TREATMENT ADVANCES FOR CHOROIDAL NEOVASCULARIZATION

Choroidal neovascular membranes (CNVM), probably the leading cause of blindness in patients seen at the UIHC, complicate a number of eye diseases. Our Vitreoretinal Service continues to be at the forefront of the diagnosis and treatment of these disabling diseases.

Macular Photocoagulation Studies
The University of Iowa Department of Ophthalmology was one of 12 centers involved in the landmark Macular Photocoagulation Studies (MPS). Drs. Robert Watzke, James Folk, and Alan Kimura recruited and treated patients with choroidal neovascularization resulting from macular degeneration of aging (AMD), ocular histoplasmosis, and idiopathic disease. The results of eight MPS trials proved that laser treatment preserved vision in patients with extrafoveal and juxta-foveal choroidal neovascularization in all three of these diseases and subfoveal neovascularization in AMD. These results are the scientific basis for the current laser treatment of these diseases.

Subretinal Surgery
Severe visual loss from subfoveal neovascularization remains a major problem, even with laser treatment. The treatment usually results in a central scotoma and vision of 20/100 or worse. Vitreoretinal surgery to remove subfoveal membranes is now used selectively here at the UIHC. The surgery begins with a vitrectomy. A small retinotomy outside the fovea is created with a sharp blade and (continued on page 2)
balanced salt solution is infused to gently lift the retina away from the underlying neovascular membrane. The membrane is then loosened with a pic and removed with fine-angled forceps. A gas bubble is infused and the patient is positioned face down for a week until the small retinotomy heals. The results have been especially good in younger patients with presumed ocular histoplasmosis syndrome (POHS), ocular inflammatory disease, and even Best's disease. Most of the patients have had significant improvements in vision post-operatively that would have been impossible just three years ago. Removal of discrete subfoveal CNVM in AMD patients does not as yet improve vision as much as in younger patients. However, some AMD patients have had return of vision to a 20/40 to 20/80 level.

TPA

A subgroup of patients with choroidal neovascularization will suffer large subfoveal hemorrhages with severe visual loss and a poor prognosis. The subretinal blood is clotted and firm making removal very difficult. Dr. Alan Kimura, with help from Drs. Chittaranjan Reddy, James Folk, and Culver Boldt, has developed and published a technique of injecting tissue plasminogen activator (TPA) into the vitreous one day prior to surgery. This technique is based on studies performed by Dr. Sohan Hayreh which show diffusion of fluids within the eye posteriorly as well as anteriorly. The TPA diffuses through the posterior retina and liquefies the clotted blood. The liquid blood can then be removed safely by suction through a small retinotomy. The surgery has improved vision in many of these previously hopeless cases.

Interferon

Unfortunately, many choroidal neovascular membranes are not clearly defined and therefore cannot be lasered. In addition, some subfoveal membranes are large, and the scotoma caused by their laser treatment will be too large for useful vision. Human leukocyte interferon (alpha interferon) has been shown clinically and experimentally to have anti-angiogenic properties: the interferon inhibits the formation of new blood vessels. The preliminary data on the use of interferon in patients with AMD and choroidal neovascularization has had mixed results. Our department is participating in a world-wide trial testing the treatment of neovascular AMD with Roferon-A (R) produced by Hofmann-La Roche, Inc. Patients are recruited if they are not eligible for laser treatment or surgery. These patients almost always suffer severe visual loss if left untreated. This study will yield much information on the pathogenesis and treatment of occult or indiscrete choroidal neovascularization which is so common. The treatment is difficult and time-consuming, but some results should be known within two years. Dr. Folk is the principal investigator for this trial. Other investigators are Drs. Kimura, Boldt, Reddy, and Stone.

Prevention and cures still in future

All of the above laser, surgical, or medical treatments are "stop-gap" measures that are used to preserve some vision in patients with late disease. We must gain a better understanding of these diseases to develop strategies which ultimately may prevent them or allow treatment in the early stages. Dr. Stone, in collaboration with other members of the Vitreoretinal Service and co-workers beyond The University of Iowa, has located the disease-causing genes for Best's disease, pattern dystrophy of the retinal pigment epithelium (RPE), and Stargardt's disease, all of which have many similarities to AMD. Dr. Stone's team is also looking at the genetic causes of AMD which may, hopefully, lead to a cure.
NEW RESIDENTS

Harold L. Cohen
Education: BA in Biology, Western Maryland College; MD, Johns Hopkins, Baltimore
Internship (medicine): Franklin Square Hospital Center, Baltimore

Ann Greifenstein Neff
Education: BS in Integrated Life Sciences, Kent State University, Kent, Ohio; MD, Northwestern Ohio Universities College of Medicine, Canton, Ohio
Internship (transitional): Aultman Hospital, Canton, Ohio

Jennifer Simpson
Education: BA in Biology, Kenyon College, Cambier, Ohio; one year at University of Lancaster, Lancaster, England; MD, University of Michigan, Ann Arbor
Internship (transitional): St. Joseph Mercy Hospital, Ann Arbor, Michigan

NEW FELLOWS

CORNEA/EXTERNAL DISEASE

Robert (Bob) Elgin
Education: BA in Chemistry and MD, University of North Carolina, Chapel Hill, North Carolina
Internship (medicine): University of North Carolina
Ophthalmology Residency: University of North Carolina
Experience: UNC Hospital, Department of Endocrinology; Holderness Fellowship for Research, 1987-89.

GLAUCOMA

Kevin McKinney
Education: BS in Biology and MD, Baylor, Houston Texas; MPH, Johns Hopkins, Baltimore
Internship (transitional): St. Joseph Hospital, Houston
Ophthalmology Residency: UIHC

NEURO-OPHTHALMOLOGY

Richard (Rick) Neahrning
Education: BA in Premedicine, Augustana College, Rock Island, Illinois; MD, Northwestern University, Chicago
Internship (medicine): UIHC Neurology Residency: UIHC

(continued on next page)
New Fellows (continued from page 3)

OCULOPLASTICS

Michael L. Murphy
Education: BS in Zoology, University of Wisconsin, Madison; MD, Medical College of Wisconsin, Milwaukee
Internship (medicine): Maine Medical Center, Portland, Maine
Ophthalmology Residency: The Eye Institute, Medical College of Wisconsin, Milwaukee

RETINA

Deborah G. Keenum
Education: BA, Mt. Holyoke College, South Hadley, Massachusetts, one year at University of Geneva, Geneva, Switzerland; MA, Johns Hopkins School of Advanced International Studies and the School of Hygiene and Public Health, Washington, DC, and Baltimore, Maryland; MD, Johns Hopkins, Baltimore
Internship (medicine): Franklin Square Hospital Center, Baltimore
Ophthalmology Residency: Wilmer Institute, Johns Hopkins

Ali R. Tabassian
Education: BS in Zoology, and PhD in Physiology, George Washington University, Washington, D.C.; MD, Medical College of Virginia, Richmond
Internship (transitional): Riverside Regional Medical Center, Newport News, Virginia
Ophthalmology Residency: Medical College of Virginia, Richmond

PEDIATRIC OPHTHALMOLOGY

Sean Donahue
Education: BS in Mathematics and Biology, University of Dayton, Ohio; MD, Emory University School of Medicine, Atlanta, Georgia; PhD in Anatomy and Cell Biology, Emory University
Internship: Mercy Hospital of Pittsburgh
Residency: Eye and Ear Institute, University of Pittsburgh
Fellowship: Neuro-ophthalmology, University of Iowa
Donation Helps O'Brien Library

Martin Koke, MD, a 1941 residency graduate when the department was under the leadership of Dr. C.S. O’Brien, has generously donated $20,000 to the O’Brien Library over the past 2 years. The library, an invaluable resource for faculty, residents, fellows, and staff, will move to modern, up-to-date facilities on the lower level of the new Eye Institute in the Pomerantz Family Pavilion which is scheduled to open in late 1995.

Dr. Koke, who is retired from ophthalmology practice and living in San Diego, has visited here several times. His generosity is greatly appreciated and enables us, under the able direction of librarian Trish Duffel, to both maintain and improve our library collection. The growing collection includes new and rare books and several computers which allow access to other UI libraries and to the most up-to-date medical information in minutes.

New Officers Elected

Officers were elected for 1994-95 at the annual June meeting of the Iowa Eye Association:

President:
Steven J. Jacobs, MD
(Cedar Rapids)

President-elect:
John C. Lee, MD
(Decatur, Illinois)

Secretary/Program Coordinator:
Jeffrey A. Nerad, MD (UIHC)

Treasurer:
Michael Bresnahan (UIHC)

Officers re-elected for 1994-95 at the October meeting of the Iowa Academy of Ophthalmology are as follows:

President:
Steven J. Jacobs, MD
(Cedar Rapids)

President-elect:
E. Michael Sarno, MD
(Des Moines)

Vice President:
C. Rommel Fuerste, MD
(Dubuque)

Secretary/Treasurer:
Jeffrey Nerad, MD (UIHC)

Department Offers Videos

The University of Iowa Department of Ophthalmology will be offering educational videotapes produced “in house” to Iowa Eye members starting November 1, 1994. Available tapes include the following:

“Fundamentals of Slit Lamp Biomicroscopy,” Thomas A. Farrell, MD; W.L.M. Alward, MD; Randall E. Verdick. 22-minute program for the beginning slit lamp user.

“Combined Phacoemulsification, PC IOL Implantation and Trabeculectomy with Intraoperative Mitomycin C,” Paul M. Munden, MD; W.L.M. Alward, MD; Randall E. Verdick. 13-minute program.

“Current Methods for Culturing Serious Ocular Infections,” John E. Sutphin, MD; H. Culver Boldt, MD; Randall E. Verdick. 14-minute program.

“Temporal Artery Biopsy for Giant Cell Arteritis,” Sean Donahue, MD; Jane Mizener, MD; Randall Verdick; Randy Kardon, MD. 11-minute program.

For more information, a listing of other available tapes, or to place an order, please contact Randall Verdick, Educational Media Coordinator, 319-356-2918.
Munden Wins Phelps Award

He is an outstanding clinician and teacher who received his residency training here and then spent a year in fellowship training in glaucoma at Bascom Palmer Eye Institute, Miami, before joining our faculty in 1991. He has developed an experimental model to inhibit corticosteroid receptors in the trabecular meshwork in an effort to prevent ocular hypertension from steroid drops.

The award, which is given yearly to a deserving recipient chosen by a faculty committee, includes a plaque and $2500 to support research.

Dr. Paul Munden was presented with the 1994 Charles D. Phelps Memorial Award at the September 9th combined annual Iowa Academy of Ophthalmology meeting and Clinical Conference. Dr. Munden is currently Assistant Professor in the Glaucoma Service.

Hayreh Honored

In recognition of his outstanding achievements in ophthalmology research, Dr. Sohan S. Hayreh will receive the Ludwig Von Sallmann Prize of the International Society of Eye Research at the XIth International Congress of Eye Research in New Delhi, India, November 13-18, 1994. Over the past 40 years, Dr. Hayreh has conducted extensive seminal basic and clinical research on the ocular and optic nerve circulation and is regarded as the international authority on the subject. Dr. Hayreh will also deliver the Von Sallmann Lecture, “Circulation of the Optic Nerve Head in Health and Disease,” and he is an invited speaker at a symposium, “Calcium Channel Blockers and Blood Flow,” at this congress.

Alward and Ross Appointed to Editorial Boards

Dr. Lee Alward, Associate Professor and Director of the Glaucoma Service, has been appointed to the Editorial Board of the Journal of Glaucoma. His 3-year term will begin in January 1995.

Dr. Robin Ross, third-year resident, has become the first resident physician to be appointed to the Editorial Board of the Archives of Ophthalmology. She expects to bring a new perspective to the Board representing the views of house staff. Dr. Ross presented a lecture on the history of women in ophthalmology in March at the National Library of Medicine in Washington, D.C., to the American Ophthalmic History (David Cogin) Society. She also serves on the Federal Manpower Committee of the AAO and is interested in international ophthalmology.

Kardon Selected for RPB Adams Scholars Award

Dr. Randy H. Kardon has been selected to receive a Research to Prevent Blindness James S. Adams Scholars Award in the amount of $30,000. Dr. Kardon will use the funding to pursue new and promising scientific leads and develop new opportunities in ophthalmology research. His research interests include the relationship of visual dysfunction to pupillomotor responsiveness to light, the pharmacology of the central and peripheral pupillomotor pathways, autonomic disorders of pupillary function, and risk factors in the pathogenesis of optic nerve diseases.
1993


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1994


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Clinical Conferences & Professional Meetings

1994

October 7  23rd Wolfe Lecture
            Thomas M. Aaberg, MD, Emory University Eye Center - Retina

October 28 - November 3
            American Academy of Ophthalmology, San Francisco
            Iowa Eye Association reception: Tuesday, November 1, 6:30-9:00 pm
            Hyatt Regency San Francisco, Grand Ballroom C

December 2  Creig S. Hoyt, MD, University of California - Pediatric Ophthalmology

1995

February 3  Nancy J. Newman, MD, Emory University Eye Center - Neuro-ophthalmology

March 3    Douglas D. Koch, MD, Cullen Eye Institute, Baylor - Cataract

April 7    Gerald J. Harris, MD, Medical College of Wisconsin - Orbit and Oculoplastics

June 8-10  Iowa Eye Meeting
            Topics and guests to be announced

NEWS OR COMMENTS?

Name:___________________________________________________________

Address:_______________________________________________________

Telephone:_____________________________________________________

News or Comment:______________________________________________

Please return to:
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In 1995, the curriculum of the College of Medicine will include for the first time, a 2-week, required rotation in ophthalmology for all medical students. It has been a long time coming. The last major revision of the curriculum occurred when Dr. Bruce E. Spivey chaired the Curriculum Committee. Although he tried, he was unsuccessful in establishing an ophthalmology rotation. Ironically, more than 20 years later, another ophthalmologist, Dr. Thomas A. Farrell, was charged with revising the curriculum and this time, we succeeded.

Why, when there are indications of too many ophthalmologists and optometrists, should we be concerned with educating medical students? Historically, ophthalmology has played a small role in medical student education nationally, and yet ophthalmology residents are consistently ranked among the brightest and best medical students. The fact that most of our medical colleagues have a limited appreciation for what we do is undoubtedly a result of our not having been involved in their education.

With changes in health care, primary care physicians will require a far better understanding of ophthalmology than most have today. The task of developing a meaningful curriculum for 175 medical students and devising a worthwhile clinical experience will not be an easy task. Dr. John E. Sutphin, Associate Professor and member of the Cornea and External Disease Service, has accepted the challenge and will serve as Director of Medical Student Education for the Department. In addition to being an excellent physician and surgeon, Dr. Sutphin has gained invaluable experience as a teacher and former Chairman of the Department of Ophthalmology at the San Diego Naval Hospital. His organizational skills and understanding of what is educationally important for non-opthalmologists will be a tremendous asset. With the help of our entire faculty, we will all take part in this new educational process shortly before we move to the Pomerantz Family Pavilion and the new Eye Institute. It will be an exciting time for all of us.

Thomas A. Weingeist

The Iowa Eye Reception during the American Academy of Ophthalmology meeting is scheduled for Tuesday, November 1, at the Hyatt Regency San Francisco, Grand Ballroom C, 6:30 to 9:00 pm.

We are looking forward to seeing you all there.

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The Iowa Eye is published 2-3 times yearly by the Department of Ophthalmology for friends and alumni of the department.

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Photos by Ophthalmology Staff Photographers

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