



THE RETINA TIMES

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CASE STUDY:

Rare Case: Macular Hole Develops After Cataract

Interview with Dr. Shirkey

Case presentation:

Ms. X is a 68 year old woman presenting with acute onset severe distortion in her right center vision. She had an uncomplicated cataract surgery 9 days prior to symptoms. Her visual acuity was 20/500 in the right eye. Pertinent findings included an intact posterior capsule, and a quiet post-surgical eye without inflammation or infection. The fundus was blonde and peripheral paving stone degeneration was present.

A Stage 4 full thickness macular hole (photo above) with a well centered intraocular lens was seen on examination.

This patient was given the option for surgical repair and elected to proceed. Surgery with vitrectomy, membrane peeling with Brilliant Blue G staining of the macula, and gas tamponade with 20% SF6 gas was performed a week after presentation.

In her case, the hole closed with a single surgery, which we see in more than 90% of macular hole repair cases. Vision improved gradually with 20/40 vision at the 3 month visit. Interestingly, this patient is now forming a posterior capsule opacity and will need YAG capsulotomy in the future.

Question: What is the risk of macular hole following uncomplicated phacoemulsification cataract surgery?

This is a rare case. Only a handful of case reports are known where a macular hole forms following cataract surgery. This is the only time I have ever seen this situation. In the literature, there are less than 10 cases reported. (Reference #1, 2)

Question: Why could this happen after cataract surgery?

Although the exact etiology is unclear, pre-existing holes can be present prior to cataract surgery. These may not be

visible prior to cataract surgery even on OCT when a dense cataract interferes with OCT imaging. Vitreal tractional forces as well as macular edema are thought to play a role in the formation of these macular holes. In the traction hypothesis, changes in the vitreous can induce either an acute detachment of the posterior cortical gel or significant traction of the vitreous gel around the fovea, resulting in formation or rapid progression of macular holes. Subclinical macular edema and epiretinal membrane formation can also be causes.

Question: This patient now will need a YAG capsulotomy. What is the risk of the macular hole reopening after YAG capsulotomy?

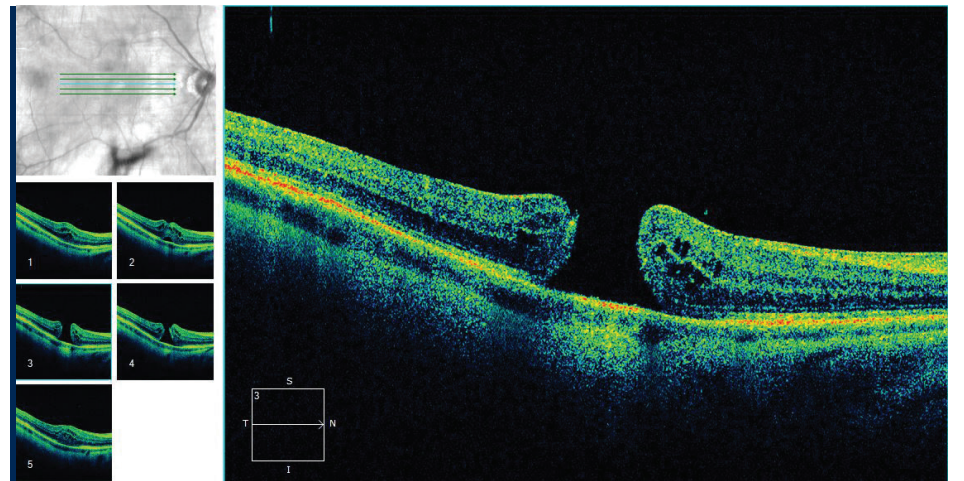
Extremely rare, there are only a handful of cases reported. (Reference #3)

However, the patient should be forewarned that this is a possibility. Addition of post -YAG topical steroids usually are protective from this rare occurrence.

Question: When should you refract a patient after macular hole repair?

Vision may improve up to 6 to 12 months after macular hole repair. Certainly, a new refraction will not hinder the fovea from healing. This is more a cost consideration for the patient. Most patients are stable enough for refraction in 1-2 months after surgery. If the patient quickly heals and is in the 20/20 to 20/30 range, there is no need to delay refraction and new spectacle correction. If there is posterior capsule opacification, I would wait until YAG capsulotomy was completed prior to given a spectacle correction.

Question: When should you perform a cataract surgery when a patient needs vitrectomy for macular repair?



Full thickness macular hole following cataract surgery

Cataract surgery may be performed prior to, during, or after macular hole repair. Performing cataract surgery is sometimes necessary prior to retina surgery if the cataract is dense and there is an inadequate view for macular surgery work.

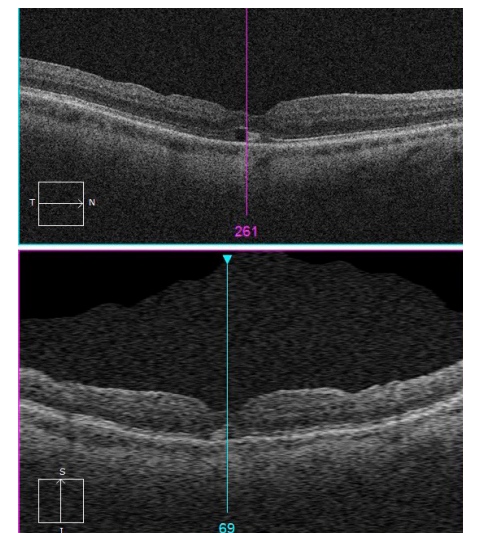
If there is no significant cataract, often the macular surgery is done in a phakic eye. The thought is that a better calculation for intraocular lens choice can be done in an intact fovea, after the macular hole is repaired. Our European counterparts often perform cataract surgery along with vitreous surgery. At Retina Associates, my preference is to try to separate the procedures. This gives the patient the ability to have the finest refractive intraocular lens cataract surgery. Also, scheduling both a cataract surgeon and retina surgeon on the same day can be challenging.

Question: Is there a risk that a surgically repaired macular hole will reopen after cataract surgery?

The short answer is yes, but again rare. The most consistent risk factor is the development of cystoid macular edema which is highly correlated with macular hole reopening. (Reference #4)

Question: What recommendation do you have for anterior segment surgeons regarding surgery on previously repaired macular hole?

These cases need to be watched closely post cataract surgery with OCT studies to identify any macular edema. This edema can happen at the first week or even the first few months postoperatively. A



Successful closure of macular hole with healing photoreceptor layer

preemptive prescription of topical steroid for a longer duration, for example 3 to 4 weeks is a good idea.

Question: Can you wait to see if macular hole will spontaneously close without surgery?

Although stage 1 macular holes may spontaneously close, this case was a Stage 4 hole which has a poor prognosis if not repaired. Waiting for Stage 2 through Stage 4 macular holes is not advised. An impending hole or Stage 1 hole can be watched if the vision is adequate for the patient.



Submitted by
Belinda L. Shirkey, MD

References:

1. Patterson JA; Ezra E, Gergor Z. Acute full-thickness macular hole after uncomplicated phacoemulsification cataract surgery. *American Journal of Ophthalmology*. 2001 Jun;131(6):799-800 Acute full-thickness macular hole after uncomplicated phacoemulsification cataract surgery.
2. Amell N, Lashkari K. Macular hole following cataract extraction. *Semin Ophthalmol*. 2002 Sep-Dec;17(3-4):196-8.
3. Garcia-Arumi J, Palau MM, Espax AB Reopening of 2 macular holes after neodymium:YAG capsulotomy. *J Cataract Refract Surg*. 2006 Feb;32(2):363-6.
4. Bhatnagar P, Kaiser PK. Reopening of previously closed macular holes after cataract extraction. *Am J Ophthalmol*. 2007 Aug;144(2):252-9.

WHAT'S HAPPENING

APR 16 2020
Ashland Dinner Program
The Winchester

APR 18 2020
Dr. Busquets Welcome Reception
The Castle + Keeneland
Day at the Races

APR 23-25 2020
KOA Spring Conference
Lexington
Hyatt Hotel & Conference
Center

MAY 10-11 2020
KAEPS Spring Conference
Louisville
The Omni

JUN 24 2020
CE (2) Credit Hours
New Albany
The Exchange



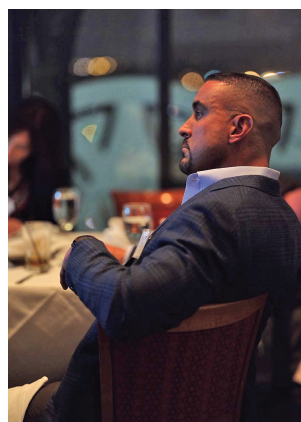
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EDUCATION

is a pillar of our practice.

RAK's physicians are proud to partner with Indiana University to provide continuing education lectures for Optometry. We are honored to host eye doctors from across Kentucky and Indiana for a series of talks focusing on retinal detachments and the latest on inherited retinal disease.



AWARDS & RECOGNITION



RAK spotlights stellar team members for going above and beyond with our patients!



Thank You!

Many thanks to Dr. Sheila Garcia for taking such great care of our patients during her tenure with Retina Associates. Join us as we wish her well on her future endeavors!

Kentuckiana's Retina Specialists

COMING SOON APRIL 2020

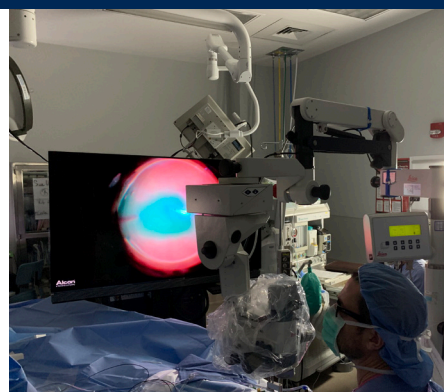
Retina Associates Opening a New Office in Jeffersonville, Indiana

Retina Associates is delighted to bring specialized retina care close to home for Jeffersonville, Indiana and surrounding residents and will be located at 3544 E. Tenth Street. For more information about the new Jeffersonville location or to schedule an appointment you may reach the Scheduling Department at

(800) 627-2020

JOIN US

The surgeons at Retina Associates of Kentucky are the first in Kentucky to have 3D Digital Assisted Vitreoretinal surgery powered by TruVision. We are committed to education and showing our colleagues in eye care how we take care of patients. If you are an eye doctor, we welcome you to join us in surgery or clinic to observe. If you have interest please feel free to contact Kristin Willard at (502) 649-3681 or by email: kwillard@retinaky.com.



RESEARCH

If you are interested in information regarding past clinical trials or participation criteria in our current clinical trials, please contact our research department:

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VITRECTOMY FOR FLOATERS COMMONLY ASKED QUESTIONS

Q: Who makes a good candidate for Vitrectomy?

A: The best patient for vitrectomy is one who reports that their vision is affected from moving haze or clumps that interfere with their functioning. These patients typically report clouds, gnats, or fogginess floating into their visual axis. They can often move their eyes temporarily to see, but the haze then comes back moments later. We see this more often in patients with multifocal lens implants. We seldom operate on patients under 50 years old.

A: The risk/benefit ratio is better for people who have already had cataract surgery, since they are no longer at risk for cataract progression. They also are familiar with outpatient eye surgery, and the surgery for floaters is similar to cataract surgery.

Q: How does it improve the patient's quality of life?

A: It offers patients a better quality of vision in all situations, particularly when they are moving their eyes to see. Many patients tell us they are able to drive in a wider range of lighting conditions, giving them more freedom. It also allows them to read both books and computers more easily, making them more likely to read if they enjoy it, and often helping people with their jobs. The benefits are similar to people who have cataract surgery.

Q: Are there new techniques that have proven less risk?

A: Yes, we are using a smaller gauge instruments, such as 25 or 27 gauge. Most cases don't need sutures.

Q: Do you have to replace the vitreous with something?

A: The normal vitreous is mainly saline with a cobweb structure within it. We remove the disabling cobweb clumps and floaters, and the body replaces it with its natural saline within hours.

Q: What type of anesthesia is used for this procedure?

A: Local anesthetic

Q: Where does RAK operate?

A: Procedures are done in an outpatient surgery center

- Louisville: DuPont Surgery Center, or Norton Pavilion downtown
- Lexington: Lexington Surgery Center (Harrodsburg Rd) or St. Joseph East
- Danville: Ephraim McDowell Central Kentucky Surgery Center
- Ashland: Kings Daughters Medical Center (KDMC)

Q: What can patients expect post-operatively?

A: Surgery day zero, post-op visit in our office day zero or day one, then follow-up visit 1-2 weeks afterward, then sometimes 1-2 months afterward.

A: Shield only the first night.

A: Drops or ointment for a week.

A: No face down positioning.

A: Patients may have some surface irritation during the first 72 hours. Many folks have their vision back in that eye within 24-48 hours.

Q: What are the post-operative restrictions?

A: No heavy bending or lifting for 1-2 weeks.

Q: Are patients risk for cataract surgery greater after having this procedure?

A: Yes. We find that in 2/3 of patients, the vitrectomy speeds up cataract formation. So if they would normally have cataract surgery in 5-10 years, it may be more like 3-5 years.

Q: Does Medical Insurance cover the cost?

A: Yes. Insurance considers this a disabling condition, and pays for the procedure.

Q: Does RAK use laser for treatment?

A: RAK doesn't treat floaters with laser (called laser vitreolysis), as we don't believe the safety of laser vitreolysis has been fully studied. Also, the YAG laser was not designed originally to be used for the vitreous, whereas the vitrectomy machine is specifically designed for surgery on the vitreous. Tens of thousands of vitrectomies are performed annually, compared to only hundreds of laser vitreolysis cases. In further comparison, vitrectomy permanently and thoroughly removes not only focal floaters, but also large clouds of opaque vitreous which often are the core element of the patients' complaints. The cloud reduces contrast and cause symptoms. The laser may be effective at reducing the size of large individual floaters, but is not effective in the more common cloud of floaters that bother most people. It also does not offer the opportunity for permanent removal with no recurrence.

If you're considering a patient for this procedure, you may call our office to schedule an evaluation at 1-800-627-2020. Or if you have further questions, feel free to email our doctors, Info@RetinaKY.com.