of two episodes per month and spontaneously resolved over days. She denied any head or ocular trauma or other precipitating events. Artificial tears were started, punctal plugs were placed, and YAG capsulotomy was performed locally which resulted in minimal improvement of vision. The episodes of blurry vision had decreased in frequency (one per month), duration, and severity in the 2 months prior to presentation. However, a local retina specialist noted the nasal haptic of the posterior chamber intraocular lens (IOL) outside of the capsular bag and vitreous hemorrhage in her right eye, which prompted referral to our institution. The patient had cataract extraction with IOL placement (Acrysof SA60 single-piece lens) in both eyes (OU) 13 years prior. Her ocular history was otherwise remarkable for pseudoexfoliation syndrome, myopia with astigmatism, and dry eye syndrome. Her past medical, family, and social histories were unremarkable.

EXAMINATION

- Visual Acuity (Snellen, with correction): OD 20/20-2 and OS 20/15
- Pupils: OU: 5 mm to 4 mm, brisk reaction, No relative afferent pupillary defect (RAPD)
- Intraocular Pressure (Tonopen): OD 11 mmHg and OS 12 mmHg
- Gonioscopy (Spaeth grading system): Superior, Temporal, Nasal, Inferior: D45f 2+ OU

Slit lamp exam

OD

- Lids/lashes: Inferior punctal plug
- Conjunctiva/sclera: Clear, quiet
- Cornea: 1+ punctate epithelial erosions
- Anterior chamber: 1+ pigment and red blood cells
- Iris: pseudoexfoliation material, mild iridodonesis
- Lens: SA60 single-piece lens posterior chamber intraocular lens slightly shifted superotemporally with the nasal haptic prolapsed into the sulcus; Small clot of heme at the inferior edge of the open posterior capsule (**Figure 1**)

OS

- Lids/lashes: Inferior punctal plug

- Conjunctiva/sclera: Clear, quiet
- Cornea: 1+ punctate epithelial erosions
- Anterior chamber: Deep and quiet
- Iris: pseudoexfoliation material
- Lens: SA60 single-piece lens posterior chamber intraocular lens with open posterior capsule and mild phacodysgenesis

Dilated fundus examination (DFE) of the right eye demonstrated resolving hemorrhage inferiorly and was otherwise unremarkable. The DFE of the left eye was unremarkable.

Figure 1: Slit lamp photographs of the right eye demonstrates a prolapsed nasal haptic outside of a fibrosed capsular bag.

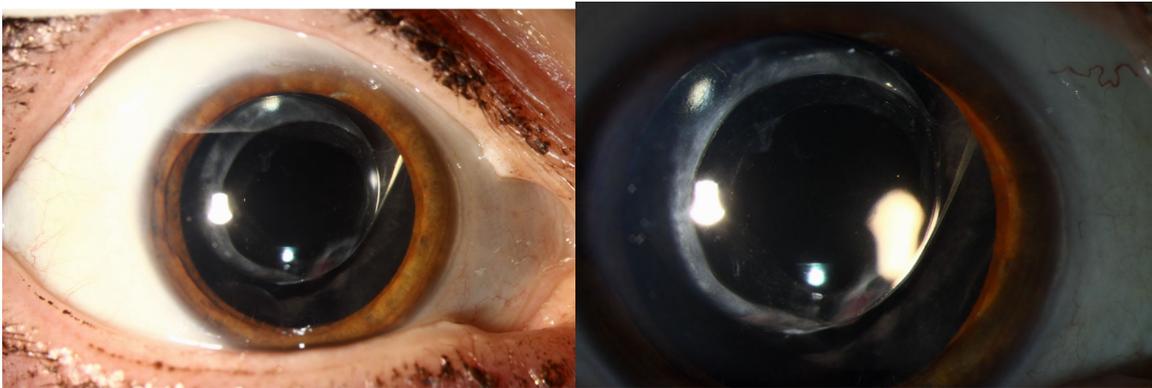
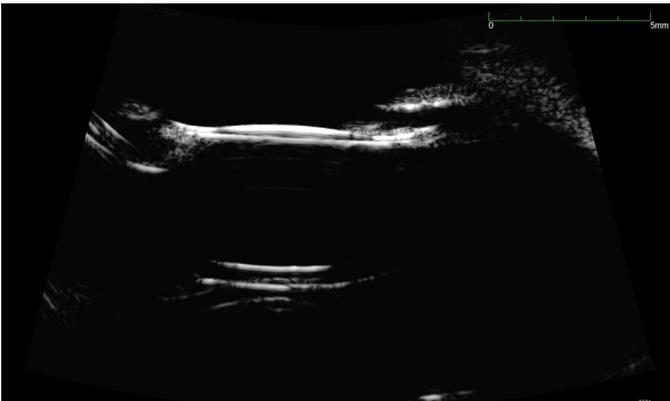


Figure 2: High-resolution ultrasound biomicroscopy of the right eye demonstrates prolapse of the nasal haptic of the posterior chamber IOL in contact with uveal tissue.



DISCUSSION and DIAGNOSIS

Uveitis-glaucoma-hyphema (UGH) syndrome was first described in 1978 and classically included uveitis, glaucoma, and hyphema in the setting of an anterior chamber IOL.[1] However, the term UGH syndrome is often used when one, two, or all three of these entities are present in the setting of an IOL causing irritation of the iris or angle structures. UGH plus syndrome is the name given to UGH syndrome in the presence of vitreous hemorrhage as in our case. UGH syndrome was first associated with anterior chamber IOLs [1] and may be more common with anterior chamber and sulcus IOLs given the close proximity to uveal tissue. Posterior chamber

IOLs in the sulcus, in-the-bag, or not completely positioned in-the-bag may contact uveal tissue and cause UGH syndrome as in our case.[2] It is recommended that single-piece acrylic IOLs (e.g., Acrysof SA60AT) and other IOLs designed for the capsular bag not be placed in the sulcus.[3]

The diagnosis of UGH syndrome may be elusive and difficult to make in certain cases. Patients may complain of transient vision loss, ocular pain, or photophobia. Slit lamp examination is essential in establishing the diagnosis as a poorly positioned IOL optic or haptic contacting uveal tissue may be directly observed as in our case. Hyphema, cell and/or flare, transillumination iris defects, pseudophacodonesis, or endothelial pigment may also be identified on examination. Gonioscopy may demonstrate blood within the inferior angle, signs of mechanical erosion, or increased pigmentation of the trabecular meshwork. Ocular hypertension is often present, and optic disc cupping may be present in advanced cases. High-resolution ultrasound biomicroscopy and anterior segment optical coherence tomography may be useful in determining the IOL position in relation to the iris or angle structures. (**Figure 2**)

Management

Management should be tailored to each individual case of UGH syndrome. While definitive management of UGH syndrome is surgical, medical management with topical corticosteroid drops, cycloplegics, and/or IOP-lowering medications can be used as temporizing measures if needed. Surgical options to relieve the offending haptic or lens may include removing, repositioning, exchanging, and/or securing the IOL.

We initially opted to observe the patient in our case given the decreasing frequency, duration, and severity of blurred vision and vitreous hemorrhage. However, the patient continued to have intermittent episodes of vitreous hemorrhage over the next few months, so it was decided to pursue surgical management. Given that the offending nasal haptic was free from the bag in the sulcus and that the capsular bag-IOL complex was relatively stable, the decision was made to amputate the haptic from the remaining IOL using Duet micro-scissors. [[Video 1](#)]

We felt that this would be a less risky option than repositioning the haptic within the adherent capsular bag or performing a lens exchange, especially given the patient's history of pseudoexfoliation in which the integrity of the capsule and zonular fibers may easily be compromised. In addition, she had an open posterior capsule from a previous YAG capsulotomy, which could also make a lens exchange more challenging. Regardless, lens exchange could be a reasonable option for UGH syndrome if needed, and multiple lens options [4,5] and fixation techniques [6,7] are available if there is poor capsular support. In one study, UGH syndrome represented one of the more common indications for IOL exchange, comprising 11.9% of IOL exchanges.[8] As far as stability of the capsular bag-IOL complex in our case, we did not feel that the capsular bag-IOL complex needed further stabilization. However, one should consider stabilizing a loose capsular bag-IOL complex if needed, and multiple excellent techniques to do so have been described. [9,10]

By postoperative week 3, the vision of our patient had improved without recurrence, and the number, size, and frequency of floaters had decreased. Visual acuity with correction was 20/20, IOP was 14 mm Hg, and there were no signs of new vitreous hemorrhage. At postoperative year 2, she had not had recurrence of blurry vision or vitreous hemorrhage, visual acuity with correction was 20/20, and the IOL remained stable. (**Figure 3**)

Figure 3: Slit lamp photograph of the right eye demonstrates a posterior chamber IOL with an amputated nasal haptic.



CONCLUSION

The diagnosis of UGH syndrome can be difficult and should be considered in patients with persistent transient vision loss. While multiple surgical options are available for the management of UGH syndrome, management can be challenging and must be tailored to each individual case to address the offending lens. In patients with pseudoexfoliation syndrome, care should be taken to minimize manipulation of the capsular bag-IOL complex, and amputating an offending haptic may be a reasonable option to do so in the management of UGH syndrome.

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Video 1: <https://bcove.video/2YzEAKv>