



ASOT NEWS



The American Society of Ophthamlic Trauma Newsletter

Rachel Israilevich, BS, and Allison Rizzuti, MD

ASOT 3rd Annual Meeting

Mark your calendar for Saturday, June 3rd 2023- The ASOT 3rd Annual Meeting will take place in New York City, NY. We are pleased to announce that this year's meeting will be an in-person event!

The meeting will be held at Columbia University Irving Medical Center and will feature a cocktail reception in the Vagelos Center. As one of the nation's most research-intensive medical schools, and located in upper Manhattan, this is an excellent location for the annual meeting.

. Scientific research presented in both paper and poster format will be featured. This meeting will display learning opportunities to promote skills and knowledge for providing excellent care for eye-trauma patients.

A limited amount of discounted hotel rooms in the local area for those attending the ASOT Annual meeting will be available. Please visit theasot.com for more information.



NEW YORK

**ASOT 3rd Annual Meeting
Saturday, June 3rd, 2023
Columbia University Medical
School
New York, NY**

**CALL FOR ABSTRACTS
DUE BY
MARCH 15TH!**

Abstract submissions must be received for consideration by **Wednesday, March 15th, 2023, at 5:00 pm EDT**. Please [click here](#) for guidelines and to submit an abstract for consideration.

Hot off the Press Highlights

The Ocular Trauma Score Underestimates Visual Recovery for the Most Severe Open Globe Injuries <https://doi.org/10.1016/j.oret.2023.01.021>

This retrospective cohort study compared visual outcomes following open globe injuries (OGI) to those predicted by the Ocular Trauma Score (OTS), and investigated the effect of secondary pars plana vitrectomy (PPV). There were 131 eyes with OGI included in the study, with older age and worse vision on presentation being associated with worse final visual acuity (VA). In less severe OGIs (categories 2-5), VA outcomes were similar to OTS predictions. In contrast, severe OGIs (Category 1) had a significantly higher likelihood of LP and HM vision at final follow-up (46%) than predicted by the OTS (15%) and lower likelihood of NLP vision (33% versus 74%).

In the 32% of study eyes undergoing secondary PPV, presenting vision was worse, but final VA did not significantly differ from other study groups. Therefore, this study highlights the importance of vitreoretinal surgical evaluation in the setting of severe OGI (especially OTS Category 1), as the OTS may underestimate visual potential and secondary PPV may offer significant visual improvement.

An interpretable model predicts visual outcomes of no light perception eyes after open globe injury [: doi:10.1136/bjo-2022-322753](https://doi.org/10.1136/bjo-2022-322753)

This retrospective study used a machine learning algorithm to develop a model ("VisionGo") for visual outcome prediction of vitrectomy for OGI-NLP eyes and comparison with the OTS. Data for creating VisionGo were collected from 459 OGI-NLP eyes across 19 medical centers in China. The model was then validated retrospectively via human-machine comparison and prospectively via real-world validation. Based on area under the ROC analyses, VisionGo was more accurate than both OTS and ophthalmologists in predicting possibility of regaining

regaining sight before vitrectomy is performed and at the time vitrectomy was completed. Real-world validation for VisionGo showed an AUC of 0.60 before vitrectomy, and 0.91 at vitrectomy completion. VisionGo is therefore a reliable model for predicting visual outcomes in OGI-NLP eyes undergoing vitrectomy, and may aid in clinical decision-making in such settings.

ASOT Featured case: Recurrent Inflammation

Jonah Blumenthal BS, Alexander Young, MD, Marisa Tieger, MD, Ankoor S. Shah MD. PhD. Boston Children's Hospital, Massachusetts Eye and Ear, and Harvard Medical School, Boston, MA, USA

A 6-year-old boy presented to the pediatric eye trauma clinic for follow-up of an open-globe injury caused by scissors. Two months prior, he had presented to our emergency ward with a zone 1 laceration with iris prolapse, a traumatic cataract, and numerous cilia entering the anterior chamber. He underwent primary repair with uveal repositioning, removal of four cilia from the anterior chamber, a lensectomy, and an anterior vitrectomy. He recovered with a visual acuity of 20/60 using a +8.00 diopters aphakic refraction. However, post operative slit-lamp biomicroscopy of the eye revealed two retained cilia: one within the fused anterior and posterior capsules at 3:00, and one within the sulcus between 4:30 and 6:00. He had no inflammation on once daily prednisolone acetate 1% topical dosing and seemed comfortable. Thus, his prednisolone was discontinued, and he was asked to follow up in one month.

Upon his return, one month later, he complained of persistent photophobia, and his mother noted new, intermittent redness of the injured eye. His visual acuity was remeasured at 20/50 with a refraction of +8.00 +4.50 axis 90. His anterior segment examination showed +0.5 cell and trace flare, the two retained cilia seen one month prior, and an additional cilium within the iris stroma at 5:30. His intraocular pressure measured 7 mmHg while the non-injured eye measured 20 mmHg. Given the persistent photophobia, recurrent inflammation, ocular hypotony, and retained intraocular foreign bodies, topical prednisolone acetate 1% therapy was re-initiated, and his mother gave informed consent to proceed with surgical removal of the cilia.

At the start of the procedure, careful examination showed three cilia incarcerated in the iris tissue and in the posterior chamber. Additionally, as seen in image 1, a cilium was noted posterior to the iris crossing the red reflex.

IMAGE 1

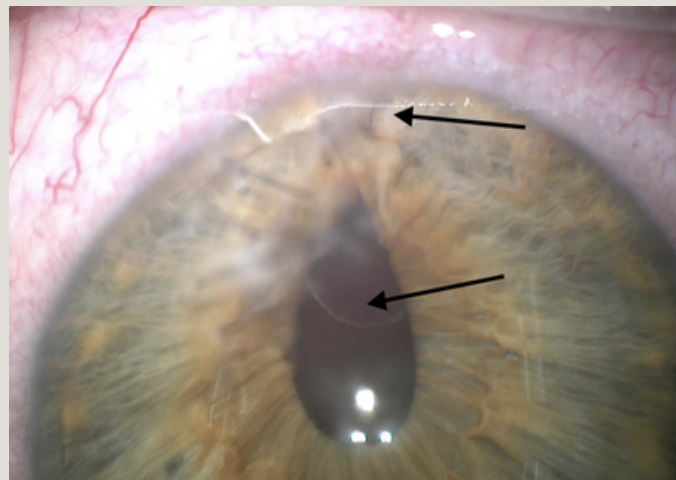
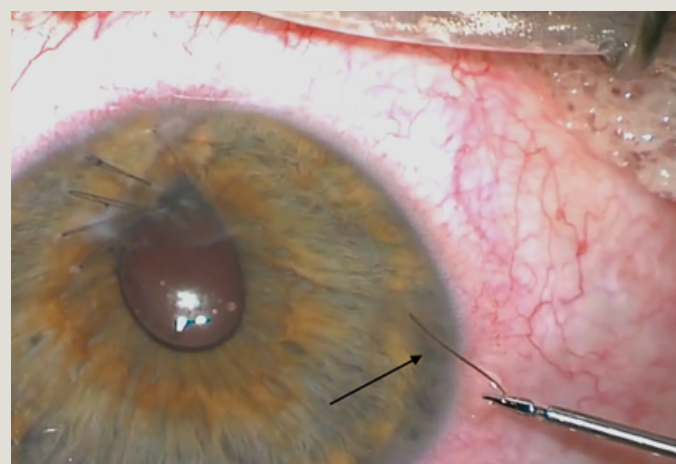


IMAGE 2



A perilimbal incision was made at 9:00 and cohesive viscoelastic was injected through the pupil into the posterior segment to prevent the cilia from floating posteriorly in the unicameral, post-vitrectomy eye. Dispersive viscoelastic was then injected into the anterior chamber to coat the endothelium in the area of the laceration to pressurize the eye and protect the prior corneal laceration. A pair of 23-gauge, straight, end-grasping forceps were inserted into the anterior chamber to extract the cilia starting with those in the iris.

ASOT Featured case: Recurrent Inflammation (continued)

.First, the cilium within the iris stroma was grasped and retracted, and it became clear that it had penetrated through the iris stroma having a component in the posterior chamber. As can be seen below in image 2, the cilium was removed through the initial incision.

Next, attention was turned towards two cilia oriented in the anterior - posterior axis and embedded in the iris at 6:00. Using gentle traction, each of these cilia were lifted out of the iris stroma and removed through the 9:00 incision. Two additional cilia at the 5:30 pupillary margin were noted to be embedded in the posterior chamber within fibrotic tissue with vitreous bands adherent to the cilia tips.

The vitreous bands were cut gently using 23-gauge, curved, intraocular scissor taking care to avoid creating small snips of hair during this process. The forceps were then used to slide the cilia from the fibrotic tissue. Upon further inspection of the anterior chamber, there appeared to be one additional cilium embedded within the iris stroma and scarred into the iris crypts at 6:00. This cilium was released and removed through gentle traction.

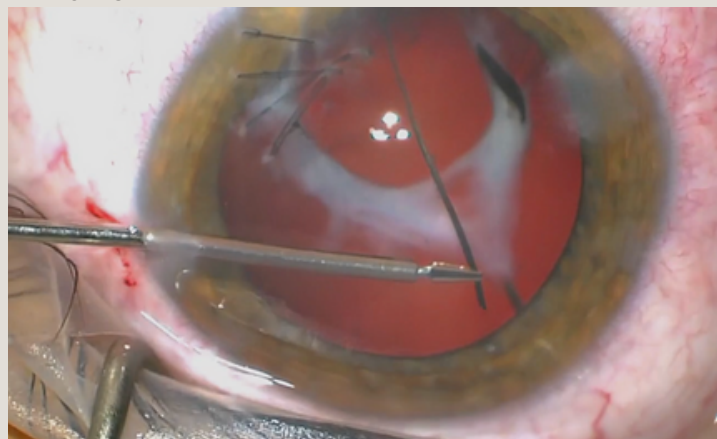
Suspecting that other foreign bodies may be present, a Koeppe gonioscopy lens was placed on the cornea, and the operating microscope was banked. The angle was found free of debris. A drop of tropicamide 1%, cyclopentolate 1%, and phenylephrine 2.5% on the ocular surface was used to dilate the pupil. Using the patient's incision site from his prior surgery, a new perilimbal incision was made at 2:00. A vitrector was inserted through this incision, and a 23 irrigator was inserted through the temporal 9:00 incision. An anterior vitrectomy was then performed to remove any remaining prolapsed vitreous and viscoelastic in the anterior chamber.

At this time, full dilation of the eye was achieved, and two additional cilia were visualized to be partially encapsulated within the fused anterior and posterior lens capsules. A thinner, smaller cilium was noted oriented rostral-caudal at 3:00 with the root of the cilium superiorly, and not within the capsular fusion. The vitrector and irrigator were removed, and cohesive viscoelastic was injected through the pupil into the eye to prevent the cilia from migrating posteriorly. Forceps were reinserted through the 9:00 incision, and the 3:00 cilium end was gripped. Using gentle superior traction, the cilium was teased out of the capsule.

Next, attention was turned to the large, thick cilium, seen below in image 3, with its root at the edge of the fusing anterior and posterior capsules at 9:00. This cilium extended towards 6:00 where its distal extent could no longer be visualized.

Using the intraocular forceps, the cilium root was grabbed and teased out of the capsule with a clockwise circumferential and slow motion to ensure that no other tissue was disturbed. The cilium was then removed from the eye. There were no other foreign bodies noted at this time.

IMAGE 3



ASOT Featured case: Recurrent Inflammation (continued)

Attention was then turned to removing the viscoelastic and any vitreous within the pupil, sulcus, and just posterior to the fused lens capsule using the vitrector. Once complete, the eye was pressurized with filtered air, and the incisions were closed with 10-0 Polyglycolic Acid suture. The air was largely removed and replaced with balanced salt solution and 0.1 mL of moxifloxacin 0.5%. Dexamethasone 0.4 mg was injected into the inferior nasal subconjunctival space.

Now, 14 months post operatively, his best corrected vision is 20/50 with a contact lens measuring +11.5 -2.00 x 175. He has no recurrent inflammation, and his intraocular pressure has normalized.

This case highlights several pearls in the ongoing post-operative management of open-globe injury:

- 1) Persistent inflammation after open-globe injury necessitates evaluation for retained foreign bodies.
- 2) Foreign bodies may become visible with time through migration or improved media clarity.
- 3) When removing foreign bodies of the anterior segment, intraoperative dilation may allow sequential examination of the angle and iris followed by the sulcus, lens, and anterior vitreous.
- 4) Gonioscopy may identify “hidden” foreign elements within the angle but also in the sulcus and ciliary body (especially if there is poor mechanical dilation) as well in areas poorly visualized due to corneal scarring.
- 5) Use of a viscoelastic in removal of retained foreign bodies, especially in a unicameral eye, may decrease the risk of posterior migration.

Finally, one must always remember to be careful with topical mydriatics containing phenylephrine as they can lead to hemodynamic instability in our youngest patients and in those whose natural epithelial barrier is broken (ie. lacerations of the eye, following conjunctival peritomy, etc.). Informing the anesthesiologist that this medicine is being administered is critical to patient safety.

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ASOT UPCOMING EVENTS - SAVE THE DATE!



June 3, 2023:

ASOT's 3rd Annual Meeting
New York City, NY

Call for Abstracts closes

MARCH 14TH



August 4-5, 2023:

The International Society of
Ophthalmic Trauma
Cartagena
de Indias, Colombia.



American Society of Ophthalmic Trauma

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