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You are invited to attend...

- Friday Noon Conference –
  Update in Outpatient Treatment of Cutaneous Abscesses: Superficial Cellulitis
  William Baumgarten, MD
  October 3, 1997, 12:30 - 1:30 p.m.
  Doctors Dining Room

  Learning Objectives –
  At the conclusion, participants will be able to:
  • Recognize which patient can be treated as outpatient.
  • Manage cutaneous abscesses and cellulitis in outpatient setting.
  • Understand current antibiotic therapy protocols.

- Friday Noon Conference –
  Ke Ola Ka Hana A Ke Aloha
  (Health Is Aloha In Action) 25 Years of Providing Health Care to the Waianae Community
  Richard P. Bettini, MPH, MA; Richard Friedman, MD;
  Kauila Clark & Merrie Aipoalani
  October 10, 1997, 12:30 - 1:30 p.m.
  Doctors Dining Room

  Learning Objectives –
  At the conclusion, participants will be able to:
  • Understand the concept of community health centers.
  • Describe the financial impact of Quest Managed Care.
  • List the range of services that are available for a community based primary care.

- Friday Noon Conference –
  Luncheon
  Reducing the Risk of Coronary Heart Disease Through Lipid Reduction
  EunMee Lee, Pharm.D., BCPS
  October 17, 1997, 12:30 - 1:30 p.m.
  Doctors Dining Room

  Learning Objectives –
  At the conclusion, participants will be able to:
  • Appreciate the relationship between cholesterol and coronary heart disease (CHD).
  • Describe the National Cholesterol Education Program Guidelines for detection and treatment of high cholesterol.
  • Identify the various classes of antihyperlipidemic agents and their effects on the lipid profile.

We would like to acknowledge the Educational Grant from Pfizer Pharmaceuticals.

Please call Fran Smith at 522-4471 for more information.
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**Pueo**

This print depicts a legend at Kaanapali, Maui. The Pueo (owl) saves the girl's brother from a sacrificial altar.
Editorial

Norman Goldstein MD
Editor

Ophthalmology Special Issue Part II

This month we continue our series of manuscripts collected and edited by our Guest Editor Robert Wong MD.

Our late editor Fred Reppun MD dubbed Robert Wong the "Catalyst Model." Bob has again proven himself by being the catalyst for these two Special issues on Ophthalmology. These issues will serve as a text book on what has happened, what is happening and what will be happening in Ophthalmology in Hawaii.

Thanks again, Bob for your lectureships and endowments that have energized medical education in Hawaii - and for these two Special Issues.

Presidents Message

John S. Spangler MD

It's not too late to come to our annual meeting which is most important for the organization of Hawaii Medical Association. Please make your reservations as soon as possible.

Our budget process will be done on September 5 but will need everyone to evaluate the budget and communicate with Dr Kelley for questions and ideas. Membership remains as always the major income so continue to recruit for HMA.

Legislative activities are most important. A new staff person is being hired to handle the complicated issues facing the health industry. Everyone is needed to help this process.

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The United States Medical Licensing Exam (USMLE) has now become the only path to licensure in the U.S. and its territories. Although a license to practice medicine is granted by individual state licensing boards, all require, as part of the process, certification of passing scores in all three Steps of the USMLE. With this situation in mind, the John A. Burns School of Medicine (JABSOM), along with 70% of all medical schools, has required students to pass both Steps 1 and 2 in order to receive the MD degree. Since it is also a nationally standardized exam, although highly discouraged by the National Board of Medical Examiners (see related article published in HMJ July 1996), much attention has been focused on student performance as an indication of the strength and success of a school’s curriculum. Reported here are changes which have been implemented in the Steps 1 and 2 exam, problems which have arisen from the transition, national performance statistics, and an update on the June 1997 performance of the JABSOM Class of 1999 on Step 1. Also included is a brief description of plans for major changes in the exam administration which will take place in 1999.

The USMLE Step 1 exam is designed to assess a student’s ability to apply knowledge and understand key concepts of basic biomedical science, with an emphasis on principles and mechanisms of health, disease, and modes of therapy. More recently, however, changes have been implemented to not only insure mastery of the core basic science material, but also the scientific principles required for maintenance through lifelong learning. The exam content is basically organized by organ system (e.g., cardiovascular, reproductive) and process (e.g., metabolism, host defense, influence of emotional and behavioral factors on disease prevention, progression and treatment). However, an increasing number of interdisciplinary topics, such as nutrition and aging, has been added. In addition, there is less emphasis on rote memory and recall of information, and more reliance on a student’s ability to interpret and apply data, and apply basic science knowledge to clinical problems.

The emphasis of the Step 2 exam is to determine whether a student can apply basic science knowledge and understand the clinical science necessary to care for patients under supervision, and now includes health promotion and disease prevention. Content is determined by a single integrated content outline that is organized by physician task and disease classification. For example, categories include, in addition to the usual clinical disciplines, Health and Health Maintenance, Understanding Mechanisms of Disease, Principles of Management, Immunologic Disorders, Normal Growth and Deve-
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to assist on an on-going basis (contract)

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To allow you to consider a fulltime employment relationship

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such as immunizations, drug screening, patient transport, case review and utilization review

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As the number of candidates taking the exam and the significance of passing has increased, so has the number of problems associated with test validity, standardization, and security. The most recent security breach was highly publicized by the press, and involved apparent pre-administration access to parts of the exam. This situation was not detected by examiners, but by sophisticated statistical analysis of the performance of individual examinees; as a result, their scores could not be validated, and they will be required to repeat the exam. Another problem with the large number candidates has been the logistics of finding appropriate space and sites, and compounds the security issues related to shipping and maintaining security of the exams until administration. It is hoped that some of these problems will be alleviated by the changes in test administration, plans for which will be presented later in this article.

As evidence of the dramatic increase in the number of individuals taking the exam, for the June 1992 inaugural administration of the Step 1 exam, 15,023 candidates sat for the exam at over 140 testing centers in the United States, its territories and Canada. The 1996 exam was taken by 31,139 individuals at over 200 centers.

The results of the 1996 USMLE Step 1 (June and October), reported in early 1997, showed a 93% pass rate for US and Canadian medical students taking the exam for the first time, compared to 55% for foreign medical students. The overall mean score for the former group was 205 with a standard deviation of 20; the passing score set in 1992 for Step 1 is 176. The mean score for foreign medical students is not available. For Step 2, the overall pass rate for US and Canadian medical students taking the exam for the first time in 1995 (August) - 1996 (March) was 92%, with a mean score of 200. In May 1996, after completion of an in-depth review of the 1992 passing score of 167, the passing standard was raised to 170, effective with the August 1996 administration. Interestingly enough, despite raising the passing score, the passing percentile ROSE from 92% to 95%, although the passing percentage of those repeating the exam declined from 66% to 60%.

Similar to previous JABSOM classes, the Class of 1999 which took the June 1997 exam for the first time performed at or near the national mean both in percent passing (96%) and mean score (211). However, the number of students performing above the 90th percentile rose dramatically from four students in 1995 and 1996, to 11 students. Several hypotheses for this increase have been proposed by the faculty, including the...
impression that the exam has begun to place more and more emphasis on recalling and applying information in a clinical context, which closely parallels the process in our problem-based learning curriculum. Another is that JABSOM students have successfully solved the problem of how to prepare for the boards. The lower numbers in the 90th percentile range (compared to pre-PBL figures) had remained the last major criticism of our problem-based curriculum, except for those who now say, “at or near the mean should not be what we strive for”. To these people, one response is that since the major emphasis of problem-based learning is to help students learn how to learn, and the time taken to do this means less time is available to memorize facts, their performance is more of an indication that they have indeed mastered the skill of learning.

For completeness sake it should be reported that performance statistics for the August 1996 administration of Step 2 (Class of 1997), the last one for which complete results are available, again reveal JABSOM students are at or slightly above the mean in total score and percent passing. The number above the 90th percentile, however, has consistently remained the same as pre-PBL figures, approximately 10 students.

Finally, an extremely innovative change in test administration is scheduled to take place in 1999, when all three Steps will become computer-based. Phase 1 of the program will include use of Computer Assisted Sequential Testing (CAST) to shorten the duration of the exam, and implement strong computer-based simulations in the implementation of Step 3. In Phase 2, Step 1 content will be enhanced, standardized patients will be introduced into Step 2, and further use of technology will occur.² Field testing using Computer Based Testing (CBT) for the Step 2 exam took place in and around the Chicago, Los Angeles, New Orleans, New York and Philadelphia areas in 1996, and showed that, with some modifications, it was extremely feasible and would address many of the security concerns. Students performed similarly with respect to the test delivery mode, which suggested that moving test items to CBT would not affect results in any systematic way. Another significant finding was that after completing the tutorial and practice items provided as part of the exam, performance was not influenced by prior computer experience. In the interest of our students and residents, JABSOM, with the support of the Dean and the National Boards, has joined a number of other medical schools in preparing to become a CBT site.

References
2. Executive Summary, AAMC/NBME Liaison Committee, July 1997.
Residency Spotlight on Ophthalmology

reprinted from On Call the Newsletter of Temple University School of Medicine
by Damon Pettinelli

Ophthalmology is the surgical specialty concerned with the structure, function, diseases, and abnormalities of the eye. Despite its classification as a surgical specialty, the practice of ophthalmology includes an equally represented focus in medicine.

Dr Stephen Wong, the Director of the Ophthalmology Residency Program at Temple since 1979, points out that the eye is a window to the entire body, and many systemic illnesses, such as diabetes, hypertension, infections, cancer, and AIDS, can be diagnosed by funduscopic examination.

Dr Wong also notes that ophthalmology is a quickly evolving field, with new innovations, such as the use of the laser, and novel microsurgical techniques, continually adding to the ophthalmologists armamentarium.

The Residency Program

An ophthalmology residency is three years in length following an internship year, preferably in medicine. The goal of the first year is to familiarize oneself with the various diagnostic tests performed in ophthalmology, and to learn to discriminate abnormal findings from normal ones. In the second year, residents focus on mastering differential diagnoses and learning various medical and surgical techniques. Third year residents polish the skills learned in the first two years, and also serve as teachers to medical students and younger residents.

A significant amount of time is spent on rotations at centers other than Temple. Residents spend four months at St. Christopher’s Hospital for Children, eight weeks at Lankaneau Hospital, and eight months at the Medical Center of Delaware.

First year residents are on call every third night, while second and third year residents take call every sixth night. All residents work approximately 50 hours a week.

After Residency

Approximately one-third to two-thirds of residents go on for further fellowship training in areas such as retinal surgery, glaucoma surgery, and corneal transplantation. The rest go on to private practice, and most remain affiliated with teaching institutions.

Getting a Residency

This is a very competitive specialty. According to Dr Wong, each year, Temple receives approximately 225 applications mostly from graduating medical students, of which, 50 are interviewed for three available positions. Historically, one of these three positions is often filled by an applicant from Temple. It should be noted that strong emphasis is placed on pre-clinical grades and performance on Part I of the National Boards in the evaluation of Ophthalmology.

Why Ophthalmology?

Dr Wong believes that if you like the idea of practicing in a field that strikes a balance between medicine and surgery, in addition to using state-of-the art tools and equipment while performing some of the most delicate surgery in all of medicine, then ophthalmology may be for you. In addition, Dr Wong most enjoys the challenge of diagnosing systemic illness through the examination of the eye.

The Future

New innovations are quickly and continually changing the field of ophthalmology. Tremendous strides have been made in saving the vision of patients with diabetes and glaucoma. Moreover, new surgical advances, such as radiokeratotomy, aimed at correcting myopia and even hyperopia, are making glasses obsolete. These are just some of the examples of innovations that are revolutionizing the field of ophthalmology.

Dr Wong’s Weighing of Factors for Ophthalmology Candidates

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Pediatric Ophthalmology and Strabismus Management in Hawaii

Malcolm R. Ing MD, FACS*

Outpatient strabismus surgery was being offered by the Washington D.C. (Costenbader-Parks) Fellowship in Pediatric Ophthalmology and Strabismus as early as the 1960’s. This Washington group also championed early surgical alignment for strabismus.1 Having completed this Fellowship in 1964, upon my return to Hawaii in 1968, I encouraged these techniques at the Queen’s Medical Center and the Kauikeolani Children’s Hospital. The operating microscope for adult cataract surgery was becoming popular throughout the United States in the 1970’s, and it was my belief that this technique could also be used in strabismus repair and pediatric cataract surgery. Of particular importance in pediatric cataract surgery, was the development of suction-cutting devices for the lens and vitreous in the early 1970’s. The first course taught to local ophthalmologists (at the Waikiki Sheraton) on the modern vitrector (known as the Ocutome) was by Dr’s Conner O’Malley, Ron Michaels and Steve Charles. This course led to the purchase of an Ocutome vitrector unit by Queen’s Hospital in 1972. A new ophthalmic surgical era was introduced in congenital cataract surgery because the vitrector could prevent secondary clouding of the pupillary space by removing the posterior capsule and anterior vitreous. This technique of removing potential barriers to a clear visual axis is still very much in vogue today. The treatment of congenital cataracts was also enhanced by the development of “extended wear” contact lenses in the 1980’s. These contact lenses need not be removed daily and were oxygen permeable. The Sauflons extended wear contact lens from England (later distributed by Bausch and Lomb) and the Dow Chemical silicone lens replaced the bulky aphakic spectacles. They are highly popular in visually rehabilitating infant eyes after cataract surgery.2

Shortly after starting practice in Hawaii, it became apparent that exotropia was more prevalent in Asian patients and esotropia in Caucasian patients. This was verified with the help of Dr Robert Worth and his associates at the University of Hawaii School of Medicine.3

In the 1980’s the optimum time for the surgical alignment of congenital esotropia was being debated. Laboratory evidence favored earlier visual rehabilitation and surgical alignment. Hubel and Weisel, who won the 1982 Nobel prize in medicine for their investigative work, had completed a series of experiments closing the lids of young mammals. The data supported the concept of a physiological time window in animals and humans, when the visual cells could be stimulated and developed. Permanent amblyopia would develop beyond this time window - if the visual defect had not been treated. In 1978 I embarked on a three year multi-center, independent, masked study of 160 surgically aligned congenital esotropia patients from the practices of 7 ophthalmologists (five in the United States, one in Canada and one in Europe). This was a “have prisms, will travel” study, in which motor and sensory tests on these children were personally conducted by me at various institutions. With the help of Dr Robert Worth, who did the statistical analysis of the collected data, it was proven that alignment before age two produces significantly better functional results (such as depth perception and fusion) compared to alignment after age two (p = < 0.001).4 Thus, a longstanding controversy in strabismus surgery was brought to a close.

Botulinum injection of the medial rectus muscle for treatment of congenital esotropia was introduced in the mid 1980’s by Dr Alan Scott of San Francisco. However, a long term follow-up study published in 1993 in which I examined patients aligned by botulinum by Dr Scott and Dr Elbert Magoon of Canton, Ohio, showed that the functional results of botulinum injection were inferior to surgical alignment.5 Nevertheless, botulinum injection into over-acting lid muscles such as in blepharospasm and hemifacial spasm, did prove helpful and remains popular even today. In addition, botulinum injection into rectus muscle (to avoid surgical removal of a third rectus muscle that may cause interior segment necrosis) is still a useful adjunct in strabismus surgery.

The issue of surgical alignment before ages 6 to 24 months was introduced by Dr Ken Wright of California in a 1994 study.6 Doctor Wright’s paper encouraged me to conduct another outcome study, in which the children I examined were aligned very early by Dr Wright and by Dr Gene Helveston of Indiana. This study showed that, even with alignment at ages three to five months, perfect stereopsis (depth perception) was a very rare outcome (1 out of 16

*Clinical Professor of Surgery
Division of Ophthalmology
Department of Surgery
University of Hawaii
John A. Burns School of Medicine
patients. Even when surgically aligned, before 6 months the binocular condition lacks refined stereo-acuity, however fusion and gross stereopsis are achieved in the vast majority of patients.

Recently, a prospective, randomized, multi-center study was initiated to determine if alternating occlusion prior to surgical alignment could produce better binocular vision. Honolulu was selected as one of fifteen research centers, along with major eye institutions in Los Angeles, New York, San Francisco and Baltimore. This study is only the second prospective, multi-center, randomized investigation ever to be organized in the field of strabismus management in the United States. The results will be determined independently in five years when the children are old enough to perform sensory tests, such as depth perception and fusion.

At present, pediatric ophthalmology is advancing in the use of intraocular lens in children as techniques are refined. Indeed, the use of intraocular lenses for children appears to be the new frontier in the 1990's. The long term effects of intraocular lenses in children, are not known. However, there is reason to believe that in selected cases successful implantation with minimal complications can result in satisfactory vision for many of these children. In summary, pediatric ophthalmology and strabismus management in Hawaii, like the other subspecialties of ocular disease, offers the same quality care as the major eye institutions on the mainland. With the use of earlier diagnosis and treatment, and more precise modern surgery, children and adults with the stigma of uncorrected strabismus should be a rarity in our community.

References
Current Status of the Treatment of Cataract

Gerald D. Faulkner MD, FACS

Cataract, a leading cause of blindness, has been successfully treated by surgery since ancient times. Surgical methods have evolved from couching, to extraction, to phacoemulsification. Cataract surgery is now an outpatient procedure that can be performed with topical anesthesia. Intraocular lens implants restore natural vision without thick glasses and contact lenses. Current procedures are highly successful in restoring vision.

Cataracts have been the leading cause of blindness throughout history. They have been treated surgically since ancient times, but the most significant progress in treatment has occurred within the last thirty years.

A cataract is a clouding of the natural lens of the eye. As a cataract advances it can cause changes in one’s eyeglass prescription, i.e. blurring, increased glare, increased sensitivity to light, and eventually total blindness. While radiation, steroid therapy, trauma, chronic uveitis, and some syndromes are known causes, most cataracts are related to aging and unknown etiology.

The first written account of cataract treatment was a description of the couching procedure by Celsus, Roman (c.25BC-AD50). He described how a sharp needle was used to penetrate the eye and push the cataract out of the pupil. This ancient procedure is still practiced today in some primitive areas of Africa and India. Ammar (1000 AD), an Arabian, describes removal of a soft cataract by suction through a hollow needle.1

A French surgeon, Jaques Daviel, performed the first known cataract extraction on a human eye in 1750. Like most new surgical procedures, it took a long time, in this case almost a 100 years, before it was widely accepted throughout the civilized world. It became en vogue in nationalism with the French favoring extraction and the British continuing to do couching. The Germans then joined the fray with a modification of couching called reclination. In 1864, von Graeef modified the incision to reduce gaping of the wound as no sutures were used. These incisions for cataract extraction extended halfway around the limbus of the cornea, and were allowed to heal without the benefit of sutures. Sutures to close the incision were not used until the early twentieth century.

The extraction procedure of cutting the lens capsule and washing out the contents was called extracapsular cataract extraction (ECCE). Another way was to remove the cataract with its capsule or intracapsular cataract extraction (ICCE). This method is as old as ECCE but did not become popular until early this century.

Cataract surgery was done without anesthesia until topical cocaine was first used in 1884. General ether anesthesia was begun about the same time. In 1928, retrobulbar injection, which anesthetized and immobilized the eye, was introduced. The eyelids were immobilized directly either by injection of the eyelid muscles or by blocking the ophthalmic division of the VIth nerve. Currently, some surgeons perform cataract surgery through small corneal incisions using only topical (eye drops) anesthesia.

With the natural lens removed, most eyes cannot focus. While gross vision (where only large blurred objects could be seen) was an improvement over total blindness, the more developed societies used eyeglasses to replace the focusing power of the natural lens. These eyeglasses were quite thick and powerful. They magnified images about 30%, affected mobility and reduced the field of vision. Aphakic patients were totally dependent on these glasses. Thus, as we entered the second half of the twentieth century, cataract surgery, while curing blindness, imposed the disability, of distorted vision from apheric glasses. Contact lenses were an alternative for some, but most elderly patients were unable to or unwilling to use them.

In 1949, Harold Ridley, a British ophthalmologist, fashioned a lens from polymethylmethacrylate (PMMA) and inserted it into the eye of a patient following cataract removal. In 1968, Charles Kelman, an U.S. ophthalmologist, invented an instrument to perform an extracapsular (ECCE) cataract extraction (It could emulsify the lens material with an ultrasonically vibrating needle and remove the lens material by suction2). This procedure is called phacoemulsification or Kelman phacoemulsification (KPE). Both the Ridley and Kelman procedures had a stormy course of development and created as much controversy as the couching versus extraction procedures of the 18th century. Many ophthalmologists considered these procedures malpractice because of the high rate of complications during their early development. However, dedicated individuals persisted in using and improving these procedures. A survey of members of the American Society of Cataract and Refractive Surgeons found 87% of cataract surgeons using phacoemulsification and almost 100% inserting intraocular lenses.3

The refinements in extraction and the development of safe intraocular lens implants have resulted in better vision, faster and more natural rehabilitation and higher success rates. Current methods of cataract surgery are dependent on technological advances. The microsurgical procedures are now performed by using specialized operating microscopes, diamond knives, and solid state phacoemulsification instruments. The axial length of the eye is determined by ultrasound and the corneal radius is used to compute lens power.

Cataract surgery can be performed on most patients through an incision of 3 mm or less. If this incision is made through the avascular cornea as many surgeons are now doing, there is no...
bleeding, and no need to discontinue anticoagulants. The incisions are usually self-sealing and no sutures are required.

Today, most intraocular lenses are made of polymethylmethacrylate (PMMA), the same material used by Ridley in his first lens implant. In 1984, a foldable intraocular lens made of silicon was introduced. This enabled the surgeon to insert the intraocular lens through the 3-mm incision used for phacoemulsification (KPE). Prior to the introduction of the foldable implant, the incision had to be 6 mm or greater to insert the lens implant and often required sutures. Large incisions and the use of sutures can delay visual rehabilitation by causing distortion of the corneal curve and resultant distortion of vision. Recently flexible PMMA lenses have been introduced thus widening the choice of implants.

Serious complications of cataract surgery have been reduced but not eliminated. Sight threatening complications such as endophthalmitis, expulsive hemorrhage, retinal detachment and corneal clouding still occur but less frequently. Progress has been made in the prevention and treatment of these and other complications.

Current methods of cataract surgery result in significant visual improvement in 95% of patients who have no other ocular pathology. Eighty nine percent of a large series of cataract patients reported significant improvement in their quality of life. Sight reducing complications occur in about 2%. Patients who have cataract surgery not only have restoration of normal vision, but some have better vision than they had before the cataract developed. Patients who had significant nearsightedness, farsightedness and astigmatism can find these problems lessened or eliminated by cataract surgery with intraocular lens implantation. In some European countries and in increasing numbers in the U.S., patients with severe near- and farsightedness are having their lenses replaced with an intraocular lens even though they do not have a cataract.

Thirty years ago, cataract surgery was almost always performed in a hospital operating room. Patients were hospitalized as long as ten days and their physical activities limited for up to six weeks. Only then were they fitted with aphakic glasses and their vision restored; though the thick glasses magnified and distorted their vision. Now cataract surgery is typically performed in an ambulatory surgery center. A small corneal self-sealing incision is used and the surgery performed under topical anesthesia. The patient can go home twenty minutes after surgery without an eye patch. Patients rarely need analgesics. Some experience good vision without glasses the next day, and most within a few days. There are essentially no restrictions on physical activity, and patients resume normal work and recreation 24 to 48 hours postoperatively. Cataract surgery is extended to almost anyone who needs it; at any age and even in poor health.

What about the future? Until a medical cure for cataract is found, treatment improvement will be refinements in surgical technique and in refractive correction.

Multifocal lens implants have been under investigation for several years. Such lenses would focus both near and far, and totally eliminate the need for eyeglasses. If these lenses are perfected, people reaching the “bifocal age” might elect to have their clear natural lens replaced with an artificial multifocal implant.

Since the inception of phacoemulsification, people have thought that cataracts are removed with laser. Only recently have phacoemulsification-like instruments been developed which utilize laser instead of ultrasound to breakup the cataract. Laser may offer safer surgery especially for very hard cataracts that challenge current ultrasound instruments.

Current surgery utilizes the capsule of the natural lens to hold the implanted lens. The capsule contains cells that generate lens fibers. In about 50% of cataract patients, these lens fibers will cause clouding of the capsule. This is termed a “secondary cataract” or “after cataract.” YAG laser currently treats it by opening the capsule. A bioengineering product to kill these cells is under development and shows good preliminary results.

While 3 mm may seem like a small incision, further reduction of incision size is the goal of many researchers. This involves not only smaller instruments entering the eye, but lens implants that will pass through the smaller incision.

The cataract treatment is one of the great success stories of the last half of the twentieth century. It is interesting to note the treatment cycle: the small incision of ancient times (couching) to the large incision cataract extraction methods; the modern small incision phacoemulsification which utilizes suction (Arabs 1000 AD). Likewise, anesthesia for cataract surgery progressed from no anesthesia to topical cocaine (1884) and general anesthesia, to local retrobulbar injection anesthesia and now back to topical anesthesia.

References
3. Learning DV. Practice styles and preferences of ASCRS members—1996 survey. Presented at ASCRS Symposium on Cataract, IOL and Refractive Surgery; April 16, 1997; Boston, MA.
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Diabetic Retinopathy

John H. Drouilhet MD

Diabetic Retinopathy is the leading cause of new blindness in the 25 to 74 year age group in the United States. The diabetic patient has a twenty-five times greater risk of developing blindness than the non-diabetic patient. Only 50% of all patients with diabetes mellitus have actually been diagnosed.\(^1\) The Community Epidemiologic Work Group for Diabetes Mellitus in Hawaii showed a prevalence of 25.2 per 1000 to 63 per 1000 persons based on self-reported data. The State Blind Registry for 1992-1993 showed diabetic retinopathy as the second leading cause of all new blind cases (20.9%).\(^2\) Diabetic retinopathy is a significant cause for concern in Hawaii in regard to patient quality of life and socioeconomic concerns.

Various factors have been studied in the pathophysiology of Diabetic Retinopathy to include aldose reductase, growth hormone, blood rheology abnormalities, blood viscosity,\(^1\) vascular endothelial growth factor,\(^3\) etc. It is as yet not fully understood how much each of these (or other unknown factors) contributes to the retinal vascular disease process.

Duration of diabetes mellitus is critical relative to the onset of retinopathy. Type I diabetics usually have no retinopathy until five years after diagnosis. By 15 years into the disease 90% will have retinopathy. Type II diabetics can present with retinopathy on initial diagnosis. The recommendation for dilated eye examination in the Type I diabetic is yearly once the patient has had diabetes for five years. Type II diabetics should be examined yearly from time of diagnosis.\(^1\)

Definite risk factors for diabetic retinopathy include duration of disease, poor glucose control, hypertension, and renal disease.\(^4\) As 87% of patients with advanced retinopathy have nephropathy and/or neuropathy, patients with nephropathy and/or neuropathy definitely need an ophthalmologic exam.\(^5\)

Diabetic Retinopathy has two major classifications—Non-Proliferative Diabetic Retinopathy (NPDR) and Proliferative Diabetic Retinopathy (PDR).\(^1\) In NPDR one sees retinal microaneurysms, blot hemorrhages, cotton wool spots, intraretinal microvascular abnormalities, and retinal edema (Fig 1). Edema affecting the macula causes loss of central (reading) vision. PDR is the more advanced stage occurring when the retina starts to lose its blood supply. The eye responds by growing new blood vessels on the optic nerve or retina (Fig 2). These fragile new vessels bleed, filling the vitreous cavity. Scar tissue accompanies the neovascularization and can cause retinal detachment (Fig 3).

To combat Diabetic Retinopathy, surgical strategies were developed in which Laser surgery treats macular edema and causes atrophy of the neovascularization. Vitrectomy surgery removes
dense vitreous hemorrhage and relieves traction retinal detachment from scarring.

The Early Treatment Diabetic Retinopathy Study (ETDRS) demonstrated a 50% reduction in loss of vision with appropriate laser surgery for clinically significant macular edema (Fig 4). This study also showed that aspirin did not reduce progression of diabetic retinopathy nor increase the risk of vision loss from vitreous hemorrhage. The Diabetic Retinopathy Study showed a 50-60% reduction in vision loss for timely laser surgery in patients with Proliferative Diabetic Retinopathy (Fig 5). The Diabetic Retinopathy Vitrectomy Study showed better visual result with early vitrectomy surgery in Type I Diabetics with nonclearing vitreous hemorrhage (Fig 6).

The Diabetes Control and Complications Trial (DCCT) showed delay in onset and slower progression of Diabetic Retinopathy, nephropathy, and neuropathy. There was a 50% reduction in amount of laser surgery for Diabetic Retinopathy in tightly controlled diabetics.

Diabetic Retinopathy is the major cause of new blindness in working Americans. The longer the duration of diabetes, the greater the risk of retinopathy. Excellent serum glucose, blood pressure, and cholesterol control delay and decrease the severity of retinopathy. Timely laser surgery reduces vision loss by 50%. It is the responsibility of all physicians in partnership to diagnose and properly manage the diabetic patient.

References

Correction

Please note that the above manuscript on Diabetic Retinopathy by John H. Drouilhet MD, was originally published (Haw Med. J. 1997;56:241-244) with incorrect illustrations. We reprint the corrected manuscript and illustrations in its entirety. We apologize to the author and to the reader for the error.
Recent Advances in the Management of Optic Neuritis
Scott Kortvelesy MD

Optic neuritis is an acute demyelinating disease of the optic nerve. The typical patient reports a unilateral reduction in vision progressing over several days, commonly associated with pain on eye movement. The visual acuity usually "bottoms out" at 7-14 days and then slowly recovers over 6-12 weeks. Permanent reduction of visual acuity and even blindness may occur. Diagnosis is based on the patient history, reduced visual acuity, color vision and visual field, as well as the presence of an afferent pupillary defect (Marcus-Gunn pupil). Disc swelling is variable. Although MRI may visualize a signal abnormality along the optic nerve (see Fig. 1), it is usually not necessary to make the diagnosis.

While it may be an isolated event, optic neuritis takes much larger significance from its association with multiple sclerosis. Long term studies have shown that 15 years after an attack of optic neuritis, 34% of men and 74% of women will develop multiple sclerosis.1

The Optic Neuritis Treatment Trial is a national collaborative study funded by the National Eye Institute of Bethesda, Maryland. It is a randomized, placebo controlled trial of 457 patients to look at the natural history of no treatment versus steroid treatment of optic neuritis.2

The mean age of patients recruited for the study was 32 years, and 77% were women.3 The optic nerve was ophthalmoscopically normal in 65% and edematous in 35%. The visual loss was associated with pain in 92% of cases. Magnetic resonance imaging showed changes "consistent with" demyelinating disease in 49% of patients. As expected, nearly all of the patients (98%) had visual field defects in the affected eye, but the "unaffected" fellow eye had a surprisingly high rate of abnormal visual fields at 48%.

The optic neuritis treatment trial randomized patients with acute optic neuritis to one of three groups: 1) Prednisone 1 mg/kg/day for 14 days, 2) Intravenous methylprednisolone 1 gm/day for 3 days followed by 11 days of oral prednisone at 1 mg/kg/day, or 3) oral placebo for 14 days. Patients were then followed for changes in visual acuity, color vision, visual field and contrast sensitivity.

The study concluded that while treatment with intravenous methylprednisolone hastened the visual recovery, there was no long-term visual benefit over placebo. Surprisingly, the study also found that those patients treated with oral prednisone alone had an increased risk of recurrent optic neuritis. Therefore, treatment of the demyelinating form of optic neuritis with prednisone alone is not recommended.

Two year follow-up data indicated that those patients with signal abnormalities on brain MRI had a much higher risk for the development of definite multiple sclerosis. By three years, the risk for definite MS was 43% for those who had three or more lesions on the baseline brain MRI. This compared with a 28% risk among those with one or two signal abnormalities and only a 9% risk in those with normal scans or scans with nonspecific changes at baseline. The two year data also strongly suggested that intravenous methylprednisolone reduced the rate of development of multiple sclerosis compared with placebo (7.5% versus 16.7%). Unfortunately this protective effect of methylprednisolone is temporary. Preliminary four year follow-up data showed that clinically definite multiple sclerosis developed in 25% of those treated with intravenous methylprednisolone versus 27% of those treated with placebo.

Based on these results and in view of the availability of new medications such as Betaseron and Avonex for treatment of multiple sclerosis, it seems reasonable to recommend an MRI scan of the brain on any new patient with acute optic neuritis. If the MRI shows evidence of demyelinating disease or if the patient needs or desires a quicker recovery of vision, then intravenous methylprednisolone should be offered.

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The diagnostic fevers of pseudomembranous infections are usually mild. The typical clinical manifestation is an exacerbation of the patient's underlying diarrhea, which is loose and watery. The diagnosis of pseudomembranous colitis must be confirmed by a clinical diagnostic test such as stool microscopy and culture. The patient should be placed on a bland diet and fluid replacement should be administered. When treatment with antibacterial agents is necessary, administer益 antimicrobial agent in appropriate amounts to maintain the normal flora and prevent species from entering the colon.

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The use of antibiotic agents may be associated with the overgrowth of nonsusceptible organisms including fungi. If this occurs, discontinue use and take appropriate measures.

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Pregnancy: Teratogenic Effects: Pregnancy CATEGORY C: Animal reproductive studies have not been conducted with BENZAMYCIN® Topical Gel or benzoyl peroxide.

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Ocular Manifestations of the Acquired Immunodeficiency Syndrome

Byron M.W. Wong MD*

Ophthalmologic findings in individuals with the acquired immunodeficiency syndrome (AIDS) are fairly common. A noninfectious microvasculopathy of the retina is the most frequent manifestation. Cytomegalovirus (CMV) retinitis is the opportunistic infection most likely to cause visual loss and must be differentiated from toxoplasmosis or herpetic retinitis. Ganciclovir, foscarinet, and cidofovir are the agents available to slow the progression of CMV retinitis, but they have significant toxicities.

Scope of the problem

Although Hawaii is a relatively small state, the annual rate of acquired immunodeficiency syndrome (AIDS) of 16.7 per 100,000 people placed Hawaii at 19th among the 50 states and District of Columbia in 1996. The Hawaii Department of Health estimates that approximately 2,300 to 3,200 individuals infected with human immunodeficiency virus (HIV) live in the islands. This represents 0.25 percent of the population or one of every 400 persons.

Over 70% of patients with AIDS can develop ocular manifestations, and 90% of patients have ocular disease at autopsy. Diseases of the anterior segment of the eye include: molluscum contagiosum, Kaposi's sarcoma, dry eyes, herpes zoster ophthalmicus, herpes simplex keratitis, and microsporidiosis. The retina and choroid can show involvement with "HIV retinopathy" (retinal hemorrhages, microvascular abnormalities, nerve fiber layer infarcts), cytomegalovirus (CMV), herpes simplex, herpes varicella-zoster, syphilis, toxoplasmosis, pneumocystis, cryptococcus, mycobacteria, histoplasmosis, candida, and endogenous bacterial retinitis. Vascular occlusions are possible. Loss of visual function on psychophysical testing without infectious retinopathy has been studied. Optic neuropathy, cranial nerve palsies, orbital lymphoma, and orbital infections can be seen.

Medications used to treat the HIV patient can result in ocular side effects. Rifabutin-associated iritis and Didanosine related retinal pigment epithelial atrophy have been reported.

HIV retinopathy

The most common ophthalmoscopic finding is the microvascular changes of HIV retinopathy. The cotton-wool-spots (representing nerve fiber layer infarcts), hemorrhages, and microvascular changes do not represent an opportunistic infection. They are usually asymptomatic and will resolve spontaneously. For a patient with known HIV infection, they have no prognostic value and need only to be distinguished from an infectious lesion.

The differential diagnosis of cotton-wool-spots and hemorrhages is nonspecific, and includes: HIV retinopathy, diabetes, hypertension, collagen vascular disease, retinal vascular occlusions, carotid artery disease, anemia, high altitude retinopathy, dysproteinemias, leukemia, radiation, pancreatitis, and systemic infections.

CMV retinitis

The most common ocular infection and cause for visual loss is CMV retinitis which can affect up to 30% patients with AIDS. CD4+ T-cell counts are usually below 0.05 x 10^9/L. Occasionally, CMV retinitis may be the presenting opportunistic infection. The patient may present with symptoms of floaters, flashing lights, a visual field defect, or blurred vision. The retinitis may also be discovered on a screening ophthalmoscopic examination. Lesions may be asymptomatic because they are small and in the peripheral retina, or an individual may not be paying attention to the sight in each eye separately.

The diagnosis of CMV retinitis is based on the clinical appearance of a focal necrotizing retinitis. There are multiple, granular, white foci of retinal whitening with areas of confluence often with associated hemorrhage. The red and white appearance has been likened to that of a cheese pizza (Figure 1). A small area of retinitis may resemble a cotton-wool-spot, but a nerve fiber layer infarct will resolve in time. Untreated CMV retinitis spreads like a brush fire. Active, expanding borders leave behind atrophic retina and mottled retinal pigment epithelium.

Treatment of CMV retinitis

Medications against CMV approved by the Federal Drug Administration at this time are ganciclovir, foscarinet, and cidofovir. All have been shown to effective in slowing the progression of retinitis. Successfully treated retinitis shows choriotelial scarring with no active granular retinal whitening (Figures 2, 3). Fibroglial tissue, refractile particles, or white plaques can sometimes occur. The drugs are virostatic and must be taken indefinitely.

Ganciclovir was developed first, and therefore it has had the most use. This nucleoside analogue is available intravenously, orally, or as an implant into the vitreous cavity. The Hawaii AIDS Clinical
Fig. 1.—Active CMV retinitis and optic neuritis in the left eye of a 39-year-old man with AIDS. White, necrotizing retinitis with associated hemorrhage. Note the granularity at the borders.

Fig. 2.—Inactive CMV retinitis with atrophic retina and pigment epithelial three months following treatment. Same eye as figure 1. Vision remains 20/20, but there is a persistent inferotemporal visual field defect in the left eye.

Fig. 3.—Inactive CMV retinitis with atrophic retina and pigment epithelial mottling in the inferior periphery of the left eye of a 34-year-old man with AIDS. Yellow object to the right is a partial view of a ganciclovir implant in the vitreous cavity.

Research Program (HACRP) with participating local ophthalmologists was involved in two of the clinical trials involving oral ganciclovir (Syntex ICM 1653 and ICM 1774). The intravenous and oral form should be taken daily for maximal efficacy. Bone marrow suppression is a major side effect. The intravitreal implant involves an operation to suture a sustained-release device into the vitreous cavity. The drug diffuses through a polyvinyl alcohol coating and is effective for five to eight months. Systemic toxicity is avoided, but there is no treatment outside the eye or prophylaxis for the fellow eye.

Foscarnet is administered intravenously also on a daily basis. Infusion times are more lengthy than ganciclovir to avoid the side effects of renal toxicity and metabolic shifts.

Cidofovir is the most recently available agent. It has the advantage of having a maintenance schedule of an intravenous infusion once every two weeks. Probenecid is used to help decrease the nephrotoxicity. Ocular hypotony is possible.

Relapse of CMV retinitis after initial response to an anti-CMV medication is common and drug testing is measured by median time to progression (50 days for intravenous ganciclovir12, 93 days for foscarnet13, 120 days for cidofovir14, 226 days for the ganciclovir implant15). Reinduction with the same drug or switching to another agent may again slow the retinitis. Combination treatment may be effective, but the trade-off is an increase in drug toxicities. Additional drugs are under investigation. Physicians in this state through the HACRP were involved with MSL 109 which is a monoclonal antibody against CMV. This study was terminated in 1997 due to preliminary data showing lack of efficacy and possibly increased mortality.

Retinal detachment is a serious complication of CMV retinitis. In one study, 24% of patients with CMV retinitis for one year developed a retinal detachment.16 Active retinitis and larger lesions are associated with a higher risk for detachment. The patient notices an abrupt shadow and loss of sight. With extensive areas of atrophic retina, a standard scleral buckling operation is usually not successful. Surgical treatment with the techniques of vitrectomy and silicone oil injection are needed to help reposition the retina and preserve sight.

Other important causes of retinitis

Toxoplasmosis causes a focal necrotizing retinitis in immunocompetent individuals and can also present in the patient with HIV infection. Clinically, toxoplasmosis has more inflammation in the vitreous and less hemorrhage than CMV retinitis. In the immunocompromised patient, the infection may be more fulminant making differentiation from CMV more difficult. The distinction is important because of the different treatment options which include pyrimethamine, sulfadiazine, clindamycin, folinic acid, and prednisone.

Acute retinal necrosis is a severe, rapidly spreading, necrotizing retinitis with vitritis, occlusive vasculitis, and optic neuritis caused by herpes zoster or simplex developing in an otherwise healthy individual. In the patient with AIDS, it may present with no vascular occlusion and minimal intraocular inflammation. This has been given the name progressive outer retinal necrosis (PORN).17 The rapid progression helps distinguish this infection from CMV retinitis. Prompt treatment with intravenous acyclovir is recommended,
but sight can still be abruptly and permanently lost. There is a high rate of retinal detachment.

**Screening**

Studies have shown that the risk of CMV is inversely related to the CD4+ T-cell counts. Some experts have used those counts to establish the frequency ophthalmologic examinations as follows: yearly for CD4+ T-cell counts greater than 0.10 x 10^9/L, every 6 months for CD4+ T-cell counts between 0.1 and 0.05 x 10^9/L, and every 4 months for CD4+ T-cell counts less than 0.05 x 10^9/L.  

### Summary

Ocular manifestations of AIDS are not uncommon in Hawaii. Most of the conditions mentioned above have been seen in Honolulu. The goal of the ophthalmologist is to maintain useful sight in an illness which has a high mortality. With early diagnosis of ocular diseases, this has been the case. Improved systemic treatment including new combinations of anti-HIV medications have prolonged the lives of many patients with AIDS. The challenge to preserve sight and decrease the ocular morbidity of AIDS continues to evolve with novel presentations of known diseases, new conditions, and advances in treatment modalities.

### References

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Retinal Venous Occlusive Disease

Vernon K.W. Wong MD*

Occlusions of the retinal venous system are the second most common retinal vascular disease after diabetic retinopathy. Patients present with sudden vision loss or may be asymptomatic. Retinal vein occlusions are classified into branch or central occlusions. Laser photocoagulation and vitreoretinal surgical techniques are used to treat the complications of macular edema, neovascularization, vitreous hemorrhage and retinal detachment.

Retinal Venous Occlusive Disease

Occlusions of the retinal venous system are the second most common retinal vascular disease after diabetic retinopathy. Retinal venous occlusions are classified into branch retinal vein occlusions (BRVO) and central retinal vein occlusions (CRVO).

Branch Retinal Vein Occlusion (BRVO)

Clinical Presentation

Branch retinal vein occlusions usually occur in people in their 60s, affecting men and women equally. Patients may notice an acute, painless loss of vision if there is macular edema, ischemic maculopathy, or intraretinal hemorrhage involving the fovea. A BRVO occurring in a nasal retinal quadrant can be asymptomatic. A longstanding BRVO may present with floaters or an abrupt decrease in vision from vitreous hemorrhage or retinal detachment.

In a recent BRVO, ophthalmoscopy can reveal intraretinal hemorrhages in a segmental pattern, cotton-wool spots, and macular edema. In a chronic BRVO, collateral vessels, macular retinal pigment epithelium changes, and neovascularization of the retina or disc may develop. (Fig 1)

Branch retinal vein occlusions occur most commonly in the superotemporal retinal quadrant, and about 10% of patients with BRVO will develop retinal vein occlusion in the fellow eye. Systemic hypertension is a risk factor for a BRVO.

Classification

Branch retinal vein occlusions are categorized into ischemic and nonischemic types. A nonischemic BRVO is defined as less than 5 disc diameters of retinal capillary nonperfusion as documented by fluorescein angiography, while an ischemic BRVO is defined as greater than 5 disc diameters.

Complications

About 50% of patients with BRVOs have a final visual acuity of 20/40 or greater. Patients with nonischemic BRVOs may lose vision secondary to macular edema. Patients with ischemic BRVOs can lose vision from macular edema, ischemic maculopathy, vitreous hemorrhage, or retinal detachment. If ischemia occurs in the macula, the patient may notice central vision loss, while ophthalmoscopy may not reveal macular edema. A fluorescein angiogram will demonstrate an enlarged and irregular foveal avascular zone. (Fig 2)

Approximately 30-40% of patients with ischemic BRVOs develop neovascularization of the retina or disc. In approximately 60% of the patients who develop neovascularization, traction from the vitreous causes these new vessels to bleed leading to vitreous hemorrhage. Rarely, traction on the new vessels may lead to a traction retinal detachment or a retinal tear that progresses to a rhegmatogenous retinal detachment.

Treatment

Patients with a nonischemic BRVO without macular edema are followed clinically for the development of macular edema and for progression into an ischemic BRVO and its complications. The Branch Vein Occlusion Study was a multicenter, randomized, controlled clinical trial designed to answer if argon laser photocoagulation could improve visual acuity in eyes with BRVO and macular edema reducing vision to 20/40 or worse. The study found that 65% of eyes treated with argon laser photocoagulation compared to 37% of control gained 2 or more lines of vision, a difference that was statistically significant. The study investigators recommend argon laser photocoagulation for patients with BRVOs at least 3 months old and vision loss 20/40 or worse from macular edema.

The Branch Vein Occlusion Study was also designed to see if peripheral scatter argon laser photocoagulation could prevent retinal neovascularization and vitreous hemorrhage. It was found that neovascularization and vitreous hemorrhage in eyes with preexisting neovascularization were significantly less in treated eyes. Data from the study suggested that there was minimal risk for severe vision loss even if laser was performed after the development of neovascularization. The study recommended scatter argon laser photocoagulation...
In ischemic BRVOs with nonclearing vitreous hemorrhage or retinal detachment, vitreoretinal surgical techniques can remove the hemorrhage and reattach the retina.

**Central Retinal Vein Occlusion (CRVO)**

**Clinical Presentation**

The typical patient with a CRVO is in the 60s. Patients describe sudden, painless loss of vision and occasionally, of a painful, red eye from neovascular glaucoma secondary to an ischemic CRVO.

In an acute CRVO, ophthalmoscopy reveals intraretinal hemorrhages in all 4 quadrants and dilated, tortuous retinal veins. (Fig 3) The disc may be swollen, and there may be cotton-wool spots and cystoid macular edema. Patients with an ischemic CRVO develop anterior segment or posterior segment neovascularization which manifests as new vessels on the iris, angle, disc, or retina. In longstanding CRVOs patients can develop cystoid macular edema, macular retinal pigment epithelium changes, and retinal venous collaterals.

Risk factors for CRVO include cardiovascular disease, hypertension, diabetes mellitus, hyperviscosity syndromes, and increased intraocular pressure.

**Classification**

Central retinal vein occlusions are categorized into ischemic and nonischemic types. A nonischemic CRVO is defined as less than 10 disc areas of capillary nonperfusion on fluorescein angiography while an ischemic CRVO is defined as greater than 10 disc areas of capillary nonperfusion. (Fig. 4) Clinically, patients with an ischemic CRVO have poor vision, an afferent pupillary defect, and extensive intraretinal hemorrhages.
Complications

Patients with a nonischemic CRVO may lose vision secondary to macular edema. Patients with an ischemic CRVO can lose vision from macular edema, ischemic maculopathy, neovascular glaucoma, and vitreous hemorrhage. If ischemia occurs in the macula, a patient may notice central vision loss, while ophthalmoscopy may not reveal macular edema. A fluorescein angiogram will demonstrate an enlarged, irregular foveal avascular zone.

A severe complication of an ischemic CRVO is anterior segment neovascularization which occurs in about 35% of patients.9,10 Untreated anterior segment neovascularization can progress to neovascular glaucoma and blindness. About 18% of patients with ischemic CRVOS develop neovascularization of the retina or disc.10 Traction from the vitreous may cause these new vessels to bleed leading to vitreous hemorrhage and decreased vision.

Treatment

Patients with a nonischemic CRVO are followed clinically for progression into an ischemic CRVO and its complications. About 15% of patients with a nonischemic CRVO progress to an ischemic CRVO within 4 months.9,10 The Central Vein Occlusion Study was a multicenter, randomized, controlled clinical trial to see if argon laser photocoagulation could improve visual acuity in eyes with a CRVO with macular edema and vision 20/50 or worse.11 The study found no visual acuity difference in treated and untreated eyes. Macular grid photocoagulation is not recommended for patients that meet the study entry criteria.11

The Central Vein Occlusion Study was also designed to see whether panretinal argon laser photocoagulation could prevent anterior segment neovascularization and neovascular glaucoma.10 Patients with ischemic CRVOS (defined as greater than 10 disc areas of capillary nonperfusion as documented by fluorescein angiography) were treated with panretinal argon laser photocoagulation before and after development of anterior segment neovascularization. The study proved that prophylactic laser decreased the incidence of anterior segment neovascularization, but laser at the time of development of anterior segment neovascularization prevented neovascular glaucoma. The study investigators recommend careful follow-up of patients with an ischemic CRVO and panretinal photocoagulation when the patient develops two clock hours of iris neovascularization or any angle neovascularization.10,12

Summary

Retinal vein occlusions are a common cause of vision loss in people over age 60. Careful, serial ophthalmoscopy aids in the initial diagnosis and recognition of subsequent complications. Laser photocoagulation is used to treat macular edema and retinal neovascularization secondary to a BRVO. Laser photocoagulation is also used to prevent neovascular glaucoma in an ischemic CRVO. Occasionally, vitreoretinal surgical techniques are needed to remove chronic vitreous hemorrhage or repair a retinal detachment secondary to a retinal vein occlusion.

References

Ocular Trauma

Joyce H. Cassen MD, PhD
Assistant Clinical Professor, John A. Burns School of Medicine

Summary: A review of the literature was conducted to investigate recent articles about ocular trauma. Eye injuries may be divided into blunt and penetrating types. Males are more affected than females. Evaluation of eye injuries should start with visual acuity and continue with prompt referral to an ophthalmologist as indicated.

Design: Medlines search/American Academy of Ophthalmology

Results: Ocular trauma is a frequent reason for emergency room visits. Most injuries stem from sports, recreation, military, occupational, or automotive.

Discussion: Patient education is highly recommended, as well as prevention by use of protective polycarbonate eyewear.

Introduction

Eye injuries from blunt trauma, penetrating forces, burns, or irritating compounds may cause ophthalmic morbidity. Ocular trauma is a frequent reason for emergency room visits. Common eye injuries occur from sports, recreation, military, occupational fields such as carpentry and construction, or automotive, to name several major areas. Injuries may occur to the orbit and ocular adnexa, cornea, sclera, uveal tract, retina, and optic nerve. An international standardized classification of ocular trauma has been developed and endorsed by several institutions, including the International Society of Ocular Trauma, the U.S. Eye Injury Registry, the American Academy of Ophthalmology, and the Retina Society. Males have more ocular injuries than females. In Hawaii, especially, surfing injuries to the eye and ocular adnexa are common in young males and may be devastating. Evaluation should be prompt. Measurement of the visual acuity of the eye is the best way to start, to determine initial severity of the damage, followed by complete eye exam. A report may be filed to the U.S. Eye Injury Registry for tabulation of ocular injuries nationwide.

Blunt trauma

Sports

In a report by Filipe et al., it was noted that most sports ocular injuries occurred predominantly in young males, with mean age of 25 years old. These were primarily blunt injuries from soccer, baseball, squash, and racquet balls. Hyphema, vitreous hemorrhage, commotio retinae, and retinal detachment occurred. Angle recession glaucoma was significantly higher in cases of hyphema.

Retinal tears were more common in the presence of vitreous hemorrhage. The U.S. Eye Injury Registry report forms were useful for collecting data on injuries. Clinical diagnosis at presentation of injuries was based on 84 consecutive cases (See Table 1). With eye protection, 90% of sports eye injuries are preventable.

In Hawaii, aside from ball injuries, surfing accounts for a multitude of recreational trauma, especially from the fin of the surfboard. Eyelid lacerations (See Figs. 1 and 2), scleral laceration, hyphema, traumatic cataract, lens dislocation, glaucoma, retinal pathology, optic nerve severing, and extraocular muscle shearing have been reported locally. Many of these cases require several ophthalmologic subspecialists to surgically rehabilitate the injured eye.

Automotive

Auto accidents represent high-velocity blunt trauma. Recently, air-bags have gained acceptance in vehicular safety. A review of air bag-related ocular trauma was carried out by Ghafoori et al. A total of 11 accidents with 32 patients and 39 eyes were reviewed. The most common type of eye injury was to the eyelids (28 eyes), conjunctiva (25 eyes), and the cornea (28 eyes). Hyphema was seen in 11 eyes. Serious cases of vision-threatening injury included retinal dialysis, detachment, dislocated lens with cataract, and scleral rupture. Patients were 55% women, and 45% men. Age ranged from 2-81 (mean age 36). Damage to the right eye occurred in 35% of cases while 38% to the left eye and 27% bilateral. These findings indicate that further refinement in air-bag design is needed.

<table>
<thead>
<tr>
<th>Table 1.—Clinical Diagnosis at Presentation</th>
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<tbody>
<tr>
<td>Initial Diagnosis</td>
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<tr>
<td>Lids and orbit</td>
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<tr>
<td>Lid and orbital contusion</td>
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<td>Lid laceration</td>
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<td>Orbital fracture</td>
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<td>Conjunctiva</td>
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<tr>
<td>Subconjunctival hemorrhage</td>
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<td>Conjunctival laceration</td>
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<td>Cornea</td>
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<td>Corneal abrasion</td>
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<td>Corneal laceration</td>
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<td>Corneoscleral laceration</td>
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<td>Anterior chamber</td>
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<tr>
<td>Uveitis</td>
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<td>Hyphema</td>
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<td>Glaucoma, secondary</td>
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<tr>
<td>Iris laceration or dialysis</td>
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<td>Extraocular muscle</td>
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<tr>
<td>Third nerve paresis</td>
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<td>Fourth nerve paresis</td>
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<td>Vitreous and retina</td>
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<td>Vitreous hemorrhage</td>
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<td>Retinal hemorrhage</td>
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<td>Retinal edema</td>
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<td>Macular edema</td>
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<tr>
<td>Macular hemorrhage</td>
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<td>Retinal dialysis</td>
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<tr>
<td>Retinal detachment (rhegmatogenous)</td>
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<tr>
<td>Choroidal hemorrhage</td>
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Penetrating Trauma

Foreign bodies

Projectile metallic foreign bodies in the orbit such as BB’s, bullets, shot, and miscellaneous fragments have all been reported in the orbit and eye. Finkelstein et al. reviewed 27 orbital cases in 7 years preceding, and found the majority of patients male, between age 11-30, and had BB pellets in the orbit. Thirteen of 27 cases were anterior, 4 equatorial, and 10 posterior. Not all BB’s were felt necessary to remove if they were in a remote area of the orbit. Final visual acuity was improved on discharge.

Greater ocular morbidity is associated with intraocular foreign bodies. Pathology may include corneal abrasion, laceration of the globe, traumatic cataract, retinal detachment, and the like (See Table 2). Tomic reviewed 40 cases of intraocular foreign bodies which were evaluated and surgically treated. The group was mainly males with average age of 33 years. In these cases 92% of the foreign bodies were metallic. After a one month follow-up, 70% of eyes achieved good post-op vision. Metallic foreign bodies may be removed with a sterile surgical magnet in some cases, where the intraocular foreign body is anterior to the retina. In cases where the penetrating trauma has left an eye with no light perception, it may be necessary to remove the traumatized eye to avoid sympathetic ophthalmia. In these cases, a second ophthalmic opinion is required in most hospital settings.

Education and protective eye wear (safety goggles) are useful in reducing projectile ocular injuries.

Fireworks

In a firecracker study, 316 children were treated for injuries. Of these cases 95% were injured between June 22 - July 14 over a 22 year period. The average age was 8.5 years, with a range of 1 month to 17 years old. Eyes were injured in 29% of cases: 15% of children required surgery and 10% had permanent sequelae. The authors felt that public fireworks performed professionally were reasonable, however that private fireworks should be banned.

Dog bites

Dog bites account for canalicular injuries in conjunction with facial lacerations. In 17 dog bite-induced canalicular injuries, all were treated with antibiotics and surgical repair. Prophylaxis of canine oral flora needs to be considered in these cases.

Military

Battlefield injuries of the eye and orbit can cause severe ocular morbidity and incapacitate military personnel. Most penetrating eye injuries may be from shrapnel, bullets, or debris. Any trauma on the battlefield requires prompt diagnosis, coupled with indicated treatment and evacuation from the war zone. Often care is administered in a mobile unit initially.

Continued on Next Page
Irritating compounds/Burns

Super glue

Ocular injury from super glue may present to the office or emergency room. In a study of 14 patients over a one month period, there were no long term complications from the super glue injury. Eyelid closure and conjunctival and corneal abrasions may occur. Treatment includes removal of super glue by cutting it off from eyelashes, to allow the patient to open the eye. The glue may be allowed to slough off on its own if there is no diminution of sight. Local treatment for corneal abrasion may be indicated, including usage of topical antibiotics.

Chemicals

Cleaning compounds and other toxic fluids may contain acids or bases. These should be copiously rinsed from the eye, and topical antibiotics applied. Follow-up with an ophthalmologist is recommended.

Burns

Ocular burns may be from toxic chemicals or from prolonged sun/UV exposure. Topical therapy is generally adequate, with conjunctival and corneal epithelium restoring itself within several days. Pain control may be required, according to the severity of the burn.

Conclusion

Traumatic eye injuries require careful evaluation. Initial evaluation should be to check the visual acuity and patch the eye for protection until consultation. Superficial injuries may be treated by a generalist or emergency room. However, any severe ocular injury should be promptly referred to an ophthalmologist. The American Academy of Ophthalmology recommends protective polycarbonate eye wear for prevention of eye injuries.

References

The meeting was called to order by Dr Spangler, President at 5:35 p.m.

those present were Drs L. Howard, President-elect; C. Lehman; Immediate Past President; C. Kelley, Treasurer; R. Kimura, Secretary; AMA Delegate, C. Kam; Alternate AMA Delegate: S. Wallach; Speaker: H.K.W. Chinn, County Presidents: G. McKenna - Kauai, Ali Bairos - West Hawaii, W. Dang Jr. - Honolulu; Councilors: T. Au, P. Chinn, C. Goto, H. Ching, M. Shirasu, R. Stevens, W. Young, P. Kim, C. Kadooka, B. Leeloy; Past Presidents: W. Chang, W. Dang, G. Goto, J. Lumeng, J. McDonnell; Medical Student Delegate: W. Har; Alliance: C. Gutting, President and other members (Lois Cecil, Guen Fu, Karen Zelko)

HMA Staff: J. Won, N. Jones, P. Kawamoto, J. Asato, A. Rogness - recording secretary

Introduction: Dr Spangler introduced and welcomed Dr Harry Chingon a child psychiatrist who replaced Dr Kim Thorburn as Honolulu Councilor.

Minutes: The minutes of the August 1 meeting were approved as circulated.

• Dr Spangler reminded Council of the upcoming Legislative Committee meeting on Sept. 10 at noon and that the HMA Membership Committee will be meeting later in the month.

• Dr Lehman expressed words of appreciation to Dr Spangler as it was his last Council meeting presiding as President of the HMA. A lei was presented and a round of applause was given.

• The HMA Alliance presented a written report of their efforts on behalf of physicians. The written agreement drafted by the Ad hoc Committee between the Alliance and the HMA was distributed at the meeting. It was passed that the ad hoc committee meet with the Alliance to review the agreement and come to a mutual agreement and it be presented at the HMA Annual Meeting.

For Action

• A motion was passed that there be no membership dues increase for 1998 and the dues remain at the 1997 rate.

• Council approved the Finance Committee’s recommendation to approve the 1998 budget for presentation to the House of Delegates with the amendment to dues and a reduction in travel funds for the medical student and resident physician sections.

• Council approved the Finance Committee’s recommendation to approve the Financial Policy Manual as amended to include Hawaii Tumor Registry as an affiliated organization.

• Council approved the Long Range Planning Committee’s recommendations: 1) An ad hoc Leadership Training Committee be formed which will be mandated to plan a leadership training course for the purpose of: a) Educating interested HMA members about their leadership roles in the HMA; b) to help our members develop general leadership skills and proficiencies in conducting organizational functions; 2) The Committee develop one leadership course to correspond near the time of the AMA Interim Meeting in December 1998 in order to benefit from AMA Leadership Training personnel. (Drs. Patricia Chinn, Stephen Wallach and Carl Lehman volunteered to be on the ad hoc Leadership Training Committee).

• Council passed a motion that HMA decline any future invitations to attend tort reform coalition meetings that include the tobacco industry.

• Council also passed a motion that HMA support any legislation that would abolish joint and several liability.

Component Society Reports

Honolulu.—Dr W. Dang, Jr. reported that the Board of Governors will be meeting on September 16/97 and that a joint HCMS Caucus and Board of Governors will be held on October 14 to review the HMA annual reports and resolutions to be presented to the House of Delegates. The HCMS Annual Meeting will be held on November 23 and nominations for officers will come out over the next month.

West Hawaii.—Dr A. Bairos, President reported that Dr Steve Denzer gave an interesting talk on AIDS at their County meeting. Three members attended from North Hawaii.

Kauai, Maui and Hawaii.—No report.

For Information

Legislative and Government Affairs: The HMA has hired a new staff person Heidi Singh to fill the position of Director of Legislative and Government Affairs. Mrs. Singh has a Master’s in Public Health, has worked 5 years for two congressmen, and has also worked in the managed care Blue Cross/Blue Shield Plan. She will write testimony and lobby for the HMA as well as maintain responsibility for those committees dealing with government agencies.

Medicare Fraud and Abuse Presentation: Mr Won reported that the presentation will be held at the St. Francis L.Q. Pang Auditorium September 26 from 5:30 - 7 p.m. Panelists will be Paul Canniarato, Fraud Team Leader of Transamerica/Occidental Life; Larry Tong, Esq., Assistant U.S. Attorney - U.S. Dept. of Justice; Bernard Fong, MD - Carrier Medical Director; and Herbert K.W. Chinn, MD, Co-Chair - Carrier Advisory Committee.

Meeting was adjourned at 7:30 p.m.
Life in These Parts
A Leeward physician’s “Worst page ever.” “The wife of a patient called at 3 am to report that her husband had dropped his blood pressure pill and their pet dog had swallowed it.

“Just have him take another pill,” he mumbled sleepily. The wife, really wanted to know what to do about her dog.

“Call the vet,” he remembered telling her.
(As told by Merck rep Kylie Armstrong)

Internet Jokes
(As told by our favorite humorist Ronald Lee)
The president was jogging on the beach with his FBI retinue when he spied an ancient bottle. Sure enough, when he rubbed the bottle, a genie popped out.

“You can have one wish,” the genie said. The president excitedly pulled out a map of the Middle East and said, “I wish for peace over this land.” The genie demurred, “That’s too much for one wish.” The president reached for his wallet and pulled out a photo of Hillary.

“Can you make her more popular and attractive?” The genie studied the photo carefully and said, “Naw, Let me see that map again.”

“I hope the toes I step on today are not connected to an ass I have to kiss tomorrow.”

Intelligence is like underwear. We all should have it, but we shouldn’t show it off.

Elected, Appointed & Honored
Cardiologist Coolidge Waki was inducted as a Fellow and named a trustee for a 5 year term at the 46th Annual American College of Cardiology Scientific Session.

Thomas Vogt MD, MPH, researcher, teacher and administrator was picked from 20 candidates in an international search, to be the Cancer Research Center of Hawaii’s director of Prevention and Control. Tom will be the center’s first holder of its M.J. Sullivan Chair in Cancer Prevention & Control Research. He was formerly director of epidemiology and disease prevention program at Kaiser’s Health Research in Portland and principal director of the National Cancer Institute’s Tobacco Reduction and Cancer Control Program.

Ophthalmologist Jorge G. Camara, Aloha Medical Mission director, department chairman at St. Francis Hospital and UH clinical assistant professor was recently appointed a director of American Savings Bank.

The District 50 Hawaii Lions club named ophthalmologist John Corboy Humanitarian of 1997 at its 61st annual convention in June.

Physician Moves
Kathleen L. Mah, board certified general surgeon opened her practice at Kapiolani Medical Center, POB Suite 920 and Queen’s POB Suite 703.

Ob-Gyn man Francis H. Soon retired in July after 35 years of practice.

Alan Taniguchi cited “personal reasons” for leaving his job as medical director for the State prison system. Alan inherited the position from Kim Thorburn who resigned last year.

Plastic surgeon, Eugene Smith opened at three locations: St. Francis Medical office building, Suite 301; St. Francis Medical Plaza-West, Suite 100; and Plastic Surgery Center of the Pacific, Bank of Hawaii building, Suite 1011.

PP Randall Nitta joined the Milliani Family Clinic.

Pediatric and fetal cardiologist Lance Shirai opened his practice at Kapiolani Medical Center, POB Suite 1020.

OB/GYN Linda Waki Ho has relocated to her new office at, Artesian Plaza, 1907 S. Beretania St, 5th Floor.

Quotable Quotes
One of the secrets of a happy life is continuous small treats.

Honesty is something you can’t wear out.

If you’re treading water, you are losing ground.

All our souls are written in our eyes.

No pessimist ever discovered the secrets of the stars or sailed to an uncharted land, or opened a new heaven to the human spirit.

What a strange world this could be if we all had the same sense of humor.

How True
One of the hardest things to imagine is that you are not smarter than average.

If mom’s on a diet, everyone is on a diet.

The person who says “I won’t say another word,” always does.

You celebrate the victory, but you analyze the defeat.

Regret for the things we did can be tempered with time; it is regret for things we did not do that is insufferable.

Truth Hurts
The witness on the stand was losing patience with the questioning attorney’s condescending manner.

“Well sir,” the lawyer went on, “from your last answer, I can tell that you are a man of intelligence and good judgement.”

“Thank you Counselor,” said the witness, “If I weren’t under oath, I’d return the compliment.”

Conference Notes
Clinical Frontiers in Cardiology
Honolulu Country Club, Sunday, September 7, Supported by Pfizer Inc. educational grant.

Treating the Patient with Multiple Risk Factors for Coronary Heart Disease
John Speer Schroeder MD, Professor of Cardiovascular Medicine, Stanford School of Medicine

“The medical profession is too concerned with the blood pressure cuff. Hypertension is a single gene. A triad of hyperlipidemia, hypertension, and insulinemia.”

Quality of Life Issues in CAD Therapy
- Gastrostomy
- Defecation
- Cerebrothrombosis
- Ambulation
- Fornication

- Diuretics and Beta Blockers: Poor quality of life.
- ACE: Good lipoprotein control and quality of life; effective in hypertension and CHF; but 20% develop cough. Substitute ACE with Angiotensin II Blocker.
- Calcium Channel Blockers: Well tolerated and reverses problems; peripheral vasodillator; promotes renal sodium excretion; EDRF normal; no adverse effects on quality of life; also antiatherosclerotic effect; CaCB lowers lipids in transplantation, eg. dilatiazem. Effective in elderly and in African-Americans.

re Jan JAMA article on increased incidence of MI’s with Ca Channel Blockers: False
- Study retrospective
- HMO’s use beta blockers and diuretics first, then use CaCB
Systolic Hypertension: SHEP Trial
- Treat isolated systolic HTN (with diastolic pressure less than 90). Keep systolic pressure below 140.

Two challenges for physicians:
- Asymptomatic HTN
- Compliance

Unstable Angina
Treat lipids aggressively.
- Simvastatin Trial
  - 30% reduction of overall mortality.
  - Aggressive lipid therapy. EDRF stabilizes plaques and reduces angina. 50% reduction in stroke risk.
- Pravastatin Trial
  - LDL below 100. 24% reduction in fatal and non-fatal MI’s. 27% less revascularization procedures.
- West of Scotland Coronary Prevention Trial
  - LDL below 100. One third less CABG. One third less repeat CABG. EDRF normalizes.

Lipid Lowering Trials
Aggressive LDL lowering restores the endothelial factor. LDL lowering is the primary objective. The lower the LDL, the better the results.

“At Stanford, everybody gets started on Day 2 post CABG with a statin”
The goals are:
- Total cholesterol less than 150; LDL between 50 - 80 or at least below 100. Every diabetic is treated (otherwise 43% mortality in 5 years). No more lopid, niacin, etc. Statins are the first line of therapy in 99% of our patients.
- Antioxidants: Vit E 400 I.U. and Vit C 500 mg.
- Diet: Low saturated fats, Saturated fats raise LDL; eat less than 20 to 25 gms saturated fats.

Results: “50% reduction in mortality and morbidity in CAD/HTN patients with statins, anti-oxidants, and low saturated fats.”

Summary
- Stop smoking
- Treat hypertension with calcium channel blockers/ACE
- Treat angina with CaCB
- Treat lipids with low saturated fats and statins
- Take anti-oxidants, Vit C and Vit E
- ERT for post-menopausal women

re Homocysteinemia: Take 400 mg Folic acid daily
re Liver enzyme monitoring for Statins: Unnecessary after the first year.
California wine raises HDL.

To place a classified notice:
HMA members.—Please send a signed and typewritten ad to the HMA office. As a benefit of membership, HMA members may place a complimentary one-time classified ad in HMJ as space is available.
Nonmembers.—Please call 536-7702 for a nonmember form. Rates are $1.50 a word with a minimum of 20 words or $30. Not commissionable. Payment must accompany written order.

Lihia Medical Bldg.—Share a 1,397 sq. ft. medical office with free visitor parking. Call Chaney, Brooks & Company, 544-9557.

Private Practice.—in Waimea, Big Island seeking Internist to share space and coverage. Call (808) 885-9318 for information.

A Doctor to share first floor suite.—in the Medical Arts Bldg. Prefer MD in Internal Medicine/ENT or Family Practice who participates in most medical insurances including Medicaid and Quest. Option to purchase practice in very near future. Call 593-9558.

Locum Tenens

Locum Tenens available.—Board-certified family practice, 14 yrs clinical experience in Hawaii. Office coverage, Deborah C. Love MD; home Oahu; (808) 637-8611; cell ph: (808) 295-2770.

Veteran Certified Petroleum Geologist.—Wishes to team up with oil and gas investment capital finder. Excellent remuneration. (614) 453-9231 or fax (614) 450-7507.

For Sale

Misc for Sale.—Canon copier model 4550 $1,950; desk 60" x 30" $50.; Credenza 71" x 18" $100; Xerox Model 5305, 1 yr old, $525. Ask for Nelson 536-7702.

American Heart Association Golf Tournament.—Thursday, November 13 at the Kaneohe Klipper Course, Kaneohe Marine Base. Sponsored by Central Pacific Bank. Will feature on-course refreshments, an awards reception and buffet following the event, and many prizes. Hole-in-One prizes include $10,000 cash and a brand new Ford. Funds raised will help support heart research and education programs in Hawaii. For more information, contact Liz DeLima 538-7021.

Navigating Diabetes Care into the Next Millennium.—8 to 4:30 pm, Hawaiian Regent Hotel at Waikiki Beach; jointly sponsored by the American Diabetes Association, Hawaii Affiliate and the Hawaii Consortium for Continuing Medical Education. Call Marie Robello 547-4823 for more information.

Cars for Catholic Charities.—Give hope to a needy child or family by donating your car to Catholic Charities. Your donation is tax deductible at the fair market value. Call (808) 537-6321, Ext. 303 for more information.

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Pacific Tower, Suite 2944, 1001 Bishop Street derand
Experience varies directly with equipment ruined.
A healthy 39-year-old woman went to her chiropractor complaining of neck and shoulder pain related to her work as an airline flight attendant. She was treated with adjustment of her cervical spine. Immediately after the manipulation, she lost most of her left peripheral visual field. She noted dizziness and lay back down, and the chiropractor performed additional adjustment. The dizziness resolved, but the visual defect remained. She was referred for immediate neurologic evaluation, and magnetic resonance imaging showed an acute infarction of the ventromedial aspect of the inferior right occipital lobe. No bleeding nor mass lesions were seen, the cervical spine was normal, and no other focal neurologic deficits were found. Follow-up visits at three and six months after the initial ophthalmic consultation, noted no change in her homonymous hemianopsia. The theoretical explanation is that stretching the vertebralbasilar artery leads to an embolic stroke. This complication of chiropractic treatment is extremely rare, but has been previously reported. So, if you get out of line, don’t let them rub you the wrong way.

Be careful if you don’t know where you are going. You might not get there.
And on that subject closer to home, North Hawaii Community Hospital on the big island has granted medical staff credentials to some alternative practitioners, such as those using “healing touch.” HMA past president, Fred Holschuh, MD, Hilo ER physician and alternate delegate to the American Medical Association House of Delegates, addressed the AMA House by saying, “It might sound strange to some people in this room, but this is the way the community wants it done. A lot of people are going to these folks, and we want to make sure that we have some kind of medical control and supervision when we are dealing with them.” In ophthalmology we are familiar with the choice of alternative therapies by “pretenders,” but they constantly reject medical supervision, often with the general public at risk.

Circle the wagons. Aim out.
Congress passed a bill with reductions in Medicare reimbursement, centered around a single RVS conversion factor in 1998. Surgeons, especially ophthalmologists already shredded by reimbursement reductions, shouted to our Congressmen that it is unfair to leap to the new schedule without the supporting data, and the fact that surgeons have already performed beyond expectations in conforming to previous HCFA mandates. Still the pressure was to simply plug in the inclusive factor beginning in 1998, and forget gathering data. Sadly, much of the problem generates from non-surgeons who apparently believe that reducing to a single conversion factor will provide them with increased income. Wake up, my beloved colleagues! We are in the same cane here, and drilling a hole in the opposite end only serves to aid those who want to make the practice of medicine a public utility. Experience demonstrates that every inch of ground lost in the struggle against the scheming forces in the beltway, cannot be regained.

Facts often weaken under extreme heat and pressure.
The House of Representatives version of Medicare reform legislation included a $250,000 cap on non-economic damages in medical malpractice lawsuits. The Congressional Budget Office estimates a conservative figure of $200 million in savings over a seven year period, but the Physician Insurers Association of America (PIAA) claims that savings would be considerably greater. A similar action in the California liability statute (MICRA) has worked to control liability losses, much to the consternation of plaintiffs’ attorneys in the golden state. But it didn’t happen in Washington, because the trial lawyers’ friends in the Senate wiped out the reform in the final bill.

Which is it - man is one of God’s blunders, or God is one of man’s blunders?
Biologic warfare does not necessarily need to generate from foreign sources. In The Dalles, Oregon, 751 people who ate or worked at salad bars in 10 restaurants, developed salmonella infection from the identical strain of bacteria cultured at the nearby Bhagwan Shree Raneesh colony. Apparently, followers of the Bhagwan were angry at the community, and deliberately contaminated the salad bars in reprisal. Reporting in JAMA, investigators from the Center for Disease Control and Prevention, accumulated evidence to establish the link, and warned “if investigation of a large and cryptic outbreak implicates a mechanism of contamination that does not reflect established patterns, then the possibility of intentional contamination should be considered.

When stupidity is a sufficient explanation, there is no need to seek another.
In a remarkable episode of “They did what?” the American Medical Association, signed a marketing alliance with Sunbeam Corp. Historically, the AMA has never given its endorsement to any commercial product. Most assuredly, the credibility of the organization would become suspect if the agreement were to go ahead. Many members and others outside the AMA have demanded a reversal of the action, and P. John Seward, MD AMA executive vice-president, has admitted the action was an error. Purportedly, proceeds from the agreement, which were expected to total millions of dollars annually, would be channeled into health education projects. The House of Delegates, the policy directing body of the AMA, will demand an explanation at the December meeting.

If God had wanted man to drive, he would have provided parking places.
Out there in the dangerous motorized world, statistics demonstrate that it is increasingly dangerous to operate a car, Car to light truck (pick-ups, vans, sport-utility vehicles) accidents are on the rise. The possibility of a fatal outcome is four times greater in the car when colliding with a light truck. Explanation is simply that a standard car weighs from 2200 to 3400 lbs, while the light trucks go at 3600 to 4200. Bigger, stronger and heavier doesn’t always win, but that’s the way to bet, and in fact, it’s pretty cheap health insurance.

“The vote means nothing to women. We should be armed.”
E Jong
“Women do not need artificial handouts, such as quotas,” according to Anita Blair, head of the Independent Women’s Forum. Contrarily, Patricia Ireland, head of the National Organization of Women (NOW) says that affirmative action for women is not obsolete. Both women voters and collective data support Ms. Blair. More than 2/3 of women voters in California voted in favor of Proposition 209 which banned special treatment for women and minorities by state agencies and schools. Figures indicate that among workers ages 27 to 33 who don’t have children, women earn 98% of men’s incomes. Women now own eight million firms in this country, compared to less than half that just a decade ago. The professions are even more demonstrative as 35% of new doctors are female, up from 9% in 1970, and 42% of new lawyers are women, up from 7% in 1970.

I respect faith, but doubt is what gives you an education.
A 72-year-old woman had a routine chest x-ray prior to arthroscopic knee surgery. The radiologist noted a “poorly defined rounded density” in the base of the left lung. The report was filed in the back of the patient’s chart without comment or follow up. Seven months later the patient suffered chest pain, and her internist ordered a coronary angiogram, which was unremarkable, and also a chest x-ray. The radiologist compared this film with the previous one, and described an increase in the size of the lesion. He noted that the lesion might represent a tumor, and once again the report was filed away before the internist could see it. Less than two years later, the patient complained of shortness of breath and was found to have disseminated metastatic lung cancer, which proved to be fatal. The malpractice complaint was settled for $200,000, with 12-1/2% to the radiologist and 87-1/2% to the internist. Obviously, the amount would have been much more if the patient had been younger. Morals read and follow up on abnormal lab and x-ray reports.

Now about your peer review system.
In the upper Amazon basin an Indian tribe executed a medicine man for practicing “bad medicine.” A council of native healers of the Achuar tribe sentenced Hernan Sundry to death after finding him guilty of killing five people who died after receiving his treatment. “He was warned not to cause more misfortunes, but he did not pay attention.” The community’s healers met, sentenced him to death, and he was summarily shot.

Addenda—
❖ One of the keys to happiness is a bad memory.
❖ Teddy Kennedy would have made an excellent bartender.

Aloha and Keep the faith.—rst

Russell T. Stodd MD

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