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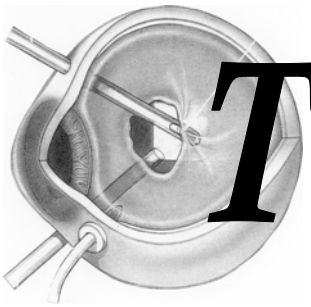

The Light Pipe

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The newsletter of Georgia Retina, P.C.

Update on Photodynamic Therapy for Choroidal Neovascularization

Until recently, photodynamic therapy (PDT) for choroidal neovascularization (CNV) had been demonstrated to be effective only for subfoveal lesions which were at least 50% classic; that is, sharply demarcated with early progressive leakage on fluorescein angiography.

The second report of the VIP study (Verteporfin in Photodynamic Therapy) recently published in the American Journal of Ophthalmology, May 2001, looked at occult lesions without a classic component, and showed a treatment benefit. As you know, the majority of patients with the exudative form of ARMD present with occult, or poorly defined CNV.

The VIP trial was a multicenter placebo controlled randomized trial of verteporfin (Visudyne) therapy versus sham treatment in 339 patients throughout Europe and North America. The lesions had to be ≤ 5400 microns and visual acuity of better than 20/100. The treatment protocol was the same as that reported previously, and is the same that we have been using in our practice.

On average, patients in the study received five treatments over 24 months of follow up. The primary outcome was "moderate visual loss" approximately equal to 3 lines of Snellen acuity.

There was no difference in the visual acuity between the treated and untreated groups for the first 12 months; however, angiographic results favored the treated group even early on. Between 12 and 24 months, however, the treatment benefit became apparent. Of 225 verteporfin-treated patients, 54% were likely to have lost at least 15 letters on the chart, versus 67% of the placebo treated group. 30% of the treated group lost 30 letters, versus 47% of the control group. This was highly statistically significant (p = .001). Contrast sensitivity was also better in the PDT treated group at both 12 and 24 months, for the subgroup with

(Continued on page 4)

Cystoid Macular Edema (CME) - A Review

Cystoid macular edema is frequently responsible for central visual loss, ranging in severity from minimal subjective blurring to legal blindness. There are numerous causes; some quite common, others very rare.

With CME, the normal foveal depression is lost, the retina is thickened, and may have an increased yellow reflex. Biomicroscopy or fluorescein angiography should reveal typical cystoid spaces in a radial orientation within the neurosensory retina. Histopathologically, these cysts are in the outer plexiform layer, and often involve the outer nuclear layer.

One of the most common causes for CME is Irvine-Gass syndrome following cataract surgery, particularly if there has been a break in the posterior capsule, anterior vitrectomy, or an AC IOL. In fact, subclinical angiographic CME has been shown to occur in a high percentage of eyes following cataract surgery, but usually does not affect visual acuity

(Continued on page 3)

How to *Really* Do a PRP

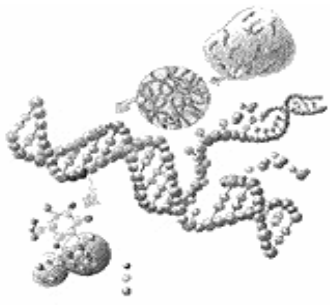
Preparation. Panretinal laser treatment is more uncomfortable than most ophthalmic laser procedures that we perform. Many patients tolerate it without medication, but some patients tolerate the procedure better with oral sedation or a retrobulbar injection. For initial panretinal laser treatments in patients who do not have media opacities, we will often use no medication. This initial experience gives us the ability to assess the patient's needs for future laser treatments. Mental preparation of the patient is critical. We coach them prior to the procedure that they may experience mild to moderate discomfort during the procedure, and occasionally a twinge of sharper pain. We inform them that this discomfort is self-limited, and their awareness of discomfort will dissipate when the procedure is completed. Better patient compliance is always achieved if the patient knows what to expect. We think it is worth informing them that this procedure tends to be more uncomfortable than other retinal laser procedures, because the laser spots are larger, the power higher, and number of spots much greater. If the patient has had a YAG or a focal laser treatment in the past, we are sure to let them know that this will be a different experience.

Technique. When panretinal laser treatment is being used in a patient who is at risk of vitreous hemorrhage or who has vitreous hemorrhage, it is often an excellent idea to direct most of the initial laser treatment to the inferior hemiretina outside the arcades. In those patients, it is likely that the inferior area may be inaccessible to future laser treatments, if there is recurrent hemorrhage. For other patients, treating the nasal hemiretina first may be valuable in minimizing exacerbation of macular edema. Although we do not believe there are scientific studies to substantiate that approach, there are studies showing that laser anterior to the equator causes less macular edema than posterior laser. In applying the panretinal spots, you do not need to have heavy white burns. Gray burns are usually sufficient. For the most part, blue wavelength laser no longer has a role in retinal treatments due to increased dispersion and possible macular absorption. If you have a blue-green laser, make sure that you use the filtered green light exclusively for the treatment. If you are having difficulty penetrating with a conventional argon green laser, and you have access to alternate wavelengths, consider using a yellow or red wavelength. If the patient has vitreous hemorrhage or cataracts, it is impressive how much more easily a krypton red laser can penetrate. Of course, for those patients with media opacities, for which you cannot get a visible burn even at maximum power, you need to reconsider your approach. Giving this patient a retrobulbar injection may permit laser treatment to be successful by increasing the duration to 0.2 or 0.5 seconds. You can also increase the power density by cutting the spot size down from a 500 micron spot at the retinal surface to a 300 micron spot size. The pan-funduscopic lenses often make the laser treatments easier by penetrating media opacities and allowing visualization of a wider treatment zone. Of course, one always needs to be careful to maintain one's orientation with these lenses because of the reversed, inverted images. One must always be diligent in applying panretinal laser treatment, that one does not cause an inadvertent foveal burn. As a rule for doctors who are doing infrequent panretinal laser treatments, it may be advisable to first place a few rows temporal to the macula, as a reminder to the doctor about the orientation of the macula. This also creates a barrier that will soon

(Continued on page 5)

Vanderbilt Study of the Genetics of Age Related Macular Degeneration

Georgia Retina has been selected as a study center to participate in the Vanderbilt University Study of the genetics of age related macular degeneration. The study is looking at sibling pairs with ARMD. Patients with ARMD are questioned to identify a sibling with the disease. Gene mapping is performed on both siblings to identify genetic patterns of inheritance and to hopefully, develop a blood test which, in the future, may identify those at high risk for developing the disease. Participants in the study would have to undergo stereo-photography of 7 standard fields, and give a blood sample on a single occasion. The results of the gene mapping are kept strictly confidential and in fact, are not released even to the participants, since the proper interpretation of this information is so new, as to be largely unknown. There is no cost to the patients to participate, including the examination and photography. If you have any patients, who are known sibling pairs with ARMD, please let us know. It is not necessary that both siblings reside in the Atlanta area. We can arrange for a study coordinator to contact and interview the family member, and obtain a blood sample.



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unless more severe.

Microvascular damage, particularly common in diabetic retinopathy, retinal vein occlusions, or radiation retinopathy, frequently causes CME. Less common idiopathic juxtafoveal capillary telangiectasia (IJCT) causes edema involving less than 360° of the macula.

Many forms of uveitis cause CME. In pars planitis, CME is the major cause of visual loss, and the prime determinant of treatment. Behçet's disease, Crohn's, rheumatoid arthritis, and sarcoidosis are frequently associated with CME in the presence of ocular inflammation.

CME is often seen in the late stages of exudative ARMD, due to transudation of subretinal fluid, and represents a poor visual prognosis due to chronic anatomic changes. Any syndrome associated with subretinal neovascularization, such as ocular histoplasmosis or angioid streaks, can have a similar effect.

Peripheral retinal lesions must be ruled out in any patient with macular edema. Coat's disease, peripheral capillary hemangiomas, and malignant melanomas of the choroid are all capable of inducing CME. Hypotony from any cause is also associated with CME. This can be secondary to glaucoma filtering surgery, wound leaks, choroidal detachment, blunt trauma or ocular ischemia, among others.

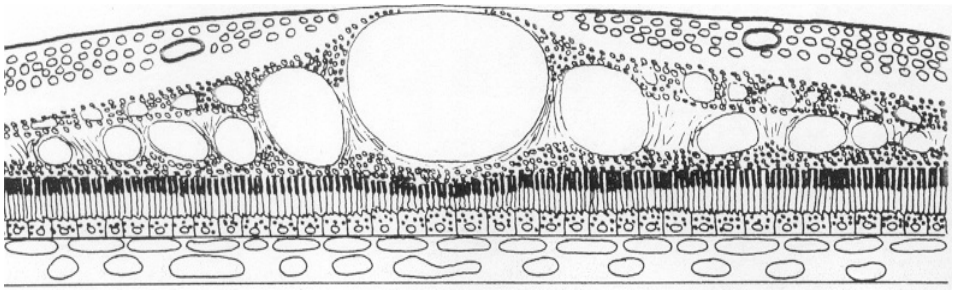
Optic nerve swelling often causes macular edema. True papilledema, pseudotumor, cat-scratch disease, and rarely ischemic optic neuropathy can cause secondary macular edema, particularly when chronic.

Traction on the macula is also capable of inducing CME. Epiretinal membranes are often associated with secondary CME. Similarly, traction from proliferation in diabetic retinopathy can cause CME even without fully detaching the central macula.

Less common causes include retinitis pigmentosa, X-linked retinoschisis, and niacin toxicity.

Other diagnoses which mimic CME include macular pucker, early macular hole formation, central serous retinopathy, arterial occlusions with a cherry-red spot, Stargardt's disease, and Best's disease.

Treatment of CME varies with the severity of visual loss, anatomic changes, and underlying cause. Most commonly, topical steroids with or without topical non-steroidal medications are the first line of



treatment in Irvine-Gass syndrome, or any CME associated with inflammation. If not effective enough, these medicines can be combined with periocular steroid injections, oral steroids, or oral non-steroidal medications.

In CME secondary to vascular disease such as BRVO and NPDR, laser has been the mainstay of treatment, and is proven to be effective, while not necessarily restoring perfect acuity. The laser can be used to directly treat microaneurysms and telangiectatic capillaries, or can be used in a grid fashion in the area of thickened retina. Care must be taken to avoid central and paracentral scotomas.

Peripheral lesions can be treated with laser or cryopexy, often with remarkable resolution of peripheral and central edema. However, if lipid deposits have formed in the fovea prior to treatment, or as a result of treatment, the visual results can be disappointing.

In mechanically induced CME, as in PDR or macular pucker, pars plana vitrectomy and membrane peeling are highly effective at reducing the edema. If vitreous is incarcerated in the anterior segment, vitrectomy is also very helpful.

Some new alternatives are on the near horizon. Direct placement of steroids into the vitreous cavity, either by injection or placement of a long-term delivery device similar to a Vitrasert, seems to be very effective in CME mediated by inflammation. Just as interesting is the positive response in diabetic macular edema to steroid treatment in pilot studies, using a long-term delivery system. Pars plana vitrectomy may play a role in treatment of BRVO-induced CME. In this situation, careful dissection of the artery which appears to compress the underlying vein can visibly reduce congestion and edema very rapidly.

Of course, all of these treatments have potential side effects. Steroid treatment in any form can raise intraocular pressure, accelerate cataract formation, and cause significant systemic morbidity. Vitrectomy carries all the risks of ocular surgery.

Our Physicians

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Scott I. Lampert, M.D.
Jay B. Stallman, M.D.
Haris I. Amin, M.D.

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occult-only CNV. A higher percentage of placebo treated eyes also developed classic CNV which then progressed beyond the boundaries of the initially treated area.

In most patients, some fluorescein leakage persists, but in this study, by 24 months, fluorescein leakage was absent in 42% of the treated eyes versus 29% of the controls.

The treatment benefit was greater for patients with either smaller lesions at baseline, or those with relatively lower levels of visual acuity (less than 20/50). Treatment may not be beneficial for those patients with both larger lesions and good visual acuity (greater than 4 disc areas and 20/50). Also, while there are definite statistical benefits, it is rare for there to be a large and noticeable improvement in vision.
Ten of 225 treated patients (4.4%) had a severe vision decrease (at least 20 letters) within 7 days of treatment. Half of these recovered vision at least partially. Because of the overwhelmingly predominant presentation of patients with occult rather than classic leakage, this data presents us with another option for treatment of a much larger group of patients. Currently, these patients are only treatable with transpupillary thermotherapy (TTT), which, while promising, is still awaiting the outcome of its first randomized, multicenter trial. When appropriate, we employ TTT, and have found it beneficial in many patients. No study directly comparing PDT to TTT has been performed. Of course, as is often the case, the FDA originally approved PDT based on the initially reported data, and restricts its use to those patients with predominantly classic CNV. Guided by this, as of this writing, Medicare still only covers this extremely expensive treatment for those patients, and not patients with occult disease. The cost of the treatment is in excess of $2400, which includes the drug, laser, and the intravenous infusion supplies. The majority of the cost is the drug. When repeated every three months, this can add up to $10,000 or more on an annual basis. Unfortunately, many patients may be forced to decline this treatment due to financial considerations. TTT also remains uncovered by Medicare.

We make every attempt to work with patients so as to facilitate their treatment, but the prohibitive cost of the drug remains a limiting factor.

Watch your mailbox for details on our upcoming Retinal Pearls Seminar

Coming soon!

Staff Members Walk for Diabetes….

Georgia Retina is sponsoring a checkpoint table at the **Walk to Cure Diabetes** again this year and our staff members are dusting off their walking shoes to participate. So many of our patients are diabetic and this is another chance for all of us to make a difference. The walk is October 27, 2001 in Atlanta and anyone wishing to join us is welcome! Please call Becky in our Decatur office for details!

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(Continued from page 2)
become pigmented to remind the physician at future treatments, not to cross into the macular region. Generally laser spots on the temporal side of the macula should be no closer than two to three disc diameters to the fovea, and one disc diameter from the optic nerve.

During the Procedure. When holding the lens against the patient's eye, take advantage of keeping one of your fingers on the patient's forehead if possible. If you sense the patient's skin temperature is rising or they exhibit increased diaphoresis, this may be a clue to you that the patient is having difficulty with the procedure, and/or may be at risk of having a vasovagal episode. If this occurs, you may choose to terminate the procedure sooner, and add additional laser treatment at a different time, so that the patient does not remember this as a very unpleasant experience. If the indication for the PRP is anterior segment neovascularization or retinal neovascularization, it is important to see stabilization of further proliferation, but it is more important to see involution. Generally speaking, additional panretinal laser treatment should be administered until involution occurs. If tractional retinal detachment is present, either elevated fibrovascular bands and/or flat patches of neovascularization, there are special precautions that must be heeded. Generally it is a good idea to not bring panretinal laser treatment closer than one disc diameter to areas of tractional retinal detachment. Involution of neovascularization should produce a fibrous appearance. This tissue may contract and worsen tractional retinal detachments. If the laser treatment is brought too close to the fibrovascular tissue, contraction could produce a retinal hole. Be aware that if a patient with significant tractional retinal detachment develops a retinal tear, this combined rhegmatogenous/tractional retinal detachment is much more difficult to repair surgically than a retinal detachment that is exclusively of a tractional origin. If your patient with proliferative diabetic retinopathy has macular pucker or striae into the macula, clinical decisions regarding observation versus additional panretinal laser treatment are more difficult, and you will undoubtedly want a retinal consultant to provide advice in these circumstances. While panretinal laser treatment is an effective treatment, its administration can at times be challenging, and the decisions regarding whether or how much additional laser treatment should be performed, are sometimes complex.

From the Administrator's Desk…

Clear Focus…

Nobody ever said that running a medical practice was going to be easy, but it seems to be getting more and more challenging by the day. There is so much that demands our attention, where should we focus our efforts? We are distracted by government regulation of our billing and chart documentation. OSHA and even managed care plans try to regulate how we set up our offices down to the detail of how we store our eye drops. Insurance companies demand pre-certification for everything we do, and try to deny payment whenever possible. Economic pressures make it difficult to hire and retain bright and dependable staff members. Hospitals have their own set of complex regulations and budget cuts.

Years ago I started in ophthalmology as a technician and attempted to take fundus photos. This skill eluded me. Now that I am on the management side of eye care, I have finally begun to get a clearly focused picture. What I see is that our guiding principle should be that what is right for the patients, is best for the practice.

Having a **patient-centered practice** makes it possible to put everything else in perspective. It's almost the easy way out. When our efforts are focused on the patient, our work is truly for the good of people and is not self-serving. We are fortunate to be in a business where we can emphasize this to our employees and others. The feeling is almost that of working for a philanthropic or charitable organization. When the patient is the primary focus, everyone can feel good about what he or she does. Secondarily, and almost automatically, the practice will prosper.

Staff members don't mind staying late if a group of unusually complicated patients take more time than usual, or if there is an unexpected emergency. This is what they would want done for them. Referral doctors understand when one of our doctors is in surgery and are temporarily unavailable to take their call. Family members understand that sometimes Daddy will be home late, but it's OK because he's taking care of somebody who needs him.

Georgia Retina's family includes many wonderful staff members who are all focused on the real center of attention, our patients.

Barbara Wright
Practice Administrator

We participate in the following insurance plans :

Aetna US Healthcare
Aetna Select Choice HMO, Elect PPO
Aetna Managed Choice POS
Aetna Open Choice PPO
AHI Healthcare Systems
American Preferred Provider
BCBS of Georgia
Beech Street
Blue Choice PPO, POS and HMO
Caduceus Healthcare
CCN Managed Care, Inc.
Champus Tricare
(Humana)
Cigna (PPO & HMO)
Companion Work Place
Corvel
Coventry Healthcare
(formerly Principal)
Evolutions Healthcare System
Emorycare through CIGNA
First Health
Formost
Galaxy Health Network
Georgia First
Georgia Better Healthcare
Healthcare, Inc.
Healthstar
Health Network America
Highway to Health
Humana (HMO and POS)
Medicaid - EDS
Medicare - BCBS of Alabama
Medicare Railroad
Medical Resource Network
One Health Plan
Preferred Plan of GA PPO, EPO
Private Healthcare Systems PHCS
Pro American
Promina Health Systems
Prudential Healthcare HMO, PPO
Prudential Emory & Select Care
Railroad Medicare
Southcare PPO
State Health Benefit Plan
Unicare
United Healthcare
(Metrahealth PPO, EPO, POS)
USA Managed Care Organization

Other plans are pending,
please call to see if we are participating
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