

Eye to Eye

Summer 1998

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Glaucoma AND Cataracts: A SPECIAL FEATURE

Glaucoma patients frequently call or write us with questions when they are diagnosed with cataracts. Since both conditions affect their vision, they are particularly concerned that treatment for one condition could adversely affect the other. In this issue of Eye to Eye, we address many of these concerns for our readers in a special feature combining our "Living with Glaucoma" story with our column "Doctor, I Have A Question."

When we received the following letter from Max T., we were so impressed with his case that we asked if he would be willing to talk to Annette Golia and share his story with our readers. We are pleased to present his story, and hope that our readers will be encouraged by this account of one patient who has faced the challenge of glaucoma and cataracts...and succeeded.

Gentlemen:

When I was 60 years old I was told that my IOP was on the high side and that I should see an Ophthalmologist. Which I did. It was diagnosed as POAG. That was when I was 60 years of age. I am now a few months away from my 80th Birthday.

During the elapsed years I have been on a number of different drops. I made regular visits to the Doctor and from time to time the drops would be changed. Currently I am using OCUPRESS 12 hours apart and XALATAN before bedtime. This treatment is used in both eyes.

On October 31, 1989 I had a TRABECULECTOMY on my right eye and as predicted in your Magazine I have a Cataract on this eye. My question is: in view of the prior invasion of this eye can a cataract operation be done safely and with the desired results. I am a living example that by seeing your Doctor and following prescribed Medication you can defeat this blinding eye monster.

Yours very truly,

Max T.

P.S. As far as I know no one in my family had this problem. However, I was, as you pointed out, a near-sighted individual person from about 40 years of age.

By Robert Ritch, M.D.
Medical Director,
The Glaucoma Foundation
Professor of Clinical Ophthalmology and Chief of Glaucoma Service The New York Eye
and Ear Infirmary

Yes, trabeculectomy can lead to cataracts in later years. Depending on the complete medical condition of your eyes, cataract surgery can be performed and the desired results obtained. However, the doctor performing the cataract surgery must be made fully aware of your glaucoma as it will need to be monitored closely throughout the procedure. Good luck!

Living with Glaucoma

as told to Annette Golia, Editor

I didn't become nearsighted until I was 40 years old. Before that, my vision was fine. In fact I was a bombardier during World War II. When I noticed that my eyesight was changing, I visited an optometrist who determined I needed eyeglasses for distance vision. For many years, I wore glasses primarily for driving and playing golf. Then, one day, I noticed a small sty on my eyelid. I made an appointment with an ophthalmologist. During a routine exam, he discovered that my intraocular pressure was elevated. He sent me to an eye clinic near my home for further treatment. It was then that I found out I had glaucoma. Eye drops were prescribed to control the pressure in both eyes.

That was back in 1981 -- three years before I retired. For years, I used the drops just as I was instructed -- one drop in each eye once a day. Needless to say, it was a very small price to pay to save my vision. My condition was monitored by my eye doctor through regular check-ups every six months. My prescriptions for eye drops would change as new drugs became available. I continued to use them religiously in an effort to keep my pressure stabilized.

Over time, the drops did stop working. When my pressure became elevated again, my doctor suggested laser surgery to alleviate the condition. The laser treatment worked very well on my left eye. In fact, to this day, my pressure in that eye is under control with the use of daily eye drops.

The right eye is another story, however. At first the pressure went down as a result of laser surgery. But, over time, my pressure became elevated again. I had more laser surgery, but the outcome was not long lasting. Finally, in 1989, I had a trabeculotomy on my right eye. My doctor informed me that 90% of people who have this surgery develop cataracts later in life. In 1994, it happened to me. At first, it didn't bother me much. I continued my daily activities with little or no modification. Then, my vision became very cloudy, and my doctor and I knew it was time to have the cataract removed.

Because cataract surgery elevates eye pressure, it was necessary to have another trabeculotomy at the same time. It has been six weeks since both procedures were performed. Immediately after the surgery, I had very poor vision. But, slowly but surely, my vision has returned. It is not quite normal yet, but with glasses, I can see. Over the past few weeks, I have been able to resume driving. I plan on getting back to my golf game this coming weekend.

I must admit I was frustrated and impatient at times when I was experiencing poor vision and I faced several surgeries. But, I didn't back away. My advice to anyone braving glaucoma and/or cataract or other eye surgery is to follow the advice of your doctor. Carry out your treatments, including using eye drops, as you are instructed. If you require

surgery, have it done. Don't be afraid. My cataract surgery was neither painful nor stressful, and it has restored my vision.

I will turn 80 in February and I'm looking forward to many more productive years in my life. I also plan to make sure that I take care of my vision so I can enjoy the things I love, such as my family, gardening, driving, and, of course, playing golf.

Readers' Note: To learn how to improve your doctor/patient relationship, and for tips on how you can take an active role in preserving your vision, please call The Glaucoma Foundation's hotline (1-800-glaucoma or 1-800-452-8266) to order reprints of our series, "The Patient's Role in the Treatment of Glaucoma."

Doctor, I Have a Question

Medical Director, The Glaucoma Foundation Professor of Clinical Ophthalmology and Chief of Glaucoma Service The New York Eye and Ear Infirmary

Q: What is the difference between cataracts and glaucoma?

A: The optical system of the eye allows us to see. When light enters the eye, it is focused by the lens onto the retina, which perceives the image, much in the same way a camera lens focuses light onto the film to record a picture. As we age, the normally clear lens begins to thicken and gradually becomes discolored. This condition is called a cataract. This results in a loss of vision, and occurs at different rates in different individuals.

Vision loss in glaucoma occurs because of damage to the optic nerve, which connects the eye to the brain. Because of its similarity to the nerve cells (called neurons) of the brain, once it is injured it cannot be repaired. The loss of nerve cells is irreversible.

Cataracts and glaucoma may occur together in the same person. For most people, these two disease processes are separate and distinct and may progress at different rates.

It is important to remember that a cataract is a reversible form of vision loss and that glaucoma is not. Permanent loss of vision from glaucoma, however, can be prevented in most people by early detection and careful follow-up examinations to detect early signs that the eye is being damaged, followed by appropriate, timely intervention should these signs develop.

Q: Can cataract surgery restore the sight I've already lost from the cataracts?

A: Modern cataract surgery, in which the cataractous, hazy lens is removed through a tiny incision (using a technique called phacoemulsification), is designed to restore vision loss due to the cataract. Following removal of the cataract, a small, plastic lens (called the intraocular lens or lens implant) is inserted into the eye to allow the eye to focus clearly once again. This lens is permanent and does not typically require replacement or reoperation. The chance of visual improvement following cataract surgery for most patients is greater than 95%. Once again, cataract surgery will reverse the vision loss due to the cataract, but not due to other diseases such as glaucoma, diabetes, or macular degeneration.

Q: I had a hard time finding the right medication to treat my glaucoma. I'm worried my doctor will have to change my drops now that I have cataracts. Is this necessary?

A: For most patients, the slow development of a cataract will not require their physician to alter the management of their glaucoma. There are some exceptions to this, however. The group of medications called miotics, which includes pilocarpine and carbachol (most of these medications have bottles with green caps) often result in a smaller pupil in addition to lowering the intraocular pressure. When the pupil is small, less light enters the eye. As the cataract worsens, a smaller pupil permits even less light to enter the eye. This may upon occasion cause your doctor to substitute another agent for the miotic drop.

Q: What is a nuclear cataract?

A: The lens of the eye has different structures and levels, and is organized, like an onion, in layers. A thin tissue capsule surrounds the lens. The outermost layers are called the cortex and the inner section is called the nucleus. The most common portion of the lens to become hazy is the nucleus, and this is termed a nuclear cataract. Other people develop cortical cataracts.

Q: Could the use of steroid drops for a few weeks at a time cause cataracts to develop?

A: No. Steroid eye drops (or even steroid pills or lotions) can cause cataracts to develop or worsen, but only after prolonged use. For most individuals, this often requires years of steroid therapy. Despite this, steroid eye drops should only be used under a doctor's direction, as these potent medications can cause other problems within the eye, such as a worsening of some viral illnesses or increased eye pressure in susceptible patients.

Q: Can a person who has had glaucoma and cataract surgery wear contacts?

A: Most people who undergo cataract surgery no longer need to wear contact lenses because their nearsightedness or farsightedness is usually corrected when the lens implant

is placed. This correction of vision should be discussed before surgery, so that the patient and the doctor are pleased with the postoperative visual results. Although patients who undergo cataract surgery alone may usually be able to tolerate contact lenses after surgery, some individuals who also undergo glaucoma surgery may not be able to wear contact lenses after surgery because of changes which occur on the surface of the eye after glaucoma surgery. The use of contact lenses after eye surgery should be discussed with your doctor both before and after the surgery.

Your question is very important to us and others with glaucoma. If you have a question about glaucoma, please write to:

Doctor, I Have a Question
c/o The Glaucoma Foundation
33 Maiden Lane
New York New York 10038
1-800-GLAUCOMA
fax: 212-504-1933

E-Mail: glaucomafdn@mindspring.com

From the Desk of the Executive Director

For glaucoma sufferers waiting for a cure... research must seem agonizingly slow. Why can't science find the answers to avoiding blindness now?

The fact is that science has made significant progress in the fight against glaucoma. There are new medications to relieve pressure, new advances in surgical techniques, and new approaches to dealing with glaucoma beyond just lowering intra-ocular pressure. And The Glaucoma Foundation -- with your support -- stands at the forefront of research that is continuing to unlock the puzzles of glaucoma.

Foundation-sponsored research focuses on two areas of great promise: molecular genetics and optic nerve rescue and restoration. Already it has produced important results. Just last year, researchers in Iowa discovered a gene that causes some cases of juvenile glaucoma, afflicting thousands of young people, often under age 20. A test for that gene is now being developed that will some day allow doctors to detect the condition before it develops. A gene for congenital glaucoma has also recently been discovered. Others are very close to being identified.

Research we fund in the crucial field of optic nerve rescue and restoration will hopefully lead to the partial restoration of sight in some people who are blind due to glaucoma, a major medical breakthrough that can't come a minute too soon. Already, optic nerve cells have been successfully transplanted in laboratory experiments. With precious research dollars, The Foundation is funding exciting neuroprotection research by outstanding investigators.

But the best way to jump-start breakthroughs, in our view, is for scientists working in related but different disciplines to brainstorm together, trading information and generating new thinking. That's why The Glaucoma Foundation originated The International Scientific Think Tank on Optic Nerve Rescue and Restoration, which meets annually. Unlike many other scientific gatherings, the focus is not on presentations but the unpredictable interchange which leads to new ideas. It was so pioneering, that at our first meeting four years ago, laboratory neuroscientists and specialists treating glaucoma patients-- many of whom had never sat together in one room -- had to carve out a common language to facilitate that exchange!

The 1998 Think Tank meets September 25-26 in New York City. Internationally-known experts have been specially invited from all over the globe to participate in this intensive two-day exchange. Why do they come? To quote Sek-Jin Chew, M.D., Ph. D., of the Singapore Eye Research Institute, and a member of our Scientific Advisory Board: "The innovative Optic Nerve Think Tank of The Glaucoma Foundation has spurred the development of neuroprotectants at an unprecedented speed." Our Think Tank has created such a ripple effect that other groups are picking up on the ideas generated from it. And that's great news. Accelerating projects which promise to make a difference in the lives of millions of people by improving glaucoma treatment, and eventually finding cures, is our common goal.

Foundation's Scientific Advisory Board Meets at ARVO to Review Grant Applications

Members of The Glaucoma Foundation's Scientific Advisory Board, joined by Foundation staff, traveled to Fort Lauderdale, Florida in mid-May for The Association for Research in Vision and Ophthalmology's (ARVO) annual meeting, representing that organization's 70th anniversary. As an exhibitor at ARVO, which is host to scientists and researchers from around the world, our exhibit booth provided researchers and clinicians with information about our grants in optic nerve rescue and restoration and molecular genetics, as well as our offer to supply educational brochures for both the general public and glaucoma patients in doctors' reception areas.

The Foundation's Scientific Advisory Board also convened during this time to review the spring grant-in-aid applications, totaling 10. This Board's recommendations were forwarded to The Foundation's Board of Directors for review. Look for descriptions of the newly awarded grants in the next edition of Eye to Eye.

The Glaucoma Foundation Attends AARP's Biennial Convention in Minnesota

by Ali Hodin, Program Coordinator

The Glaucoma Foundation is pleased to report on our first participation in the American Association of Retired Persons' (AARP) Biennial Convention, held this year in Minneapolis, Minnesota. Between June 2 and June 4, staff members represented The Foundation to the 20,000 members of the age 50+ population who attended, all of whom are at increased risk of developing glaucoma due to age.

The Foundation's exhibit booth was in a central location, enabling us to speak with more than 1,000 seniors during the three-day meeting. This marked a new level of direct education among an at-risk population for The Glaucoma Foundation.

The staff received a warm welcome from the attendees, who participated in the convention to learn more about the programs and services that are available to this mature population and bring this information home to local members. One female member named Hilda, who represented the 70+ generation, expressed her enthusiasm in seeing glaucoma represented by The Foundation at AARP and her gratitude for the information she receives in our newsletter.

Visitors to The Glaucoma Foundation booth were given the opportunity to:

- Take free literature and join The Foundation's mailing list;
- Speak with a member of our trained staff about any glaucoma-related questions;
- Seek advice on how to encourage loved ones to "get their eyes examined";
- Watch a demonstration on how to place eye drops (any medication) within the eye most effectively;
- Complete a questionnaire to see what risk factors he/she may have; and
- Learn about Edith Marks' book, *Coping With Glaucoma*.

AARP members, numbering more than 30 million, account for more than one-quarter of all Americans age 50 and over. Demographically, the biennial convention statistics show that the audience is largely between 60 and 70 years of age and equally divided between the sexes. With such a large at-risk constituency, we felt that it was important to get our message disseminated and understood, by attending this convention. Thanks to AARP for inviting us to participate; we look forward to continuing to work with you and your members.

For information on The National Eye Institute Clinical Trials on Glaucoma, visit their new WebSite at: www.nei.nih.gov

Two Newly Approved Glaucoma Medications

Dorzolamide Hydrochloride - Timolol Maleate Ophthalmic Solution

Dorzolamide hydrochloride - timolol maleate ophthalmic solution is a new drug approved by the FDA within the last few months. Marketed under the name "Cosopt" by Merck & Co., this drug represents the first combination drop treatment for patients with ocular hypertension or open-angle glaucoma who have had beneficial effects from the two drops given separately.

The drug consists of two components, dorzolamide and timolol, each of which works to decrease the aqueous (fluid) flow into the eye. The first component is a carbonic anhydrase inhibitor (CAI), marketed under the name "Trusopt" by Merck & Co., and the second is a beta1 and beta2 (non-selective) adrenergic receptor, marketed under the name "Timolol" by Merck & Co. Studies indicate that additional reduction of IOP with the use of this combination drug is possible, compared to using either of the drugs alone.

Using a combination drug treatment could reduce the need for multiple-bottle patient regimens, thereby assisting patients in following a simpler, less confusing treatment schedule. The combination drop is usually administered twice daily. Topical drugs can be absorbed systemically, meaning that they can affect the body generally. Accordingly, the same types of adverse reactions that are attributable to sulfonamides and/or systemic administration of beta-blockers may occur. During the manufacturer's trials, the most common side effects reported were: taste perversion, stinging or burning of the eye, blurred vision, eye itching, and eye redness caused by congestion of blood vessels within the eye.

Brinzolamide Ophthalmic Suspension, 1%

Brinzolamide is a newly FDA-approved drug marketed under the name "Azopt" by Alcon Laboratories. Brinzolamide is a topical carbonic anhydrase inhibitor (CAI), meaning that it functions to reduce aqueous fluid flow into the eye, thereby lowering intraocular pressure (IOP). This drug is typically administered to patients with ocular hypertension or open-angle glaucoma.

Clinical trials have shown IOP reduction from brinzolamide to be equal to that of dorzolamide 2% (Trusopt, manufactured by Merck & Co.), which is the only other topical CAI currently on the market; and the therapy was "demonstrated to be safe, and well tolerated." Patients in the study also found brinzolamide to be more comfortable than dorzolamide, as a result of the pH, and this could encourage patients to follow the course of treatment prescribed by doctors more stringently.

Oral carbonic anhydrase inhibitors have been used by glaucoma patients for over three decades. However, systemic side effects such as fatigue, gastrointestinal disturbances,

and a feeling of general discomfort or uneasiness have often caused patients to request that their doctors change their drug treatment. In the topical form (eyedrops), CAIs are considered to be effective in lower doses, usually below the level which causes the above systemic side effects. Brinzolamide is typically prescribed for use three times a day. Possible side effects of this topical drug include: allergy, taste perversion, stinging or burning of the eye, blurred vision, eye itching, and eye redness.

Readers' Note: If you are interested in using dorzolamide hydrochloride - timolol maleate ophthalmic solution or brinzolamide, you should consult your eye doctor.

The Glaucoma Foundation Receives a Major Donation from The Allene Reuss Memorial Trust for Minority Outreach Program

Making Progress Toward a World Without Blindness

At the end of April, we received the wonderful news from representatives of The Allene Reuss Memorial Trust that the Trust's trustees had approved a grant totaling \$150,000 over the next three years, in support of The Foundation's Minority Outreach Program. This grant was awarded in response to The Foundation's proposal outlining the need for early testing to prevent blindness from glaucoma, specifically in people of African descent who are at four to six times higher risk for developing this disease. This landmark grant for The Foundation will allow us to expand our screening and education program. (The Foundation is currently seeking the balance of the funds required for the program.)

The Allene Reuss Memorial Trust, administered by the Bank of New York, was established in the will of Mr. Henry Reuss, who toward the end of his life lost the sight of one eye and became partially blind in the other. His living legacy is named for Allene Tew Reuss, his stepmother with whom he remained close until her death in 1955. The Allene Reuss Memorial Trust is dedicated to treating and preventing blindness and vision impairment.

The Minority Outreach Program is an organized grass-roots campaign to reach people of African descent with a hands-on message of prevention through glaucoma screenings and education. The Program will provide testing for glaucoma to at-risk people in non-threatening settings at free events in community centers or other similar locations. Initially, The Program will target four communities in New York City, to provide glaucoma exams, distribute educational literature, and increase public awareness through media dissemination of the message to "Get Tested." The first of these events is planned for New York City's Harlem later this year. Our intention is to build upon this experience to create a replicable model combining community-based screenings with targeted literature and information distribution. Over the course of the initial three years, we hope to expand the program within New York City and to other major cities in the United States.

It has long been a goal of The Glaucoma Foundation to educate those at risk for this disease about the importance of early detection, prevention and treatment to potentially save the sight of numerous individuals, while lessening the burden on federal, state and local agencies which serve the blind. We are proud to welcome our partner in this project, The Allene Reuss Memorial Trust, as we make every effort to achieve a world without blindness.

For more information on how you can help The Glaucoma Foundation or about The Minority Outreach Program, please call me at 212-504-1902.

A Thank You to Our Donors

(gifts received February 16 through May 31, 1998)

The Glaucoma Foundation is pleased to acknowledge the following individuals, corporations, and foundations who have made substantial contributions to support our many programs. We appreciate the support of all of our donors and will continue to acknowledge their support in each issue of Eye to Eye.

Theodore & Maria Bollt Family Foundation

Gerald B. Cramer Family Foundation, Inc.

Mr. & Mrs. Thomas Gallagher

Claire La Motta

Merck & Co., Inc.

Sanky Perlowin Associates, Inc.

Donald & Sylvia Robinson Family Foundation

Kathryn & W. Harry Schwarzschild Fund

Helena Segy

Gary B. Smith

Western Springs National Bank & Trust

Tribute Gift Program

The Glaucoma Foundation is pleased to acknowledge the following Tribute Gifts, which provide valuable financial support for The Foundation's many projects, and recognize the special individuals in the lives of our donors.

In honor of Mother's Day:

Gloria H. Buechele from Mark Buechele

In memory of:

Tom Blomberg from Judy Scardino

Harry Bruce from Jean Weaver

Mabel G. Cope from West Springfield High School

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Helen Imberman from Irene & Richard Sherman

Marie Merritt from Sheryl Sherman

Wyoza Morgan Moore from IS109

Sunshine Fund

Caroline Picone from Anna Guamera & Family

To receive a Contribution Package or Tribute Gift Program Package or to make a donation by phone, please call The Foundation's Development Office at (212) 504-1902.