مجلہ طب العیون پاکستان

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THE OFFICIAL JOURNAL OF THE OPHTHALMOLOGICAL SOCIETY OF PAKISTAN

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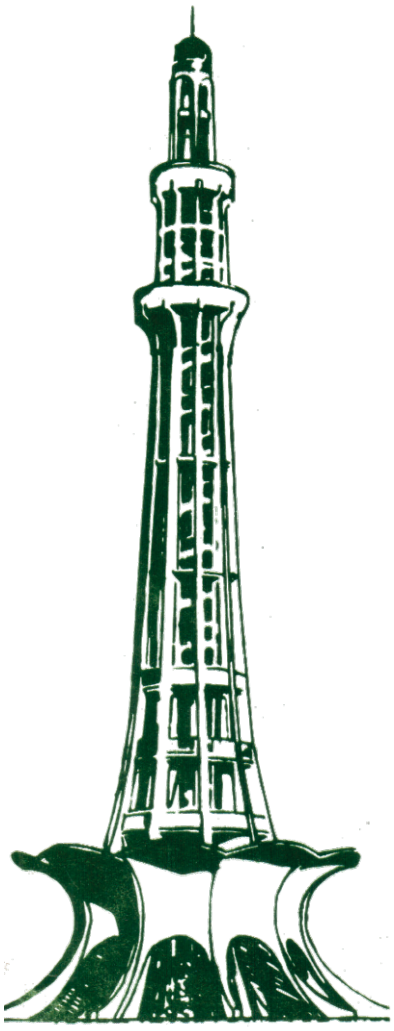

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Complete Contents On Next Page

BISMILLAHIR-RAHMANIR-RAHEEM

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Editorial

Say: "Are the blind and the seeing man equal, or are the darkness and the light equal?"
Holy Quran 13:16

Junior Research in Pakistan

Bismillahir-Rahmanir-Raheem.
To you have come signs from your Lord;
Whoever therefore sees,
Does so for himself;
And whoever remains blind,
Does so to his own loss. -Holy Quran 6:105

The above quotation from the Holy Quran enjoins a Muslim to observe and analyze all that Allah has created, a clear guidance to research. That this instruction also extends to the field of medicine is clearly corroborated by the challange placed before us by Prophet Muhammad (PBH), who said: "God has not sent down a disease without sending down a remedy for it." (Robson, J: Mishkat Al-Masabih. Lahore, Sh. Muhammad Ashraf, 1963, p. 945.)

Medical research is not only essential to learning about the causative factors and finding of cures for heretofore unexplained diseases, it is also indispensible for determining the influence of socioeconomic, religious, geographic, and ethnic circumstances on the patterns and available modes of treatment of well-understood disease processes. The delineation of etiology or pathogenesis of a poorly-understood disorder or developing of a new therapeutic agent for a fairly well-understood disease requires basic medical research, which calls for necessary technology and generous funding in addition to the superior ability of a researcher. On the other hand, the clinical research by a capable and interested professional to determine any modifications in the behavior or therapy of a known disease entity due to the above mentioned social factors may not require highly sophisticated equipment or much financial backing. Although government of Pakistan has lately been encouraging and supporting the basic medical research in Pakistan, the argument that a lack of technical facilities and sufficient funding does not allow interested researchers to conduct it in our country may be accorded some credibility. However, there is no excuse for the deplorable dearth of clinical research and its publication in a country with nearly two dozen fully-subsidized academic medical institutions. Most physicians in Pakistan routinely borrow, without any essential modifications, the diagnostic criteria and therapeutic regimes for most diseases from the publications by the Western writers.

Since the existing health education system provides little incentive, and has no mandatory regulations to compel those who occupy the highest academic positions in Pakistan to engage in research, some professional organizations have taken upon themselves to attract junior members of the profession and stimulate in them an interest in research and writing.

The Pakistan Academy of Medical Sciences (PAMS) a few years ago instituted an annual PAMS' Junior Award and Gold Medal to be given to a Pakistani professional holding the position of an assistant professor or under in any of the established medical or other biomedical fields for publishing the most outstanding original research paper in the preceding year. In addition to a gold medal, the recipient is also given a bursary of Rs. 10,000.00. Each year a committee of experts from home and abroad is appointed by the Academy to evaluate all the entries and pick the most deserving paper. Two years ago, to further enhance the interest of the junior member of the profession in research, the President of Pakistan awarded an additional Rs. 100,000.00 to the recipient of the PAMS' Junior Award and Gold Medal and another Rs. 100,000.00 to the institution where he conducted his study for further continuation of research. Such efforts are gradually creating a trend for at least clinical research in Pakistani physicians.

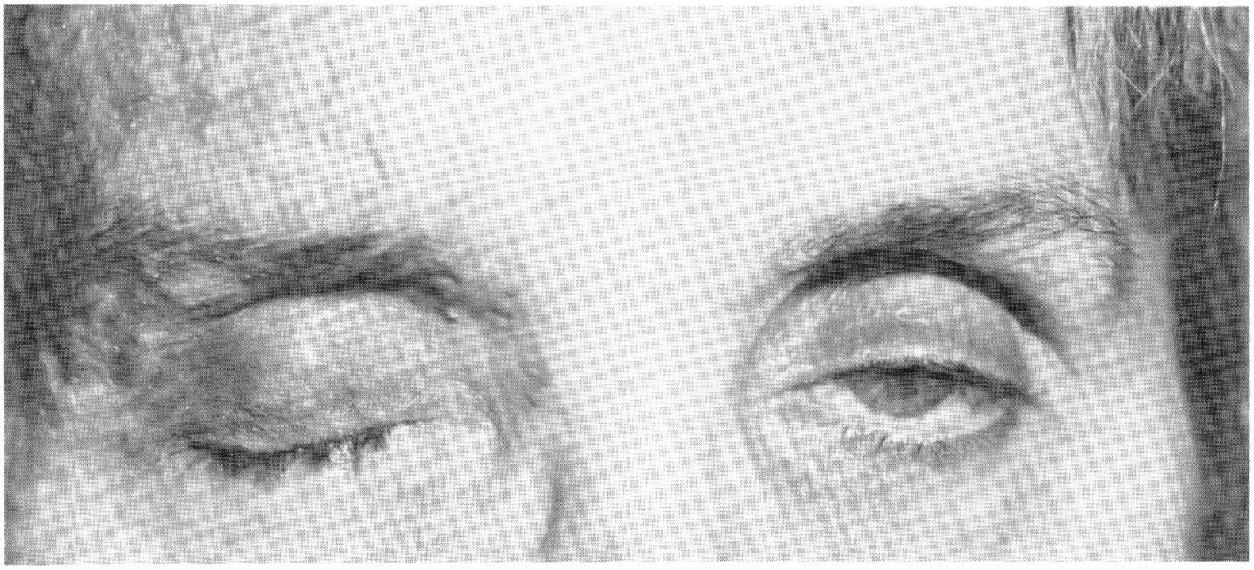
When over five years ago, the Ophthalmological Society of Pakistan approached me to establish this Journal, one of the intended purposes was to promote research and writing among the Pakistani ophthalmologists. Today, the Ophthalmological Society of Pakistan is the most organized specialty association in Pakistan with a well-established Journal. It appears that more and more junior ophthalmologists are becoming interested in research and writing. It is even more encouraging that their department heads are fully supporting them in their efforts. To do their part, the Editorial Board of the Journal has decided to give special consideration to the papers submitted by the junior researchers, helping them in rewriting and improving their submitted materials. This issue of the Journal carries two papers under the section title of "Junior Research." (See pages 75 and 77.)

Every physician has a dual obligation: to provide the best possible care to his patients, and to communicate to his colleagues whatever new ideas and conclusions he draws from the experiences of his professional life. To ignore the former is to demolish the very foundation of medicine; to ignore the latter is to impede the progress of medicine. The ideal physician would never allow either. *-KJA*

Camera Clinicals

In this section of THE JOURNAL, photographic documentation of interesting and challenging observations are presented to the readers. They should make their diagnoses from the given information and compare these with the expositions given on pages 84-85.

-Editor



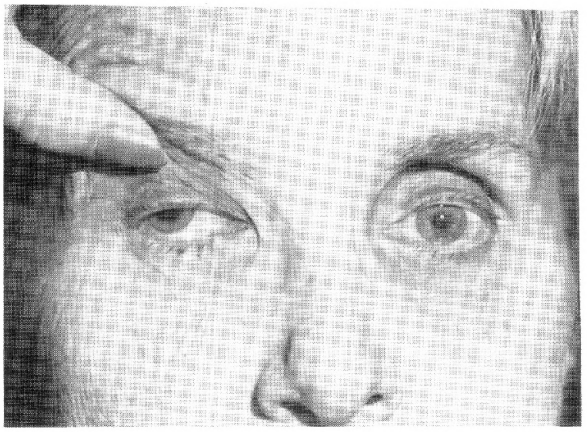


Figure 2

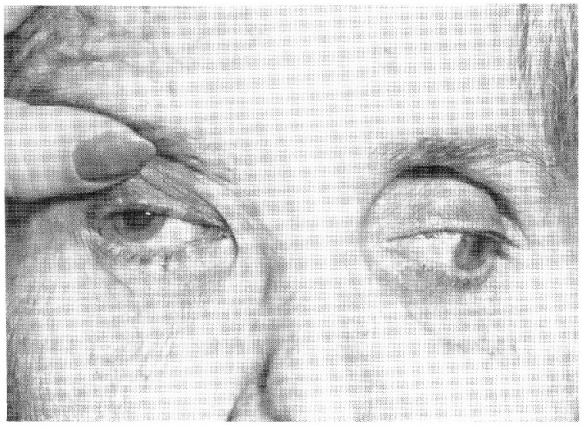


Figure 3

Figures 1, 2, and 3: A 66-year-old woman with "swelling of the right eye and forehead" was referred by a family physician. About nine years ago she had a successful VP (ventriculoperitoneal) shunt placed for hydrocephalus. She also had an infantile uterus and had never been pregnant. About four days prior to her visit, she developed severe rightside headache with vomiting and a funny feeling in this eye that was followed by a difficulty in opening the right eye (Figure 1). Next morning an exudative rash erupted on the involved side. A CT scan of the head showed a subdural hematoma. The vision was 20/40 in the righteye and 20/25 in the left eye with glasses. On elevation of the right upper eyelid, the eye was found

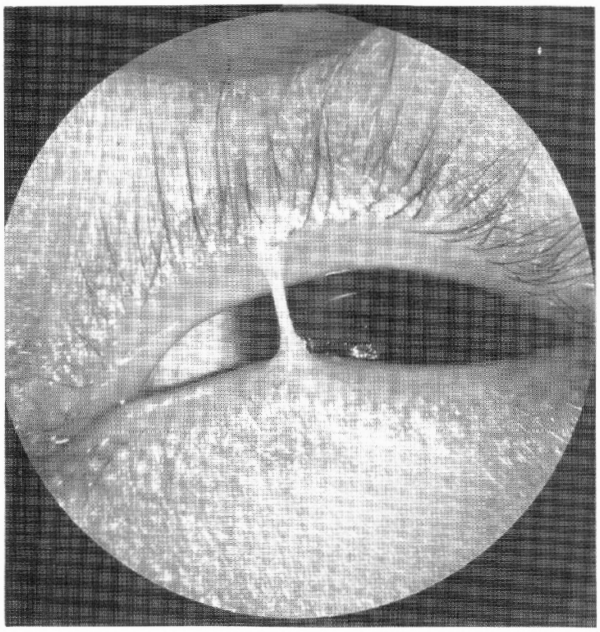


Figure 4

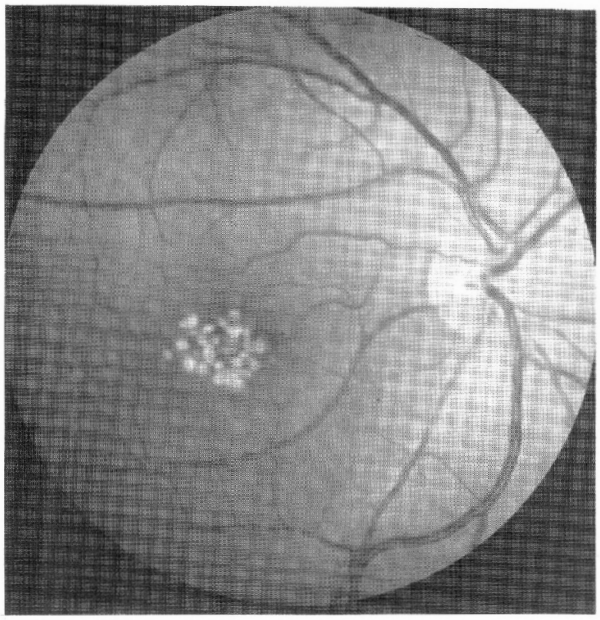


Figure 6

in a position of total abduction, and the pupil was dilated and poorly reactive (Figures 2). No medial rotation (Figure 3) or vertical movements of the eye, except for a slight elevation, were present. Slit lamp and ophthalmoscopic examination did not show any acute and abnormal change. Because of the inflammation of the right eye corticosteroid, antibiotic, and cycloplegic drops were prescribed. Two months later, the eye showed a gradual recovery of the lid elevation and globe rotations.

Figure 4: A young mother brought a three-day old infant girl because a "string" of skin between the upper and lower eyelids was not allowing the left eye to open

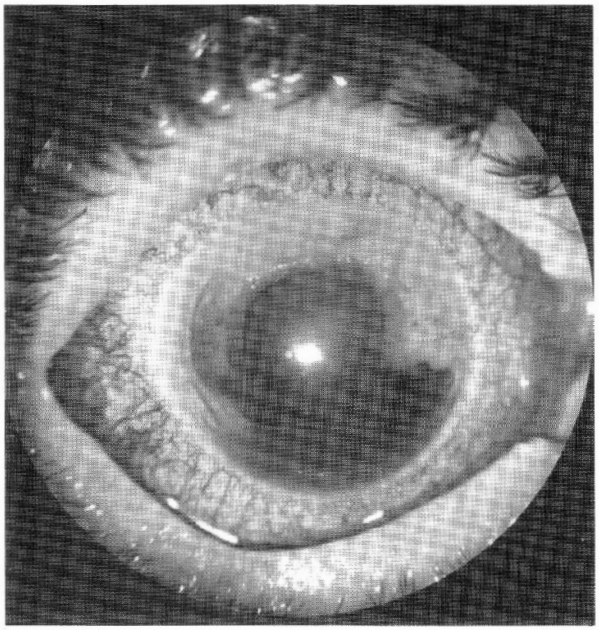


Figure 5

completely. The baby had the findings shown in Figure 4. Examination under general anesthesia revealed no other structural abnormalities. No related family history was present. The "string" was excised and bleeding points cauterized under general anesthesea. The removed tissue was elastic to stretching and pale in color. Healing with normal eyelid margins followed.

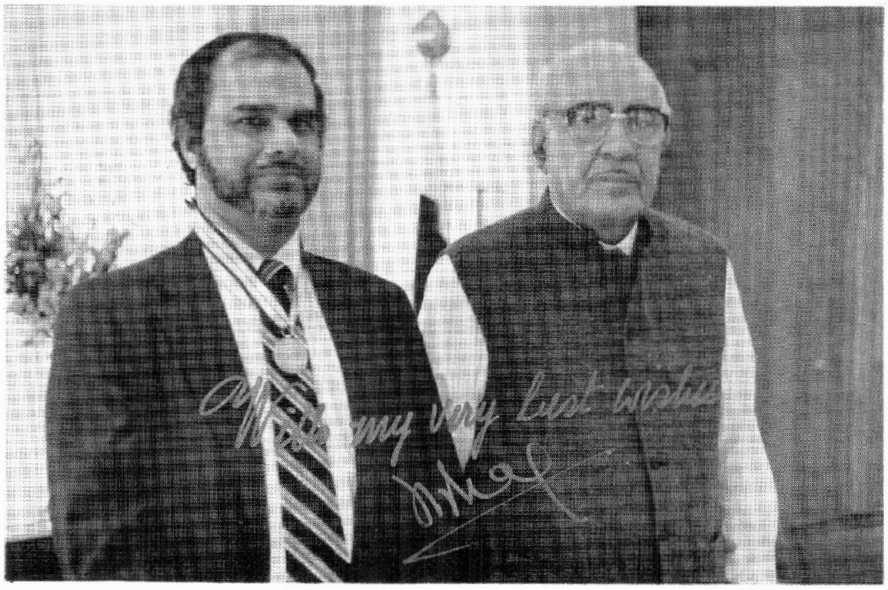
Figure 5: A 66-year-old woman presented with a history of blurriness of vision, redness, and severe pain in and around her right eye for six days. The eye had not received any injury. A review of the past medical records showed that eyes have been fine except for a bilateral hypermetropia of about three diopters and shallow anterior chamber. On examination, findings shown in Figure 5 were most surprising. Her vision was reduced to light perception in the right eye and 20/30 with glasses in the left. The intraocular pressure was 61 mm Hg in the right eye and 28 mm Hg in the left. Medical therapy with topical drops reduced the intraocular pressure only in the left eye. The failure of first surgical intervention in the right eye to reduce the intraocular pressure necessitated a repeat and more complex operation, which controlled the intraocular pressure. However, the recovery was accompanied with some residual loss of sight in the right eye.

Figure 6: A 19-year-old woman came in for a minor irritation in her left eye. Her visual acuity was 20/20 in each eye without correction. Slit lamp and other examinations were normal. However, incidental but interesting findings were noticed on ophthalmoscopic examination (Figure 6). These findings in the posterior pole of the ocular fundus were bilateral and symmetrical.

1989 President of Pakistan Gold Medal

Mahmud A. Shah, FPAMS

(The President of Pakistan Gold Medal for ophthalmology is the highest and most prestigious Pakistani award in the field of eye diseases. It was instituted by the President of Pakistan in 1979, and named by him after the late Professor Ramzan Ali Syed, an ophthalmology pioneer of Pakistan from Lahore. The recipient is selected by the Ophthalmological Society of Pakistan's Awards Selection Committee, which includes the most learned members of the Society, some of whom are themselves the past recipients of this honor. The criteria for the nomination of an awardee include, among other things, a required number of publications, coauthoring at least one book, publishing original research of merit, making presentations at a required number of international conferences, rendering commendable social service, and making outstanding contributions toward the promotion of ophthalmology in Pakistan. Prof. Mahmud A. Shah, himself a past recipient of this medal, and the current Chairman of the Selection Committee, read the following citation at the awards ceremony held in Pearl Continental Hotel, Karachi, on Wednesday, February 22, 1989.)



Khalid J. Awan, FPAMS with President Ghulam Ishaq Khan in President's Office.

Dr. Khalid J. Awan, F.P.A.M.S. was born in a village called "Awan" in the British Panjab. After matriculating from the Municipal Board High School at Lyallpur (now called Faisalabad), where he stood first in his class, and passing premedical examination (F.Sc.), with Roll of Honor and Certificate of Merit, from the Lyallpur Government College, he joined the Nishtar Medical College (Panjab University), Multan for professional studies. There he was a Best All-rounder.

For his exceptionally high position in matriculation and also in premedical examination, he won government sponsored scholarships. However, under the guidance of his father, a successful and respected physician, he took the option of transferring the benefits of these scholarships to next deserving but financially less resourseful candidates.

In 1965, he left for the USA for higher studies. There too he distinguished himself as a resident under Professor Harold G. Scheie by producing four papers in four years. In 1971, he got the Certification of the American Board of Ophthalmology.

He returned to Pakistan, but was unable to obtain a professional situation suiting his skills and training, and returned to the US, where he established a private practice clinic in Norton, Virginia. He continued to improve his professional competence by attending courses on phacoemulsification, IOL implantation, argon and YAG laser applications, radial keratotomy, etc. At present, he is the Associate Clinical Professor of Ophthalmology at the University of Virginia. (It is the highest clinical position in ophthalmology offered at that institution.)

From the very start, he equipped his clinic for and orientated his private practice to clinical research and writing. He has, to date, published 173 original papers on different ophthalmic topics, 36 editorials, 63 book r eviews, and 89 miscellaneous articles in reputable international journals. Of the academic distinctions received by him, mention may be made of (a) Professor Mohammad Shafi Memorial Lecture in 1984, (b) a special Pakistan Academy of Medical Sciences Gold Medal by the Fellows of the Academy, (c) the Pakistan Academy of Medical Sciences Professorship, (d) appointment as the Associate Editor of Ophthalmic Literature, published by the Institute of Ophthalmology, London, and (e) Chairmanship of the session on Medical Therapy at the 25th International Congress of Ophthalmology in Rome.

Of his extracurricular activities, founding and organization of the Pakistan Academy of Medical Sciences (PAMS), of which I have the honor to be a trustee, the President of Pakistan is the Patron, and the scientists like the Nobel Laureate Professor Abdus Salam, Professor Salimuzzaman Siddiqui, Fellow of the Royal Society, and others are Fellows, is perhaps his most outstanding service in honoring Pakistani scientists in the field of medical sciences.

In 1984, he single-handedly founded, at the request of the Ophthalmological Society of Pakistan, and is still publishing as its Editor, the Pakistan Journal of Ophthalmology, a well-regarded publication of international standard. These extracurricular activities have brought honor to his country, to himself, and to his brother ophthalmologists.

Today, the Selection Committee of the Ophthalmological Society of Pakistan has unanimously selected him as eminently worthy of the President of Pakistan Gold Medal for his outstanding services to ophthalmology. It is my pleasure and privilege as the Chairman of the Selection Committee to present to you the versatile and multifaceted ophthalmologist, Dr. Khalid J. Awan, and request the Chief Guest to give away at this learned gathering this prestigious academic award to him.

Economical Ideas

Methylcellulose: A Better Viscosurgical Alternative for Intraocular Lens Implantation

Akira Momose, M.D. and Atsuhiro Kasahara, Ph.D.*

ABSTRACT: The authors have used 2% methylcellulose in 8000 cases of intraocular lens implant surgery during the last five and a half years. From their experience and investigations they conclude that it is safe, effective and economical. It is easily autoclavable, has very low particulate matter when prepared by the authors' technique, and causes minimal secondary rise of intraocular pressure. The endothelial protective function and breakdown of blood aqueous barrier are comparable to Healon. The authors consider methylcellulose to be a better alternative for intraocular lens implant surgery. (Pakistan Journal of Ophthalmology 5: 69-71, July, 1989.)

The role of viscosurgical substances in intraocular surgery is well established. Methylcellulose has been used in intraocular lens (IOL) implant surgery for a decade or more.[1,2] However, its wider use has been limited by fears of particulate contamination,[3] uncertainty about its effect on endothelium and blood aqueous barrier, and paucity of reports about the safety and efficacy of its use in large series.

One of us (AM) has used methylcellulose prepared in our pharmacy for last five and a half years in over 8000 cases of intraocular lens implantation. We have found methylcellulose prepared by our technique to be a better alternative to the other available viscosurgical substances on the basis of our surgical experience, studies on particulate contamination in available viscosurgical substances,[4] observations on endothelial damage[5] and postoperative intraocular pressure[6] after the use of different viscous substances. The results of a study on postoperative breakdown of blood aqueous barrier[7] and economic factor were other considerations.

Preparation of 2% Methylcellulose

The material is the medical-use-grade hydroxypropylmethylcellulose which is commercially available as Methocel E-4M Premium (Dow Chemical Corporation). Ten grams of Methocel E-4M Premium is dissolved in 150 ml of BSS (Alcon Laboratories, Inc.), then warmed to about 90°C and stirred well. Ice bath chilled BSS is added to the above solution to make it 500 ml. This 2% Methocel solution is poured in a glass bottle, tightly closed by a glass stopper and preserved for one night in a refrigerator at 0° C to -10°C. The solution is then warmed to 40°C to reduce its viscosity and filtered by a MILLI FIL PF (pore size 0.8μ) connected to a millipore tube pump (For small quantities, a 10-20 ml syringe may be used instead of the pump). The filtered solution is poured into 3 ml vials and sealed with a rubber stopper and aluminum cap. It is packed in a sterilizing bag and autoclaved at 120°C for 30 minutes. Methylcellulose solution is aspirated into 1.0 ml syringe through a 16 G needle when it is used or it may be contained in a special syringe developed for this purpose.[6] At this time, care should be taken to avoid absorbing air bubbles.

The easy preparation of a safe autoclavable methylcellulose at a minimal cost makes it extremely suitable for use. This is particularly significant in the developing countries, where few can afford a viscosurgical substance at a prohibitive cost. Methylcellulose solution can be used in hundreds of cases for the same cost as 0.4 ml of Healon.

Particulate Matter

Numbers of insoluble particles of various sizes in one ml of five viscosurgical materials were examined by HIAC PC-320 particle size analyzer

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Reprint requests to Akira Momose, Director, Institute of Clinical Ophthalmology, 1-100 Umeda, Kiryu, Gunma, Japan 376-06.
*Chief Pharmcist, Institute of Clinical Ophthalmology, Kiryu, Gunma, Japan.

Table
Numbers of Insoluble Particles of Various Sizes in 1 ml

Particle diameter	2% Methylcellulose*	Healon	Opegan	Viscoat	Amvisc
1 μm<	15,752	212,966	15,011	162,214	264,019
2 μm<	7,022	30,609	5,454	85,070	85,475
5 μm<	1,967	11,223	1,723	33,671	22,624
10 μm<	599	4,680	717	15,773	6,885
20 μm<	68	938	158	1,489	1,144
30 μm<	14	210	15	200	375

Measured with HIAC (PC-320) automatic particle size analyzer.
* Prerpared at our institute

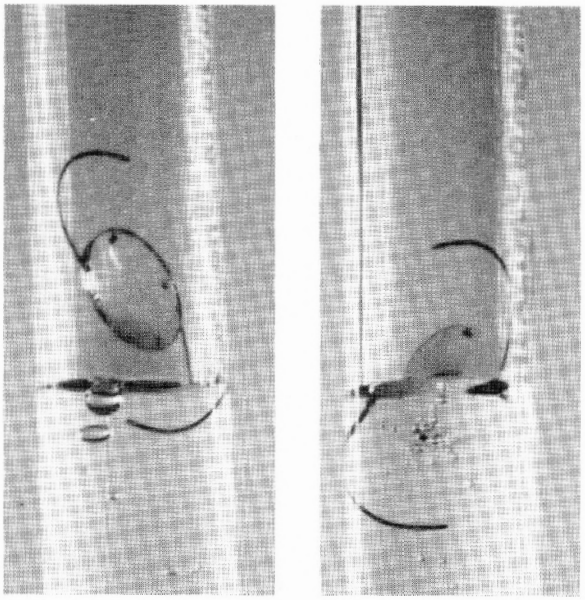
(HIAC/Royco),[4] at the Institute of Clinical Ophthalmology (Table calculations). Methylcellulose prepared by the aforementioned technique showed to have 10 times less particles of various sizes (1-30 μm or more in diameter) as compared to Viscoat, Amvisc and Healon. This is contrary to the calculations reported earlier by Rosen and coworkers,[3] who found a high density of particulate matter in the solutions of methylcellulose analyzed by them. However, the filters used and the filtration methodology employed in the samples studied by them might have been different from the ones used in our technique.

Systemic Safety

The medical-use-grade methylcellulose, hydroxypropylmethylcellulose, consists of two molecules of glucose that bind to form cellobiose, a molecule that human systems are supposedly unable to breakdown. The process by which methylcellulose is cleared from man is at present unknown.[1,8] However, methylcellulose has long been safely used for emulsification in injectable medicines such as predonisolone acetate and hydrocortisone acetate. It has also been used orally in large doses in soft ice cream without any known side effects. The doses used intraocularly are comparatively minute and not likely to cause any toxicity.

Ease of IOL Manipulation

Two percent methylcellulose seems to have the ideal viscosity for IOL implantation. The authors have observed that 'in the bag' placement of the IOL is easier when using methylcellulose than with more viscous Healon. With Healon the lens tends to be pushed back when placing the inferior haptic 'in the bag', especially in an IOL with polypropylene loops. Fig. 1A and 1B illustrate the comparative resistance felt by the polypropylene loops in Healon and methylcellulose respectively. The IOL sinks into



A B

Figure 1 (Momose and Kasahara): The comparison of viscosity. A. A fully settled intraocular lens with polypropylene loops after having been dropped in a test tube containing Healon®. B. The same lens in a test tube with 2% methylcellulose.

methylcellulose solution smoothly by its gravity but not in Healon.

Without consideration of the cost, more methylcellulose may be injected whenever the anterior chamber tends to shallow, as it is inexpensive. Thus the disadvantage of relatively lower viscosity, if any, is easily offset in most cases. However, Healon may be more useful in relatively harder eyes. Healon is also more useful when cataract surgery is combined with keratoplasty.

Endothelium and Blood Aqueous Barrier

It has been observed that endothelial cell loss is lower with the use of methylcellulose during IOL implantation as compared to air.[2,5] A study done at our Institute also demonstrated that the difference in the

endothelial cell loss with Healon (20.7±15.6%, 178 cases) and with methylcellulose (18.1±14.9%, 205 cases) was not statistically significant.[5] It has been demonstrated by fluorophotometric study that the disruption of blood aqueous barrier with the use of methylcellulose in intraocular surgery is similar to that with sodium chondroitin sulfate or sodium hyaluronate.[7]

Postoperative Glaucoma

Postoperative glaucoma is not a frequent problem with methylcellulose, especially if it is washed out at the end of surgery. The occurrence of intraocular pressure (IOP) over 25 mm Hg postoperatively in a series of 205 cases was 7.3%.[5] However no patient had any symptoms or required any treatment, as the IOP returned to normal in all cases within a few days. This may be attributed to the water solubility of methylcellulose which eases the drainage of methylcellulose from the anterior chamber. A lower count in particulate matter of methylcellulose which may obstruct the trabecular meshwork may also account for its low potential for elevating IOP. The authors, therefore, consider methylcellulose to be a better alternative for IOL implantation and advocate its routine use for this purpose, particularly in the less affluent nations.

References

1. Fechner, PU and Fechner, MU: Methylcellulose and lens implantation. Brit. J. Ophthalmol. 67:257-263, 1983.
2. Aron-Rosa, D, Cohn, HC, Aron, JJ, and Bouquety, C:Methylcellulose instead of Healon in extracapsular surgery with intraocular lens implantation. Ophthalmology, 90:1235-1238, 1983.
3. Rosen, ES, Gregory, RPF, Barnett, F:Is 2% Hydoxypropylmethylcellulose a safe solution for intraoperative clinical applications? J. Cat. Refract. Surg., 12:679-684, 1986.
4. Momose, A, Baba, T, and Kasahara, A:Particles in viscosurgical materials. J. Eye (Atarashii Ganka) ,5:314-316, 1988.
5. Momose, A, and Baba, T:Viscosurgery, Healon versus methylcellulose, Japan-Korea Ophthalmol. Symp. II, Proc. 1984, pp 65-69.
6. Momose, A, Baba, T, and Kasahara, A:Use of methylcellulose in cataract surgery. IOL (Japanese), 1:147-151, 1987.
7. Miyake, K:Fluorophotometric evaluation of the blood-ocular barrier function following cataract surgery and intraocular lens implantation. J. Cat. Refract. Surg., 14:560-568, 1988.
8. Edelhauser, HF, and MacRae, SM:Irrigating and viscous solutions. In Sears, M.L. and Tarkkanen, A. (eds.):Surgical Pharmacology of the Eye. New York, Raven Press, 1985, pp 363-388.

Ophthalmic "Pastpourri"

Retinal Phototoxicity-Resurrected

Today:

"Phototoxic damage to the retina has been an area of avid investigation for 20 years....The finding of maculopathy...should force all clinicians to heed recent laboratory studies warning of potential dangers of illuminating systems in ophthalmic instruments."

McDonald, H. and Irvine, A. 1983
Light induced maculopathy from operating microscope in extracapsular cataract extraction and intraocular lens implantation.
Ophthalmology 90:945-51, 1983.

A Century Ago:

Nettleship investigated the question whether certain forms of retinal and choroidal affection of the macula can be ascribed to...too intense illumination. He concluded that numerous observations "seem to speak for the correctness of this view."

Nettleship, F. -1888
Can over-use of the retina cause organic disease of the fundus?
Ophth. Rev-1888
118-89108

An Approach to Anterior Segment Ocular Trauma

David Miller, M.D.

ABSTRACT: The author outlines his approach to handling of ocular trauma based on a review of over 1,500 cases. He stresses important aspects of history taking, examination, special tests, and treatment of cases of eye injury. He states that these cases are not absolute emergencies, and, hence, need not be dealt with in the dead of night by inexperienced surgeons on call. He suggests that surgical intervention may be safely delayed until next morning when the best surgical team can be assembled, and that secondary repairs should be done after the disappearance of initial inflammation. (Pakistan Journal of Ophthalmology 5:72-74, July, 1989.)

From a previous review of over 1500 cases of serious eye injury, Dr. Robert Stegmann and I drew conclusions as to (a) how the eye and adnexa are built to protect themselves against injury and (b) how the eye tries to repair itself when injured.[1] Hence, one can look at ecchymosis as an example of a natural pressure dressing which protects the cornea in an unconscious patient, or how the iris plugs perforations of different shape and location (Figure 1). The fibrin can be thought of as an adhesive keeping the prolapsed iris in place (Figure 2).

On the basis of our experience, we feel that a penetrating ocular wound can produce a choroidal detachment, which forces the vitreous forward against the crystalline lens. The lens in turn is pushed against the iris creating a pupillary block. The pupillary block allows pressure to build up behind the iris, forcing a prolapse into the open wound (Figure 3). With these concepts in mind, this paper presents our workup of an injured eye.

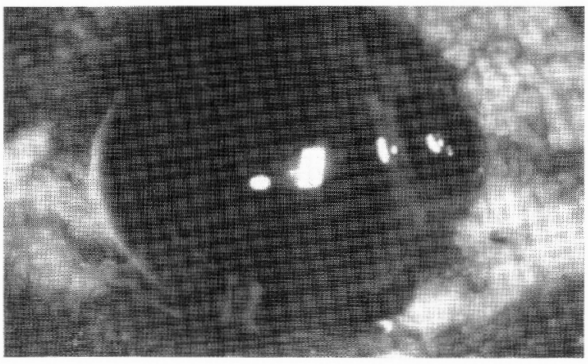


Figure 1 (Miller): The elastic iris can prolapse into corneal perforations of different size and location, and plug them.

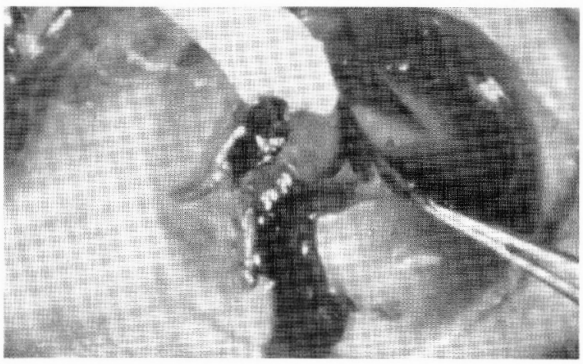


Figure 2 (Miller): A demonstration of fibrin found around a prolapsed iris, in the case of corneal perforation.

From the Department of Ophthalmology, Harvard Medical School and Beth Israel Hospital, Boston, MA, USA.

Presented at the 11th Congress of the Ophthalmological Society of Pakistan, February 23-26, 1988, Lahore.

Reprint requests to David Miller, M.D., Ophthalmologist-In-Chief, Beth Israel Hospital 330 Brookline Avenue, Boston, MA 02215, USA.

History

History taking should place greater emphasis on obtaining specific information about (a) the status of eye before injury (amblyopia, operations), (b) events of injury (on job, off the job), (c) details of object producing injury (composition, size), (d) were glasses

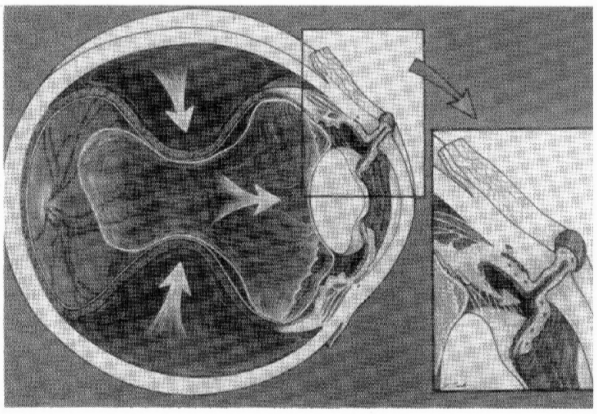


Figure 3 (Miller): Illustration showing how a penetrating ocular injury produces a choroidal detachment, which forces the vitreous forward, which forces the lens forward, which produces a pupillary block, which causes the iris to prolapse into the wound.

worn? (Inspect glasses if worn.), and (e) could an intraocular foreign body be present?

Examination

Examination of traumatized eye should be considered like the planning of a military campaign in which each finding may suggest the need for another piece of equipment or a consultant in the operating room. (a) Visual acuity should be obtained at first, and if the patient cannot see the figures on the Snellen chart, light perception, light projection, and color perception should be recorded. The Maddox rod might be helpful in looking for damage to the macular function producing a central scotoma. (A test employed at the Department of Ophthalmology, Lady Reading Hospital, Peshawar, Pakistan.) Visual acuity less than 20/200 (6/60) may be an indication for poorer prognosis. (b) Tests for extraocular muscle functions may reveal a weakness of one of the muscles, suggesting a scleral laceration in the area. (c) Ophthalmoscopic examination helps to determine whether a cataract or vitreous hemorrhage is present. (d) An evaluation of intraocular pressure, even a simple finger tension can give clues to a through and through laceration of the globe. (e) Culture (and sensitivity) from the ocular discharge should be taken in all cases, but are particularly important in patients appearing (i) a few days after injury and (ii) wounds known to be contaminated and (iii) wounds showing pus or necrosis. (f) Slit lamp examination helps the surgeon in putting all the information together and deciding upon: (i) preoperative handling, (ii) surgical treatment, and (iii) prognosis (Table 1).

Special Tests

Special tests, such as computerized tomography (CT scanning), ultrasonography, etc. may be necessary to determine important data, such as (a) the presence of an intraocular foreign body (FB), (b) double perforation with FB, (c) double perforation without FB and (d) intra-orbital FB. X-rays are important if an intraocular foreign body is suspected. These may include 1. screening film (dental film technique), 2. skull x-ray (for a larger foreign body or one in the orbit), or/and 3. CT scan. In a eye with opaque media. Ultrasonography can help diagnose: (a) traumatic cataract; (b) hyphema; (c) dislocated lens; (d) vitreous hemorrhage, thickening choroid, and subretinal fluid; and (e) vitreous hemorrhage and detached retina. If the eye has been penetrated, do not use the water bath technique. Use only the closed eye technique.

Table 1
Ocular Trauma: Indicators for Poor Prognosis

1. Wound	Much fibrin
2. Cornea	Infiltrate
3. Ciliary body	Prolapse
4. Vitreous	Prolapse
5. Sclera	Large laceration
6. Contamination	Endophthalmitis

Table 2
Ocular Trauma: Objectives of First-stage Repair (Three R's of Treatment)

1. Reduce:
   - Inflammatory response (steroids)
   - Infection (antibiotics)
   - Bleeding (cautery)
   - Fibrin formation (heparin)
2. Remove:
   - Blood
   - Fibrin
   - Vitreous
   - Foreign body
   - Necrotic tissue
   - Cataract
3. Reconstruct:
   - Anterior chamber angle
   - Iris
   - Corneosclera
   - Ciliary body position

Treatment

Table 2 sums up the 3R's of treatment. However, certain points need explanation.

To reduce the chances of infection, we recommend preoperative hourly administration of appropriate antibiotic eye drops. In the operating room, we recommend injection of intraocular gentamycin and cephazolin without preservatives. To reduce the ocular inflammatory response at surgery we recommend preoperative steroid and antiprostaglandin eye drops, as well as subconjunctival steroids in the operating room to reduce further fibrin formation due to surgical trauma. We use an irrigation solution fortified with

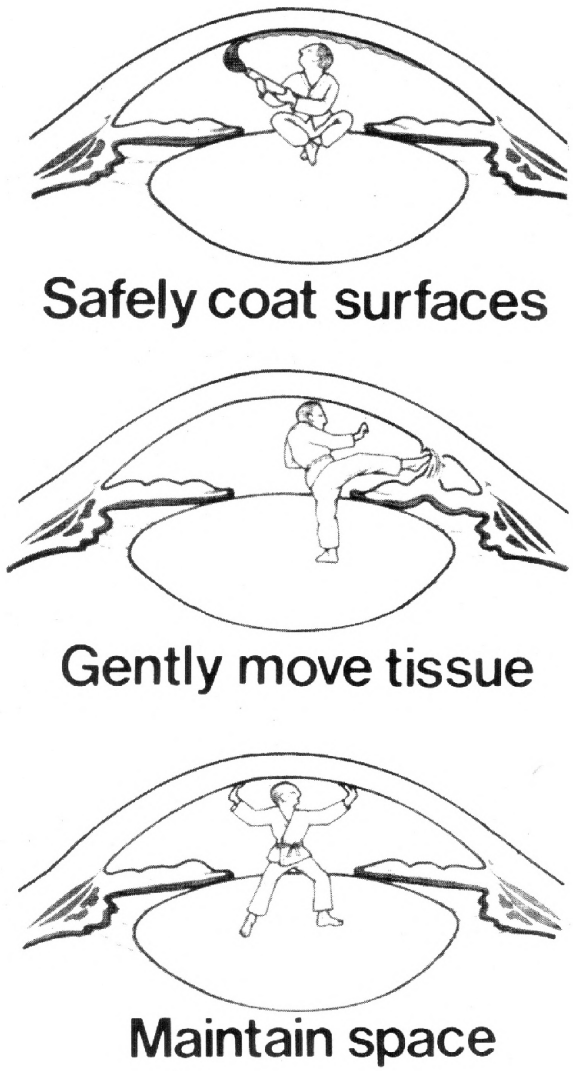


Figure 4 (Miller): Illustration of how viscoelastic material works as an extra surgical instrument in helping to repair traumatized eyes by (a) safely coating the inner delicate surfaces, (b) maintaining intraocular spaces, and (c) gently moving and separating the tissues.

heparin (10 units of heparin per cc of solution. Bleeding at time of surgery can be reduced by using a wet field (bipolar) coagulator, or irrigation with a solution of 1/5000 adrenalin without preservative.

In the removal phase, we recommend freeing the prolapsed iris by dissecting away its fibrin capsule. The cataract extraction should be done only if it can be done easily, allowing a safe intraocular lens implantation at a later date. All prolapsed vitreous should be removed, making sure that no vitreous is left in the wound. Of course, the foreign body should be removed. Blood from the anterior chamber should be removed only if it comes out easily. No attempt should be made to remove clotted blood if there is a danger of tearing the iris.

In terms of restoration, two points need to be emphasized. Firstly, jets of viscoelastic material (such as Healon) all around the angle should be used in order to break synechiae and prevent secondary angle closure glaucoma (Figure 4).[2] Secondly, if possible, the iris should be preserved. It will be needed in case of a future intraocular lens implantation.

Timing of Repair

We feel that repair of trauma is the most challenging operation in ophthalmology. Therefore, it should be done by the most skilled team of doctors and nurses. People who know how to control and use equipment such as a vitrectomy unit should be present. It needs to be emphasized that these cases are not absolute emergencies. They do not have to be done in the dead of night by the first year resident. The patient can be put to bed, the proper tests done, preop antibiotics and steroids given, and the best team, assembled for the surgical repair.

Secondary repairs, such as corneal transplant, cataract removal, glaucoma procedures, etc. should be done when all signs of initial inflammation have disappeared.

References

1. Miller, D and Stegmann, R: Treatment of Anterior Segment Trauma. Medicopea International, Montreal Canada, 1986.

2. Stegmann, R and Miller, D: Use of sodium hyaluronate in severe penetrating ocular trauma. Annals Ophth. 18:9,1986.

Ophthalmic 'Pastpourri"

"Statustical" Science

"Eye operations do well, and though the negroes nearly all have syphilis, its course is usually very mild."

Burnett, S.M.-1887
Commenting on Tipton, J: The negro problem from a medical standpoint. N.Y. Med J, May 22, 1886.
116-8780

Junior Research

Laser Trabeculoplasty In Pakistani Patients

Mohammad Saleem Akhtar, F.R.C.S.*

ABSTRACT: Argon laser trabeculoplasty (LTP) was performed on one eye each of 13 phakic patients with bilateral open angle glaucoma. Initial results of a 10-month follow-up showed it effective in lowering of intraocular pressure and, hence, in reduction or discontinuation of other antiglaucoma medication in eight (61.5%) patients. One patient (7.6%) showed no change and four (30.8%) needed filtering procedure following LTP. However, the long-term efficacy of laser trabeculoplasty in these Pakistani patients in the first group remains to be fully determined. (Pakistan Journal of Ophthalmology 5:75-76, July, 1989.)

Management of glaucoma is a complex problem, particularly in patients who require acetazolamide in addition to topical antiglaucoma drops to control their intraocular pressure (IOP). It becomes even more difficult when a patient needs but cannot tolerate acetazolamide. The untoward effects of long term use of these drugs are well known. Surgical procedures for glaucoma are fraught with their own complications. Hence, laser trabeculoplasty is a truly useful tool in glaucoma management. We did a prospective study to assess the usefulness of argon laser trabeculoplasty (LTP) in Pakistani patients with brown irides.

Material and Methods

This study included 13 phakic eyes of 13 patients, six males and seven females, with bilateral open angle glaucoma, seen between February, 1988 to January, 1989. The follow up period was ten months. Ages ranged from 38 to 70 years.

The aim of LTP was to assess whether this procedure was as good, lesser or more effective than medical therapy, and effective enough to stop acetazolamide therapy.

Argon laser by Biophysics-Opthalmos was used. The anterior 1/3 to middle 1/3 of the trabecular meshwork was chosen as the site of application. Twenty five burns in each quadrant were applied, and two quadrants were treated in one sitting, the remaining half was treated, if needed, 2-3 weeks later. The settings used were spot size, 50 micron, power, 750-1500 mW. The intensity of the burn was adequate to cause a transient blanching of the treated area or to produce a small bubble. All cases were admitted after laser for 24 hours for monitoring of post LTP rise in IOP, which was checked 2-hourly. Corticosteroid-antibiotic drops qid were used for 7 days following LTP. If IOP exhibited a drop, medications were reduced, starting with acetazolamide, then pilocarpine and beta blockers in that order. The patients were carefully watched for corneal damage or iritis.

Results

Treatment was considered successful if the IOP dropped to 21 mm Hg or below, with or without reduction of medical therapy upon discontinuation of acetazolamide (in patients who were on it.)

The patients on 2-4% pilocarpine only, responded the best (100%). Of the four patients on pilocarpine and timolol, three were controlled and one remained unchanged. Of the three patients who were also on acetazolamide, two were controlled and acetazolamide stopped. The remaining four patients sooner or later had trabeculectomy, or one of the other filtering procedures. The results are summarized in the Table.

The rise of IOP (6-8 mm Hg) after LTP was maximum, by 2-8 hours. It settled with a single dose of 250-500 mg of acetazolamide. No significant damage to cornea or persistent uveitis was observed.

Comment

Being a life long disease, the open angle glaucoma requires a prolonged follow up in all patients before a satisfactory conclusion can be drawn regarding its

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Table
Argon Laser Trabeculoplasty
(13 Eyes of 13 Patients)

No. of Eyes	Pre-LTP drugs	Pre-LTP IOP	Post-LTP IOP	Post-LTP drugs
3	Pilocarpine 2-4%	21±1 mm Hg	13±2 mm Hg	Reduced
3	Pilo 2-4%	22±1 mm Hg	14±2 mm Hg	Reduced
1	+Timolol	22±1 mm Hg	22±1 mm Hg	No change
2	Pilo 2-4% +Timolol	22±1 mm Hg	14±2 mm Hg	Reduced
1	+Acetazolamide	22±1 mm Hg	22±1 mm Hg	Needed trabeculectomy
2	Uncontrolled On Pilo+ Timolol+	30±2 mm Hg	21±1 mm Hg	Needed trabeculectomy
1	Acetazolamide	30±2 mm Hg	26±2 mm Hg	Needed filtering

control with any modality of treatment. In this small series with a short follow up period, the interum results look encouraging for the cases with medically controlled IOP.

Open angle glaucoma is due to the gradual deterioration of function of trabecular meshwork at least partly to the trabecular collapse from senile tissue stretching,[1-2] with associated cellular loss,[3] and other abnormalities including sclerosis, adhesions of layers and various obstructing deposits. Laser trabeculoplasty shrinks the trabecular circumference,[3] and therefore the trabecular ring diameter, pulling apart the trabecular layers and increasing the outflow.[4,5]

This study indicates that laser trabeculoplasty may control pressure in patients in whom glaucoma is under control by topical medications. It is not very useful in cases who need carbonic anhydrase inhibitors for a control in addition to topical drops. I believe that it is a procedure to buy time to postpone surgery at a more convenient and appropriate time in selected patients who are eventually candidates for it.

Acknowledtement

Thanks are due to Prof. Abdul Jalil Daula for his constant encouragement.

References

1. Wise, J.B., Witter, S.L.: Argon laser therapy for open-angle glaucoma.Arch Ophthalmology. 97:319, 1979.
2. Wise, J.B: Long-term control of adult open angle glaucoma by argon laser treatment. Ophthalmology, 88:197,1981.
3. Alvarado, J., Murphy C., Juster, R.: Trabecular meshwork cellularity in open angle glaucoma and in non-glaucomatous normals. Ophthalmology, 91:564-79, 1984.
4. Schwartz, A.L., Whitten, M.E., Bleiman, B., Martin, D.: Argon laser trabecular surgery in uncontrolled phakic open angle glaucoma. Ophthalmology, 88: 203, 1981.
5. Migdal, C., Hitchings, R.A.:Primary therapy for chronic simple glaucoma. The role of argon laser trabeculoplasty-Trans. Ophthalmol Soc UK104:62, 1985.

Ophthalmic "Pastpourri"

An Electrical Illusion

In a meeting of the American Ophthalmological Society, Standish reported "a case of typical retinitis pigmentosa treated with the constant current alone, in which V increased in the left from 12/50 to 12/15, in the right from 12/40 to 12/30, and the visual fields from 20° concentrically to 75° horizontally in the right and 70° in the left, and to 70° vertically in the right and to 68° in the left."

Standish, M-1887
118-89110

Diabetic Retinopathy in Pakistani Diabetics

Samina Jahangir, F.C.P.S.*

ABSTRACT: Over a period of three months, 50 consecutive outpatients with diabetes mellitus had evaluation for visual complications. Thirty (60%) patients had mild to severe visual deterioration directly related to diabetes at the time of first examination. There is an urgent need for a greater awareness in Pakistan of the high risk of severe visual loss from diabetes among the family physicians and patients. (Pakistan Journal of Ophthalmology 5:77-79, July, 1989.)

The incidence of blindness is 20 times greater in diabetics than in non diabetics, and approximately two percent of all diabetics become blind.[1]

Diabetes occurs either because of lack of insulin or due to the presence of factors that oppose the action of insulin. The end result is an increase in blood glucose concentration. Nearly all diabetics have primary diabetes, which may be insulin dependent or non-insulin dependent.[2-3]

Diabetic retinopathy is essentially a microangiopathy affecting the retinal precapillary arterioles, the capillaries and the venules. The retinopathy has features of both microvascular occlusion and leakage. The most important consequence of microvascular occlusion is retinal ischemia and hypoxia leading to arteriovenous shunts formation and neovascularization. The consequences of increased vascular permeability are hemorrhages and retinal edema. The incidence of diabetic retinopathy is related more to the duration of diabetes than to any other factor.[4]

We conducted a study to learn the incidence, type and severity of diabetic retinopathy in Pakistani diabetics according to their age, sex and duration of diabetes.

Materials and Methods

The study included 50 consecutive outpatients with diabetes mellitus who sought visual evaluation over a period of three months. Twenty patients (40%) had normal ophthalmoscopic findings. Sixteen (32%) patients belonged to the age group between 30-60 years. Six (12%) were affected below the age of thirty. The youngest was a female of 20. (Table-1). Twelve (24%) had diabetes for up to 10 years. The remaining had a duration from 11 to over 20 years. (Table-2).

Table 1
Age and Sex Incidence
(30 Patients)

Age group (in years)	No. of patients		
	Female	Male	Total
1-30	4	2	6(12%)
30-60	9	7	16(32%)
60 and above	3	5	8(16%)

Table 2
Duration of Diabetes
(30 Patients)

Duration in years	No. of patients
1-5*	12 (24%)
6-10	9 (18%)
11-15	5 (10%)
16-20	2 (4%)
21-25	2 (4%)

*The shortests duration was 18 months.

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After dilation of pupils with tropicamide 1% and phynylephrine 10%, the patients underwent ophthalmoscopy and biomicroscopy with Goldman three mirror lens. Fundus photography and fundus fluorescein angiography (FFA) were performed in selected cases. The patients were classified according to the severity of changes in the worst affected eye found by any method. The fundus changes were divided into three categories (1) Background diabetic retinopathy, defined as the presence of one or more of the following signs: microaneurysms, punctate or striate intraretinal hemorrhages, hard exudates. (2) Diabetic maculopathy defined as (a) focal, with mild macular edema with surrounding hard exudates (b) cystoid, extensive macular edema but relatively few if any hard exudates (c) ischemic, with areas of capillary nonperfusion revealed by FFA (d) and mixed. (3) Preproliferative diabetic retinopathy, with cotton wool spots, intraretinal microvascular abnormalities, venous changes, arteriolar narrowing and large dark blot hemorrhages. (4) Proliferative diabetic retinopathy, with neovascularization on or within one disc diameter of optic nerve head (NVD) or neovascularization elsewhere (NVE), vitreous changes and bleeding. (5) Advanced diabetic eye disease defined as the end result of uncontrolled proliferative diabetic retinopathy with persistent vitreous hemorrhage, retinal detachment, opaque membrane formation and neovascular glaucoma.

Results

Diabetic retinopathy was present in 30(60%) of the 50 patients examined. Background diabetic retinopathy and maculopathy were present in 36(60%) of the 60 eyes affected. Seven (12%) eyes showed preproliferative changes. Sixteen (28%) eyes were extensively damaged with proliferative retinopathy and advanced diabetic eye disease. (Table-3).

Table 3
Grades of Diabetic Retinopathy
(60 eyes)

Grade of retinopathy	No. of eyes
Normal fundus	1 (1.5%)
Background retinopathy	18 (30%)
Maculopathy	18 (30%)
Preproliferative	7 (11.5%)
Proliferative	10 (17%)
Advanced eye disease	6 (10%)

The younger age group (1-30 years) with a shorter duration of disease and treated with insulin presented with proliferative and advanced diabetic eye disease. The age group between 30 and 60 years of age presented in all five stages of disease. This group of patients was on oral hypoglycemics and insulin, and diabetes has been present for six to nine years. The older age group of 60 and above presented with maculopathy with marked visual incapacity. They were on oral hypoglycemic agents.

There was no significant sex difference in the prevalence of diabetic retinopathy. However, 16(32%) females were detected compared to 14(28%) males (Table-1).

In 12(24%) patients both eyes had the same retinal status, in remaining 18 (36%) patients a difference of one degree of severity in retinopathy existed in two eyes. Only one patient a 52-year-old woman, had one eye affected, the fellow eye having clear media and no retinopathy for the time being.

Discussion

In many developing countries, such as Pakistan, education about diabetes and its complications is lacking at all levels, from the patient and his family and the community at large to health personnel and resource allocators. This is largely because of poor appreciation of the problems, lack of expertise, shortage of manpower and the absence of literature, equipment and facilities for such education.

One should not have to argue that prevention is better than cure. It should be even less necessary to have to support the case for prevention when no cure is available. Prevention should be aimed at changing environmental and behavioral factors that have been implicated in the causation of non-insulin dependent diabetes. The encouragement of physical fitness maintenance of normal weight and certain other dietary advices are not likely to be harmful, and do not need the same detailed investigation and cost as that required for the evaluation of disease and its complications and treatment.

I have not come across any study relating to diabetic retinopathy in Pakistani publications. In one of the studies which consisted of 1000 patients suffering from diabetes with variable duration of symptoms registered between 1972-1976 at the diabetic clinic of the clinical research unit of Fatima Jinnah Medical College, Lahore, the incidence of diabetic retinopathy was 11%. This study was oriented to systemic aspects, and did not include the methods of evaluation for, the stage of, and the treatment offered for retinopathy.

In another study conducted in 1981, glycosuria was detected in 2.553% urban and 0.602% rural males and in females of urban and rural origin, its frequency was 2.439% and 1.163% respectively.[6] According to a

personal communication with Dr. Fayyaz-uddin, Principal Research Officer, Pakistan Medical Research Center, Fatima Jinnah Medical College branch, the incidence of diabetes mellitus, on the basis of a multicentric study, is as shown in Table 4.

Table 4
Prevalence (per 100 Persons) of Diabetes Mellitus by Sex among Urban/Rural Population.

Area	Male	Female	Both
All areas	3.18	3.61	3.37
Urban area	3.38	4.48	3.83
Rural area	2.95	2.89	2.92

A 1981 estimate of blindness in Pakistan gave a prevalence rate of 2.4% resulting in a total of 1,447,400 people with a visual acuity of less than 1/60.[7] I have not been able to collect any statistics for diabetic blinds in Pakistan. However, according to the current World Health Organization (WHO) statistics, one to two percent of the world's population is probably affected by this disease. Blindness is 10 times more prevalent in diabetics than in the general population.[8]

I have attempted to create a profile of Pakistani diabetics when they first presented with visual complaints. As it is a Government Hospital based study, the findings pertain only to patient population that uses such hospital facilities. This study is an initial step of a prospective study regarding treatment of diabetic retinopathy in Pakistan that is already on its way in our department.

Retinopathy is present at the time of clinical diagnosis of diabetes in less than 1% of patients under the age of 40 years and thereafter in an increasing proportion until over the age of 60, 10% or more are affected at the time of diagnosis. In all age groups, retinopathy increases in frequency with increasing duration of diabetes. Diabetic retinopathy is the commonest cause of blind registration in individuals between 20 and 65 years.[1]

Although there is no medical cure for diabetic retinopathy, certain measures may be taken to decrease the risk of severe visual loss from it. In the early stages of disease good metabolic control may delay the onset of retinopathy. Once the macula is involved treatment by photocoagulation is indicated when visual acuity is better than 6/60 (20/200). Vision below this level usually implies irreversible damage. A significant number of patients with preproliferative retinopathy develop proliferative changes. The studies have shown that untreated eyes with severe NVD and vitreous hemorrhage have about a 40% risk of severe visual loss within two years. With appropriate treatment, this risk is halved.[9]

Photocoagulation is now by far the most important modality for the treatment of proliferative diabetic retinopathy.[10,11]

Management of persistent vitreous hemorrhage and/or tractional retinal detachment is possible with closed intraocular microsurgery. [12, 13, 14] However, the results may be disappointing.

The facilities for photocoagulation and intraocular microsurgery not only require sophisticated and expensive instruments but also skillful personnel, both of which are currently available only at very few of the teaching hospitals in Pakistan. A great majority of people are ignorant even about dietary regulation of diabetes, and have little knowledge about the importance of early evaluation and treatment of ocular complications. More awareness about eye involvement in diabetes by our population and physicians is essential to combat the blinding complications of diabetes.

References

1. Blankenship, GW:Diabetic retinopathy, present and future. Ophthalmology, 88, 658, 1981.
2. Klein, R, Klein, BEK, Moss, SE, Davis, MD and DeMets, DI: The Wisconsin epidemiologic study of diabetic retinopathy. II. Prevalence and risk of diabetic retinopathy when age at diagnosis is less than 30 years. Arch. Ophthalmol. 102:520, 1984.
3. Klein, R, Klein, BEK, Moss, SE, Davis, MD and DeMets, DL: The Wisconsin epidemiologic study of diabetic retinopathy.III. Prevalence and risk of diabetic retinopathy when age at diagnosis is 30 or more years. Arch. Ophthalmol. 102:527, 1984.
4. Kahn, HA, and Bradley, RF: Prevalence of diabetic retinopathy. Br. J. Ophthalmol, 59:345, 1975.
5. Haider, Z, Obaidullah, S: Clinical diabetes mellitus in Pakistan. Pak J Med Res 20:16, 1981.
6. Usman, S, Haider, Z: Study of blood pressure and screening of glycosuria in urban and rural population. A pilot study. JPMA 31:138, 1981.
7. Johns, AW: Role of International Non-governmental Organizations and eye health in developing countries. Pak J Ophthalmol 4:123, 1988.
8. Al Tawil, N, Khan, RA: Diabetes mellitus. A "global view." National Health 6:25, 1988.
9. The Diabetic Retinopathy Study Research Group:Four risk factors for severe visual loss in diabetic retinopathy. Arch Ophthalmol 97:654, 1979.
10. The DRS Research Group: Preliminary report on effects of photocoagulation therapy. Am J Ophthalmol 81:383, 1976.
11. The Early Treatment Diabetic Retinopathy Study Research Group: Photocoagulation for diabetic macular edema. Arch Ophthalmol 103:1796, 1985.
12. Michels, RG, Rice, TA, and Rice, EF: Vitrectomy for diabetic vitreous hemorrhage, Am J Ophthalmol 95:12, 1983.
13. Rice, TA, Michels, RG, and Rice, EF: Vitrectomy for diabetic traction retinal detachment involving the macula. Am J Ophthalmol 95:22, 1983.
14. The Diabetic Retinopathy Vitrectomy Study Research Group: Early vitrectomy for severe vitreous hemorrhage in diabetic retinopathy. Arch Ophthalmol 103:1644, 1985.

The 12th Annual Congress of the Ophthalmological Society of Pakistan

Muhammad Humayun, F.P.A.M.S.

ABSTRACT: The 12th annual Congress of the Ophthalmological Society of Pakistan took place on February 22-25, 1989 in Karachi. The program was divided into 14 sessions: inaugural and awards ceremonies, genetically transmitted diseases, neuro-ophthalmology, cataract surgery, cataract pathogenesis, diabetic vitreo-retinopathy, unltrasonography, glaucoma, retinal detachment, lacrimal disorders, ocular toxicity of drugs, corneal transplantation, strabismus, and orbit. The scientific program was heavily attended. Professor Wallace S. Foulds, President, College of Ophthalmologists, London was the Chief Guest. Dr. Khalid J. Awan F.P.A.M.S. received the highest and most prestigious ophthalmic award of Pakistan, the President of Pakistan Gold Medal. (Pakistan Journal of Ophthalmology 5:80-83, July, 1989.)

This year, Karachi was the site of the 12th Annual Congress of the Ophthalmological Society of Pakistan. The inaugural and awards ceremonies took place at 7:00 p.m. on February 22, 1989 in the beautiful hall of the Pearl Continental Hotel (Figure 1). The scientific program sessions were very popular among the participants and were heavily attended. In addition to its impressive success as a professional activity, the 12th Congress had the distinction of having a professional, the world renowned ophthalmologist, Professor Wallace S. Foulds, as the Chief Guest, a departure from the familiar practice in Pakistan of inviting the most influential political figures as the chief guests at the scientific meetings.

The inaugural ceremony began with *tilawat-e-Kalam Pak* from the Holy Quran. Chairman Organizing Committee, Dr. Jamshed H. Wania's welcome comments were followed by the annual report of the Society Secretary, which was read by Dr. Haseeb Alam. The Society President Professor Murad Ali's inaugural speech (See page 82-83.) preceded the excellent Congress Address by the Chief Guest, Professor Wallace S. Foulds. (See page 83.) The highlight of the inaugural session was the disclosure of the name of recipient of the highest and most prestigious award for ophthalmology in Pakistan, the President of Pakistan's Gold Medal. The selection of the awardee is made by the Society's Selection Committee, which is constituted by the most accomplished members of the Society some of whom have themselves received this great honor in the past. The nominees whose names are submitted are evaluated on the basis of their publications, research, teaching, community service, and efforts for the promotion of ophthalmology in Pakistan. The nominee who receives a majority vote of the Selection Committee is declared the recipient of the award. The quintessential deservedness of this year's recipient, Khalid J. Awan, F.P.A.M.S., was reflected by the unanimity of the vote of Selection Committee. Professor Mahmud A. Shah, F.P.A.M.S., Chairman, Selection Committee, read the citation of the Awan President of Pakistan Gold Medal. (See page 68.)

The delegates from abroad were individually introduced, and a vote of thanks from the Secretary, Organizing Committee brought the inaugural session to a close. The Chief Guest led the participants from the meeting hall to commercial exhibit area, and formally opened the exhibitions by cutting the ribbon. This was followed by a sumptous open-air dinner in the rosy redolence of the hotel's lovely garden.

On the following day, February 23, the first session of the scientific program, **"Genetically Transmitted Ocular Disorders"**, began at 8:30 a.m. under the chairmanship of Professor Mahmud A. Shah, F.P.A.M.S. The first presentation was "Genetics of pediatric problems: retinoblastoma, retinitis pigmentosa, and aniridia" by John Cowell of London. It was followed by the England's John L. Hungerford's "Management and treatment of retinoblastoma and parental counselling." Niamatullah K. Kundi talked about "Retinoblastoma-a major child killer, "and Saeed A. Khan added to it by his "The deadly retinoblastomas." Edward Cotlier of King Khalid Eye Specialist Hospital spoke on "Computerized classification and identification of genetically determined eye syndromes" and the "Inborn errors of metabolism affecting the eye- update 1989." Anthony J. Bron of Oxford presented "Neonatal cataracts."

Second session on **"Neuro-Ophthalmology"** was chaired by Professor Raja Mumtaz. The opening presentations on "MRI scans in neuro-ophthalmology" and "CT scans in neuro-ophthalmology" were made by Professor Sarwat Hussain of Karachi. "The importance of visual field examination in neuro-ophthalmology" was the topic of England's Allan I. Friedman. Professor Wallace S. Foulds of Glasgow expounded his views on the "Differential diagnosis in inherited optic atrophy." Marian C. Handscombe of Coventry discussed the "Management of nystagmus-induced head posture." Allan I. Friedman of England brought this session to a close by presenting "Blindness in children" just before the lunch break.

Third session, the last for the day, on **"Cataract Surgery"** was initiated by William Simcoe of the United States by presenting "Non-automated extracapsular cataract extraction with state-of-the-art IOL and advanced IOL technology," under

the chairmanship of Jamshed Wania. Professor M. Daud Khan of Peshawar tackled the question of "Should the Pakistani ophthalmologists change over to extracapsular cataract extraction?" Professor H. John Shammas of the United States talked about "Axial length measurement (Avoiding errors in IOL calculations)." B.T. Maskati of India gave his views on "Implant in infants and children." Akhtar Jamal Khan of Karachi discussed "Uniocular cataract and its management in children." Ziauddin A. Shaikh of Karachi presented his results of "IOL in patients with diabetes mellitus." The technique, advantages, and complications of "Combined trabeculectomy and extracapsular cataract extraction with IOL" were discussed by Khalid J. Awan, F.P.A.M.S. A video on "IOL" was shown by Dr. Inder Kumar of India. A "Simple device for in-the-bag implantation" by N.A. Laghari and a "Modified I&A canula" by Dil M. Mirza were introduced to close this session.

In the evening, Professor Kh. Sharif-ul-Hasan invited with a spirit of most sincere hospitality all the foreign delegates to his beautiful home for a delicious dinner. All who were able to accept this invitation were deeply impressed by the genuine warmth of Prof. and Mrs. Hasan.

Next day, Friday, February 24, began with Session IV, on **"Diabetic Virteo-Retinopathy"**, at 8:00 a.m., and its first presentation was the "Keynote Lecture" by Professor Wallace S. Foulds on "Diabetic eye disease." This was followed by Professor H. John Shammas's "Ophthalmic ultrasound in diabetic retinopathy." Declan William Flanagan of Cambridge followed with his four presentations on "Clinical use of fluorescein angiography", "Photocoagulation for diabetic macular edema", "The management of severe diabetic retinopathy by photocoagulation", and "The prevention of diabetic blindness-is it possible?" Akhtar J. Khan presented back to back "When to do laser treatment in diabetic retinopathy?" and "When to do vitrectomy in diabetes?" The currently hot topic of AIDS prompted the Canadian Abdul Khaliq's "Fluorescein changes in patients with AIDS." (Although AIDS is not found in Pakistan, its presence in four Pakistanis returning home from abroad has been recently reported from Karachi-Khanani, RM, Hafeez, A, and Rasheed, S: Human immunodeficiency virus-associated disorders in Pakistan. AIDS Res Hum Retrov 4:149, 1988.)

The 5th session on **"Ultrasonography"** was chaired by Akhtar J. Khan of Karachi. It opened with dual presentations of "Introduction to ophthalmic ultrasound" and "Ultrasound diagnosis of unilateral exophthalmos" by H. John Sammas of Los Angeles. Nasir Saeed of Peshawar talked about "Ophthalmic ultrasonography-correlation with clinical and operative findings," and Mohammad Munir-ul-Haq of Lahore shed light on "Ultrasound of the orbit" according to his tremendous experience of orbital diseases. Jamshed H. Wania gave his views on "Applied ultrasound in private practice." The last presentation of this session, "Experience with ophthalmic ultrasonography", was made by Japan's K. Morita.

The 6th session on **"Glaucoma"** was cahired by S.M. Siddique, and opened by Allan I. Friedman with his presentation of "The advantages of blue stimuli in detection of early glaucoma." This was followed by "Management of rubeotic glaucoma" by Declan William Flanagan. Dil Mohammad Mirza introduced his "New inexpensive fundus and gonioscopic lens. "YAG laser iridotomy" by Shad Mohammed, "Laser trabeculoplasty in open angle glaucoma in Pakistani patients," and "Reopening of failed trabeculectomy" by Mukhtar Ahmed followed. The last presentation on "Ocular Hansen's disease-Some new observations" was presented by Naushad Hussain.

Professor Latif Chaudhry of Lahore was chairman of the 7th session on **"Retinal Detachment"**, and he opened it by his

presentation "Pneumatic retinopexy for retinal detachment." D.W. Flanagan talked about "Complications of photocoagulation" and "Difficult clinical problems and the YAG laser." Mukhtar Ahmed discussed "Vitreo-retinal surgery under local anesthesia," and Abedul Wakil presented "Retinal detachement- A review of 265 eyes." Khalid J. Awan introduced a new a simple technique for "A simple non-invasive management of residual retinal detachment following buckling procedure." Naeemullah from Lahore presented the last paper of this session, "Results of vitrectomy in endophthalmitis and phacogenic uveitis."

The final session of the day on **"Lacrimal Disorders"** was chaired by Professor Murad Ali, the President of the Society. The "Lacrimal problems of children" were discussed by B.T. Maskati of India. F.M. Halepota presented two papers on "Management of nasolacrimal duct obstruction in children after failed probing" and "Dacryocystorhinostomy in children." Akhtar J. Khan presented his "Experience with silicone tube implant in 60 cases of dacryocystorhinostomy." A.R. Lakhani presented his "Management of injuries to the lacrimal system." Ziauddin A. Shaikh closed the session with description of "A simple procedure for senile entropion."

The last day of the Congress began with session IX on **"Drugs and Ocular Toxicity"** under the chairmanship of Professor Mohammad Daud Khan. Wallace S. Foulds made the first presentation on "Drugs and ocular toxicity." Anthony J. Bron discussed "Systemic drugs and eye complications." K.S. Hassan talked on "Steroid-induced glaucoma." Muhammad Humayun discussed "Toxicity of systemic chloroquine therapy." M.A.S. Baig shed light on "Ocular self-medication in Pakistan." In the end of the session, Rashed Nizam of Bangla Desh presented a "Study on ethambutol toxic neuroretinopathy in Bangla Desh."

The 10th session, on **"Corneal Transplantation"**, was conducted under the chairmanship of Professor K.S. Hassan. Anthony J. Bron delivered the keynote lecture on "Corneal dystrophies and recurrent erosion, dry eye and their management." Mark Soper raised and answer the question of "Which cornea is suitable for eyebanks?" Mary Beth Donnaffel of Michigan advised on "How to preserve corneal tissue?" Paul Dubord of Canada spoke on "Pathogenesis of corneal infections." Bushart Ahmed from Michigan, who is very actively involved in helping the Ophthalmoloical Society of Pakistan for establishing eyebanks in Pakistan, gave his expert and well-experienced opinions on "Surgical approach in graft suturing material in corneal graft." Allan Sugar of United States spoke on "Corneal graft complications and their management." At the end of the session, K.S. Hasan enlightened the audience about the "Reasons of corneal graft failures in Pakistan."

The 11th Session was on **"Strabismus"** and was chaired by Professor M. Saleh Memon. M.C. Handscombe spoke on "Squints" in general. "The present concepts of amblyopia and its management" were presented by B.T. Maskati of India. The same topic was further expounded by Mukhtar Ahmed under the title of "Management of amblyopia." B.T. Muskati closed the session with "surgical management of esotropias."

The 12th session, on **"Orbit"**, was chaired by Professor Muhammad Munir-ul-Haq, who also presented the first paper on "Secondary orbital tumors." Noor Badshah of Peshawar discussed "Clinical manifestations of dysthyroid ophthalmopathy," and M. Afzal Niazi reported "A rare case of orbital gangrene." The rest of the session was devoted to free papers: "Incidence of hyphema in concussion injuries" by Zafar-ul-Islam, "Undergraduate teaching and training in Pakistan" by M. Daud Khan, and heretofore undocumented cataract and retinal detachment as the "Ocular findings in Coffin-Lowry syndrome" by Muhammad Humayun of Canada.

The last session of the Congress, on **"Pathogenesis of Cataract"**, was presided over by Professor Sardar Ali Sheikh of Multan. Edward Cotlier described the "Optical techniques for evaluation of diabetic cataracts." Zafar Zaidi presented his "Preliminary studies of amino acids in body fluids with respect to senile cataracts," and Anthony J. Bron discussed the "Biochemistry of cataracts." Two free papers, "Evolution of cataract surgery in Pakistan" by Taj H. Kirmani and the "Incidence of complications of intracapsular cataract extraction by Amtul Naseer concluded this session.

The Congress Dinner was held on 24th of February. Professor Mahmud A. Shah was the local speaker, whose speech was interspersed with amusing anecdotes and was thoroughly enjoyed by the audience. Mr. Anthony J. Bron spoke on behalf of the foreign delegates, and his speech was truly remarkable for its joviality, drollery and wit. The members of the Organization Committee deserve the highest praise and must be congratulated for arranging such a successful meeting.

In the business meeting of the Society, it was decided that the 13th Congress will be held in Quetta, most likely on May 4-6, 1990. From the past experience, it can be concluded that the Quetta Congress will be a most enjoyable and useful event in ophthalmic learning.

Society President's Inaugural Address

Professor Murad Ali

Bismillahir-Rahmanir-Raheem.

Professor Wallace Foulds, President College of Ophthalmologists, United Kingdom, Chairman Organising Committee, distinguished guests, dear colleagues, ladies and gentlemen.

As the Central President of the Ophthalmological Society of Pakistan, it is my privilege to welcome you to our 12th Annual Congress of the Ophthalmological Society of Pakistan. I am particularly grateful to you, Prof. Foulds, for finding time to participate in this meeting inspite of your round-the-clock engagements.

As Pakistani ophthalmologists, we are particularly interested in eliminating the cureable blindness in our country by the year 2000. To achieve this ambitious goal we fortunately have the full backing of our government. The Ophthalmological Society of Pakistan is holding its 12th annual congress with the same spirit. The presence of many distinguished ophthalmologists from all over the world in this congress is a testimony to the fact that our Society's existence and work is acknowledged worldwide. Also, the presence here of eye specialists from all corners of Pakistan has once again highlighted the interest they take in the Society's activities.

In recognition of our democratic character, we are trying to usher in a spirit of brotherly equality by rotating the top offices of the Society every two years between all four federating units of Pakistan. Our earnest desire is to provide opportunity to members from all four provinces, big or small, to run its affairs according to their own innovative ideas.

The Society has endeavored to spread ophthalmic knowledge, skills and awareness by pooling its humble resources. Besides offering services of its members during emergencies and natural catastrophies like the floods in Panjab in November 1988, the central body as well as the provincial units of the Society have held clinical meetings, seminars, eye camps, preventive sessions, etc.

The Ophthalmo '88 in Lahore was one of the best organized conferences. It brought together some of the renowned ophthalmologists from all over the world. The guest speakers not only gave illuminating lectures but also imparted their skills to budding local eye specialists in workshops and live surgical demonstrations at the Fatima Jinnah Medical College, Lahore.

The Society can proudly claim today that it was due to its initiative (and the governments patronage) that the number of ophthalmologists in Pakistan has risen to 400 from only 150 in 1980. Nation's all 46 districts now have trained eye

specialists, unlike a couple of years ago when 40 of these districts had no ophthalmologist. In fact, even the *tehsil* headquarters in some provinces now boast of the services of qualified ophthalmologists. Ophthalmic facilities have improved tremendously in the country over the years and some of the centers are reasonably well-equipped with laser, ultrasonography, CT scanning, flourescein angiography, vitrectomy, and electromedical diagnostic and theraputic gadgets.

However, there are some difficulties and our Society's needs that I would like to mention. The proposed Institute of Ophthalmology in Hayatabad Township of Peshawar was approved during the last All-Pakistan Ophthalmological Congress held in Peshawar. There is a need to expedite work on it so that Northwest Frontier Province (NWFP) could come at par with other provinces.

Baluchistan is the only province where no such institute has been sanctioned, and it is time its needs are met. Also the presence of a large number of Afghan refugees in NWFP and Baluchistan has greatly increased the need for such a measure there.

There is also a need for setting up adequate ophthalmic workshops in every province to operate and to take care of the sophisticated and costly electromedical equipment. The need for such workshops is particularly great in areas where after- sales services are not available, and instruments have to be sent to Lahore or Karachi for repairs.

It would be much appreciated if the central government issues a directive to all provinicial governments to provide funds to every medical college for sending one senior ophthalmologist abroad every year to attend refresher courses and short duration workshops to keep abreast with modern techniques and trends.

Finally, I would like to articulate, as the President of the Ophthalmological Society of Pakistan, the sincere desire of our members to offer their services to the government for implementing the People's Health Policy and prevention of blindness in Pakistan. I am sure the leaders of our nation will not find us lacking when asked to contribute to the task of nation building. God bless you all. Pakistan paindapabad.

Congress Address

Professor Wallace S. Foulds

Professor Murad Ali, President of the Ophthalmological Society of Pakistan, Dr. Wania and other members of the organising committee, fellow guests, ladies and gentlemen.

Firstly I should like to thank you Professor Murad for your very generous introduction and secondly I should like to thank Dr. Wania for the warmth of his welcome. On behalf of all the excellence of the arrangements made for our reception here in Pakistan and for his very generous hospitality. It is always pleasant to renew friendships and I am happy to be back in Pakistan where I can number many ophthalmic colleagues among my friends.

It goes without saying that I am honoured to have been awarded the privilege of inaugurating the 12th Congress of the Ophthalmological Society of Pakistan. I am particularly pleased to represent the College of Ophthalmologists of the UK at this important Congress. As Dr. Wania has said there are long established links between Ophthalmologists and Ophthalmology in the UK and in Pakistan and I am confident that the new College of Ophthalmologists should serve to render these links even closer. Many of your guests from the UK including myself have helped to train ophthalmologists who are currently working in Pakistan and, speaking personally, I can assure our ophthalmic colleagues here in Pakistan that we are happy to continue to offer postgraduate training in the Tennent Institute.

Earlier today I took part in discussions with the teachers of ophthalmology in this country and later with a number of your postgraduate students. It was obvious from our discussions that not only has Pakistan its own particular problems but, additionally, we in the UK and you here in Pakistan are subject to similar pressures with difficult decisions to be made, in relation, for example, to how much investment in time and money is appropriate to devote to the training of our young ophthalmologists bearing in mind the to some extent competing demands of patient care. The problems in Pakistan are greater in degree but similar qualitatively to some of those besetting us in the UK so that it should be possible for each of us to learn from the other to our mutual benefit. The increasing complexity and sophistication of modern ophthalmic practice means that no one person or even a small group will have sufficient knowledge or skill over the whole field of ophthalmology to train fully a potential ophthalmologist. It has become apparent to each of us, the Pakistan Ophthalmological Society and the College of Physicians and Surgeons of Pakistan on the one hand, and the college of Ophthalmologists in the UK on the other, that there is a need for more structured training in ophthalmology than has been the case previously.

In this area the Americans have led the way and while not advocating slavish mimicry of the practice adopted by our trail blazing colleagues in the United States, I am in no doubt that you here in Pakistan and we in the UK must institute training programmes of a uniformly high level throughout our respective countries.

The College of Ophthalmologists has a large overseas membership and I and the Councel of the College are conscious of the responsibility which we have to that membership. I would hope that as a College we would aid in every way possible our overseas members in Pakistan and elsewhere.

The motto of the College is *'ut omnes videant'* - that all may see. We hope that it indicates not only a due and proper regard for our patients but also a degree of far-sightedness on the part of the College in relation to the further development of our specialty.

When we look at the very large numbers of persons in this country afflicted with blindness or poor sight we are quickly aware of the responsibility we have to our patients and the community and also of the magnitude of the task facing us. A Congress such as this with participants not only from the whole of Pakistan but from many other countries abroad offers an opportunity for all of us to update our knowledge and this must be of direct benefit to our patients.

The government in this country must have many and competing calls on its resources but we must hope that it recognises the importance of prevention and treatment of blindness among its priorities, for without adequate resources it is impossible for even the best trained ophthalmologist to practice his skills effectively for the alleviation of the heavy burden of blindness that exists in Pakistan.

We must also hope that our College motto, that all may see, will extend to all of those in control of finance and resources so that they will see and recognise the needs of the specialty so that in turn we can with some confidence ensure that our College motto does really apply to our many patients.

Professor Murad Ali I bring you greetings from the College of Ophthalmologists in the UK, from the staff of the Tennent Institute in Glasgow and from your overseas guests. We extend our best wishes for a successful 12th Congress here in Karachi and I am sure that your many friends from throughout the world will join me in wishing the Ophthalmological Society of Pakistan well. I have much pleasure in declaring the Congress officially inaugurated.

عید مبارک

Figure 1-3

Total Oculomotor Palsy as a Presentation of Herpes Zoster Ophthalmicus

ABSTRACT: A 66-year-old white woman with a functioning ventriculoperitonial shunt for hydrocephalus and a chronic frontal subdural hematoma developed severe right-sided headache and total third nerve palsy. The eruption of typical cutaneous rash of herpes zoster on the affected side the next morning confirmed that the oculomotor paralysis was in fact an unusual presentation of herpes zoster ophthalmicus. The intraocular involvement was minimal. The standard treatment of herpes zoster led to a full recovery in two months. (Pakistan Journal of Ophthalmology 5:66, 84, July, 1989.) Reprint requests to Khalid J. Awan, 1921 Park Avenue, SW, Norton, Virginia 24273 USA.

Paralysis of extraocular muscles in cases of herpes zoster ophthalmicus occurs in 7 to 14 percent of cases, and the third nerve is involved most often.[1,2] However, the appearance of such paralysis before the eruption of skin lesions is most rare, and only a few such cases have been reported. The situation in this patient was made even more confusing by the known presence of hyprocephalus and subdural hematoma, which in all probability did not contribute to ophthalmoplegia. Usually, this complication of herpes zoster appears 5 to 15 days after the cutaneous vesicles.

The involvement of the motor nerves of the eye has been attributed to one of the several reasons: 1) extension of inflammation of the 5th nerve to the nerves of extraocular muscles when they lie close to it in the cavernous sinus; 2) associated meningitis or encephalitis; 3) extension of infection to the motor nerves; 4) involvement of the motor nerves in the anterior horns of the spinal cord; and 5) thrombophlebitis in muscles.

When internal ophthalmoplegia is part of the picture, the ciliary ganglion is involved. Pupillary involvement may result in Argyll Robertson pupil. In most cases, ophthalmoplegia spontaneously resolves, like in this patient, within two months or so.

Reference

1. Edgerton, AE: Herpes zoster ophthalmicus. Report of cases and review of literature. Arch Ophthalmol 34:40, 1945.
2. Carmody, RF: Herpes zoster ophthalmicus complicated by ophthalmoplegia. Arch Ophthalmol 18:708, 1937.

Figure 4

Ankyloblepharon Filiforme Adnatum

ABSTRACT: The rare anomaly of ankyloblepharon filiforme adnatum was present in the left eye of a three-day-old infant girl. No other abnormalities were present. Simple excision of the strand between the upper and lower eyelids cured the condition with normal eyelid margins. Histologically the excised band had a central vascular core covered with pavement epithelium. (Pakistan Journal of Ophthalmology 5:66, 84, July, 1989.) Reprint requests to Muhammad Humayun, F.P.A.M.S.,176 Portland Street, Suite 306, Dartmouth, Nova Scotia, Canada.

The band like bridge between the lids of the left eye of this patient was elastic, and was connected only to the ciliary edges of the lid margins. Excising it caused very little bleeding. This very rare anomaly of the eyelids, called ankyloblepharon filiforme adnatum, differs from ankyloblepharon wherein there is direct fusion of the lid margins. The anomaly is usually unilateral, but bilateral occurrence has been reported.[1] The condition may be familial and accompanied by other anomalies, such as hare-lip, cleft-palate, patent ductus arteriosus, interventricular septal defect, aural fistula, and syndactylism.[2]

Ankyloblepharon filiforme adnatum is a pure aberration of development from either excessively rapid growth of mesoderm, or a temporary arrest of growth of epithelium, allowing union of mesenchymal tissue before the separating epithelial layer can interpose between the upper and lower eyelid margins. It is not, however, a simple defect in separation of the two lids.[1]

References

1. Duke-Elder, S.: Normal and Abnormal Development. Congenital Deformities. In Duke-Elder, S. (ed.): System of Ophthalmology, Vol. 3, Part 2. St. Louis, The C.V. Mosby Company, 1963, pp 869-871.
2. Khanna, VN: Ankyloblepharon filiforme adnatum. Am J Ophthalmol 43:774, 1957.

Figure 5

Hyphema in Angle-closure Glaucoma

ABSTRACT: A 66-year-old mildly hypertensive woman developed spontaneous hyphema during an acute attack of primary angle-closure glaucoma in her right eye. This manifestation is extremely rare in cases of acute angle-closure. This patient did not have any findings to suggest neovascular glaucoma. The intraocular pressure was brought under control by trabeculectomy when initial laser iridotomy failed to do so. The normalization of intraocular pressure and deepening of the anterior chamber did not cause recurrence of hyphema. (Pakistan Journal of Ophthalmology 5:67, 85, July, 1989.) **Reprint requests to Khalid J. Awan, FPAMS, 1921 Park Avenue, SW, Norton, Virginia 24273 USA.**

This patient had bilateral primary narrow angles with hypermetropia of 3.25 diopters in each eye, a finding that had been recorded a decade ago, but patient did not follow the instructions to safeguard against a full-blown attack of angle-closure. The finding of hyphema with acute attack of glaucoma in her was quite surprising, since there was no history of trauma. Usually, bleeding in the anterior chamber in the absence of trauma represents neovascular glaucoma,[1] a post-intraocular surgery complication,[2] presence of iris microhemangiomas,[2] or intraocular tumors.[3] None of these was present in this patient.

Narrow angle in the left eye and the absence of secondary causes of closed angle in the involved eye clearly indicate that this patient did indeed have primary angle-closure glaucoma. It is known that hyphema can lead to acute rise in the intraocular pressure. However, the absence of any cause of spontaneous hyphema in this patient precludes this possibility, confirming that hyphema was secondary to an acute angle-closure attack. This patient had no vascular or hematologic disorder. The bleeding in the anterior chamber probably resulted from one of the arteries in the necrosed portion of the iris.

References

1. Cashwell, LF; Croyle, TA: Acute primary closed-angle glaucoma associated with hyphema. Am J Ophthalmol 106:353, 1988.
2. Awan, KJ: Microhyphema. Canad J Ophthalmol 12:153, 1977.
3. Awan, KJ: Biopsy diagnosis of retinoblastoma. Pak J Ophthalmol 1:127, 148, 1985.

Figure 6

Dominantly Inherited Macular Drusen in a Teen

ABSTRACT: A 19-year-old woman had very dramatic bilateral and symmetrical macular drusen. She had normal visual acuity (20/20) in each eye. The dominantly inherited drusen usually appear at the age of 40 or after, and their so dramatic presence in a teen is very unusual. (Pakistan Journal of Ophthalmology 5:67, 85, July, 1989.) **Reprint Requests to Dr. Ashfaq-ur-Rahman, 238 Jinnah Colony, Faisalabad, Pakistan.**

Although non-symptomatic, the bilateral macular drusen in this 19-year-old woman were very prominent and dramatic. The picture was typical of dominantly inherited drusen of the macula, also known as Doyne's honeycomb choroiditis, Hutchinson-Tay central guttate choroiditis, Holthouse-Batten superficial choroiditis, malatia levantinese, etc. Most patients with this disorder do not show visual loss till they are in their sixties.[1] The visual loss is due to macular dystrophy that follows.

Drusen, usually clustered in the macula, change in size, shape, arrangement, and color with the passage of time. Usually, their number increases with age, but rarely they may also fade away and appear to decrease in number.[1]

Histopathologically, drusen consist of focal collections of eosinophilic material laying between the retinal pigment epithelium and Bruch's membrane. They represent focal detachments of the retinal pigment epithelium, with varying degrees of thinning and depigmentation. Dominantly inherited drusen represent the same fundamental heredodegenerative lesion of various types of macular dystrophy, which is the most common cause of legal blindness in adults.

Reference

1. Gass, JDM: Stereoscopic Atlas of Macular Diseases. Diagnosis, and Treatment, 3rd edition. St. Louis, The C.V. Mosby Company, 1987. pp 60-66.

Critiques

Book Reviews

Edited by Khalid J. Awan, FPAMS

OPHTHALMIC LASERS, Third Edition, Volume I and Volume II. By Francis A. L'Esperance, Jr., St. Louis, The C.V. Mosby Company, 1989. Hardbound, full-size, 1,046 pages, 1,401 illustrations, including 4 color plates, index, US $150.00.

That there was a true need for a third edition of this book is obvious from the rapid expansion of use of lasers in the treatment of more and more eye diseases. In a very few years, laser as an ophthalmic therapeutic modality has moved from the experimental institutions to teaching centers, to hospitals, to large eye clinics, to now in many private offices in the United States. The same may be expected to happen soon in Pakistan and other countries. Laser technology is advancing with an astounding rapidity and the competition among the various manufacturers is becoming increasingly fierce, steadily reducing costs despite improving quality. It is safe to assume that the time is not far when lasers will become a mode of testing and treating for a very significant percentage of ocular disorders. The knowledge and literature about the use of laser in ophthalmology are mushrooming, as is evident by the fact that each new edition of this book has doubled in number of pages in its predecessor.

When the first edition of this book, titled *Ocular Photocoagulation. A Stereoscopic Atlas*, appeared in 1975, a reviewer commented that the "long-term effect of photocoagulation as compared to the nature of many disease processes in different stages of evolution has yet to be decided." Today, the effectiveness of laser photocoagulation is fully established in disease processes with serious threat to sight, such as diabetic retinopathy, macular degeneration, glaucoma, etc. Hence, a good text on the basic physical facts and clinical ocular applications of laser is needed by every ophthalmologist. L' Esperance's **Ophthalmic Lasers, Third Edition** admirably fulfills this need. The book is divided into 26 chapters, 13 in each volume, of which six chapters have been contributed by ten invited experts. This has definitely enhanced the value of the book. The contents are divided into five parts: Laser Technology and Clinical Applications; Photocoagulation Lasers; Photocoagulation of Ocular Disease: Application and Technique; Photovaporization, Photodisruption, and Photoablation Decomposition Lasers; and Complications and Future Applications. Each part is further subdivided into chapters. The invited authors have contributed chapters on Laser Sources and Ocular Effects (by Arthur Vassiliadis); Laser Light, Interactions, and Clinical Systems (by Martin A. Mainster); Subretinal Neovascularization: Diagnosis and Treatment (by Peter H. Judson and Lawrence A. Yannuzi); Laser Treatment of Glaucoma (by Robert Ritch and Ira S. Solomon); Neodymium:Yttrium-Aluminum-Garnet Laser (by Franz Fankhauser and Sylwia Kwasniewska); and Corneal Laser Surgery (by Olivia N. Serdarevic). The main contents of the book are preceded by an "Introduction" containing interesting information which must not be overlooked by any reader of the book. Similarly, the last chapter, New Laser Systems, Their Potential Clinical Usefulness, and Investigative Laser Procedures, is one of the most exciting readings in all of the current ophthalmic literature.

For the beginner, clinical application is outlined in clear writing from preoperative evaluation, consent forms, postoperative instructions, and treatment techniques, with specific guidelines as to the type of laser, spot-size, power intensity, duration of exposure, number of applications, and end point for optimum photocoagulation. However, while going over the chapter on diabetic retinopathy, I wished there were actual clinical fundus photographs representing each stage of its grading, a minor omission, of course. The experts will benefit from the scholarly comments and latest references on the basic and clinical aspects of lasers in medicine.

I strongly urge all ophthalmologists, particularly those in training, to carefully read and reread this text. Modern medical care requires that no ophthalmologist or medical library should be without the latest edition of L'Esperance's **Ophthalmic Lasers.**

RETINAL DETACHMENT. Diagnosis and Management, 2nd Edition. By William Edmunds Benson. Philadelphia, J.B. Lippincott Company, 1988. Hardcover, standard-sized 238 pages including index, illustrated. Price US $49.50.

Of the many monographs currently available on retinal detachment, Benson's **Retinal Detachment: Diagnosis and Management** is one of the most lucid and practical. Its writing is concise but complete on every topic included in it. Although Benson's extensive clinical experience and in-depth knowledge of the subject are mainly responsible for this outstanding book, credit must be given, as the author points out in the preface, to his wife for editing and rewriting the text which flows effortlessly and is extremely conducive to continued reading. This is, indeed, one of the best-written ophthalmic texts.

The contents of the book are presented in eleven chapters and an excellent appendix containing line

drawings giving a glance review of the guidelines and principles of retinal detachment treatment. The chapters include Primary Retinal Detachment, Pathophysiology, Predisposing Conditions, History, Differential Diagnosis, Fundus Examination and Preoperative Management, Basic Surgical Technique, Surgery of Complicated Cases, Postoperative Management, Prophylactic Therapy, and New Techniques for the Treatment of Retinal Detachment. The heart of the book and more than worth its cost are the chapter six, on fundus examination and preoperative management, chapter seven, on basic surgical technique, and chapter nine on postoperative managment. The chapters on history (4th) and new techniques (11th) are of great interest. The latter deals with the merits and drawbacks of "The Lincoff Ballon", "Suprachoroidal Implantation of Hyaluronic Acid", "Pneumatic Retinopexy", and "Primary Vitrectomy Without Scleral Buckling." This chapter reveals in a very non-threatening fashion the serious problems that may arise if one is not careful enough in approaching a new procedure which appears straight forward and simple on the face of it, such as the pneumatic retinopexy. The more complex and advanced techniques for complicated detachments are discussed sufficiently but without esoteric details, which I consider to be a plus for a book of this type. This broad approach to such topics also reveals Benson's impressive ability as a teacher writer. Benson's **Retinal Detachment. Diagnosis and Treatment** is one of the best texts in ophthalmology, and all trainees, teachers, and practitioners will find it of tremendous value.

OCULAR PATHOLOGY. A Text And Atlas, 3rd Edition. By Myron Yanoff and Ben S. Fine. Philadelphia, J.B. Lippincott Company, 1989. Hardcover, 737 full-size pages, profusely illustrated with black and white figures, indexed. Price, US $95.00.

Since its very first appearance on the ophthalmic scene, Yanoff and Fine's **Ocular Pathology. A Text and Atlas** has been hailed as a "classic" and a "milestone" by the experts, and enjoyed immense popularity among the students and trainees. Some might have attributed its success to the non-availability of any other book of its magnitude on ophthalmic pathology when it first appeared in 1975. Now, there are many books on ophthalmic pathology on the market, but none has displaced it from its place of high acclaim and excellence as a teaching tool.

Contents of the book are presented in 18 chapters: Basic Principles of Pahtology; Congenital Anomalies; Nongranulomatous Inflammation: Uveitis, Endophthalmitis, Panophthalmitis, and Sequelae; Granulomatous Inflammation; Surgical and Non-surgical Trauma; Skin and Lacrimal Drainage System; Conjunctiva; Cornea and Sclera; Uvea; Lens; Retina; Vitreous; Optic Nerve; Orbit; Diabetes Mellitus ; Glaucoma; Ocular Melanotic Tumors; and Retinoblastoma and Pseudoglioma.

The outline-format of previous editions presenting precise and brief information on each entry is maintained in this edition. This scheme is most helpful to students and trainees who find it easy to study and retain. The busy practitioner also finds it most helpful for quickly going over the pathologic features of a disorder afflicting a patient in his office. Even our general pathologist gave it high marks for clarity and conciseness. Bibliography of up-to-date and significant publications at the end of each chapter renders it appealing to scholars as a reliable reference. In short, as they say in Pakistan, **Ocular Pathology. A Text and Atlas** is a *"koozay main durya"* (a river contained in a canteen). Despite updating topics and material, the authors have magically reduced the volume and cost of the book by 20 per cent.

I was very moved by the touching dedication of Third Edition to the memory of Nestor G. Menocal. Nestor was in charge of the pathology lab at the University of Pennsylvania for many years in its developing years. His devotion to ophthalmic pathology, sincere eagerness to help every new trainee, and most unaffected pleasantness of disposition made him "a free spirit who enriched the lives of those who knew him." I was one of those lucky ones.

On the basis of its quality and contents, I highly recommend Yanoff and Fine's **Ocular Pathology. A Text and Atlas** to all who have any interest in understanding ophthalmic disorders.

CURRENT THERAPY IN OPHTHALMIC SURGERY. By George L. Spaeth, L. Jay Katz, and Kenneth W. Parker. Philadelphia, B.C. Decker Inc, 1989. Hardcover, full-sized, 355 pages including index, illustrated in black and white. Price, US $

This book is one of the surgical titles in the *Current Therapy* series, and is, as authors state, "necessarily quite different from the familiar reference textbooks that concentrate on clinical presentation, pathophysiology, clinical course, and prognosis and that discuss therapies in terms of general principles."

The authors have brought together 116 of the leading experts in different ophthalmic fields to write about their personal plans and techniques of managing various surgical problems of the eye and their complications without "much reference to, or documentation of, others' thoughts." This has naturally limited the scope of this book, which has been to some extent compensated by providing an adequate list

of current "suggested readings" after each topic. Hence, one author details his favorite technique of primary repair of retinal detachment with scleral undermining and diathermy without making any mention of cryoretinopexy, but provides the name of his book "Retinal Detachment and Allied Diseases" as one of the two (both his) suggested readings. Nonetheless, this still limits the reader to only the views of a single author, and does not provide access to an overview of the subject. Fortunately, most of the other contributors are much more generous in including in their lists of suggested readings the important writings of other authors.

The contents are discussed under 13 chapter titles of Anesthesia for Ophthalmic Procedures, True Ocular Emergencies, Trauma, Surgical Correction of Refractive Error, Corneal Disease, Cataract, Glaucoma, Retina, Pediatric Ophthalmology and Strabismus, The Orbit, Plastic Surgery, Complications of Ophthalmic Surgery, and Ocular Infections Associated with Surgery. Most of the chapters are written lucidly. Some of the more experienced authors have brought greater insight into their discussions as a result of ripened common sense and practicality accumulated over years of practice.

The book is beautifully produced by the publisher on a high quality paper. However, single-column titles of new subjects in a two-column format without any alerting markings between the texts of two articles is confusing. A black line divider would have eliminated this frustrating aspect. It is a useful work for those who wish to learn about the current methods of the masters in this age of rapid and dramatic advances in ophthalmology.

TEXTBOOK OF OPHTHALMIC PLASTIC AND RECONSTRUCTIVE SURGERY. By Roger Kohn. Philadelphia, Lea & Febiger, 1988. Hardcover, 344 full-sized pages including index, illustrated with black and white figures. Price, US $95.00.

This book is "the sequel to *Practical Ophthalmic Plastic and Reconstructive Surgery*" written by Reeh, Beyer, and Shannon in 1976. As the author clarifies in the preface, the intention of this book is to be comprehensive without being encyclopedic. The presentation of each subject is made from a point of view of clinical features, differential diagnosis and surgical indications. The writing is lucid and to the point. Because the book is written by a single author, except for the chapter 4 on Craniofacial Abnormalities by Andrew Choy and chapter 15 on Orbital Tumors by James Orcutt, there is an excellent uniformity of writing style throughtout, a pleasant rarity in today's atmosphere of multiauthorship of most books.

The contents of the book are divided into 16 chapters: Anatomy and Physiology, Basic Principles, Congenital Anomalies of the Eyelids and Socket, Craniofacial Abnormalities, Blepharoptosis, Thyroid Ophthalmopathy and Eyelid Retraction, Ectropion, Entropion, Blepharoplasty, Eyelid Tumors and Eyelid Reconstruction, Conjunctival Surgery, Acquired Anophthalmos and Related Disorders, Lacrimal System, Essential Blepharospasm, Orbital Tumors, and Orbital and Periorbital Fractures. All the chapters present material with a generous number of clearly marked black and white illustrations of excellent quality. Each chapter has an up-to-date bibliography. I wish, however, that the references were also cited in the text.

The book is an excellent review of the ophthalmic plastic surgical producures. Nonetheless, there are some areas where experts might differ with the author, a natural outcome of the authorship by a single writer. This also happens to be a point of strength, which makes the book most useful for the general ophthalmologists who can benefit more by the experience and guidance of an expert who, like themselves, deals adequately with the whole spectrum of plastic and reconstructive surgery rather than by many who deal expertly only with parts of it.

OCULAR SYNDROMES AND SYSTEMIC DISEASES, 2nd Edition. By F. Hampton Roy. Philadelphia, W.B. Saunders Company, 1989. Hardcover, pocket-size, 470 pages. Price, US $60.00.

According to the publisher, this encyclopedic book includes "every known systemic syndrome and disease with ocular manifestation." In all, 1,250 syndromes and diseases are presented in alphabetical order, beginning with "A Esotropia Syndrome" to "Zollinger-Ellison Syndrome." An ophthalmologist would be interested to learn that the latter may be accompanied with optic nerve atrophy or papilledema, indicating an involvement of pituitary in addition to islet cell adenoma of pancreas. One can project the extreme usefulness of this book by envisioning the similar information about over a thousand syndromes and entities, all of it only the turning of a page away, and with most current references. The author makes a plea in the preface to the readers to inform him if any syndrome, systemic disease, or inherited disorder is missing. This book will greatly help an eye resident in learning, a practitioner in treating his patient as a whole, an expert in challenging his knowledge, and a non-ophthalmologist in quelling his curiosity. This is the most up-to-date and complete text of its type, and a very good book for the shelf of every physician.

-KJA

Abstracts From Elsewhere

Edited by Khalid J. Awan, F.P.A.M.S.

OPHTHALMOLOGY

The Journal of the American Academy of Ophthalmology

ADJUNCTIVE GLAUCOMA THERAPY. A comparison of Apraclonidine to Dipivefrin when Added to Timolol Maleate. JC Morrison, AL Robin. The authors did a double-masked, cross-over study to compare the additive intraocular pressure (IOP)-lowering effects of apraclonidine hydrochloride and dipivefrin hydrochloride when used in conjunction with timolol maleate. Each of a total of 18 patients in the study used apraclonidine 1.0% dipivefrin 0.1%, or placebo, twice daily for 3 weeks, in addition to timolol 0.5% twice daily. Only apraclonidine produced a significant additional IOP lowering over timolol treatment alone at all time intervals ($P<0.001$). Its additive effect was significantly greater than that seen with dipivefrin at all time intervals ($P<0.01$), with the exception of day 22 ($P=0.061$). No significant change in pulse rate or blood pressure was seen during apraclonidine administration. Apraclonidine may be a useful adjunctive agent in patients with poorly controlled glaucoma. *(Ophthalmology 96:3-7, January, 1989.) Reprint requests to Alan L. Robin, MD, 4419 Falls Rd, Baltimore, MD 21211.*

A COMPARISON OF THE OCULAR HYPOTENSIVE EFFICACY OF ONCE-DAILY AND TWICE DAILY LEVOBUNOLOL TREATMENT. SI Rakofsky, S Melamed, JS Cohen, JR Slight, G Spaeth, RA Lewis, L Zbrowski-Gutman, CY Eto, JC Lue, GD Novack. The authors compared the ocular hypotensive efficacy of two different treatment regimens of levobunolol 0.5% in a double-masked, randomized, controlled clinical trial. Seventy-one patients with open-angle glaucoma or ocular hypertension received levobunolol 0.5% as their sole glaucoma medication either on a once-daily or twice-daily treatment regimen for 3 months. Approximately 81% of the patients in the once-daily treatment group and 88% of subjects in the twice-daily treatment group successfully completed the 3-month study period. The overall mean decrease in intraocular pressure (IOP) was 4.5 mmHg in the once-daily group and 5.6 mmHg in the twice-daily group. These differences were not statistically different. For both treatment groups, effects on mean heart rate and blood pressure were minimal. This study suggests that once-daily treatment with levobunolol is an effective glaucoma regimen. *(Ophthalmology 96:8-11, January, 1989.) Reprint requests to Gary D. Novack, PhD, Nelson Research, 1001 Health Sciences Road W., Irvine, CA 92715.*

CATARACT WOUND NEOVASCULARIZATION. An often overlooked Cause of Vitreous Hemorrhage. C Bene, R Hutchins, G Kranias. A vitreous hemorrhage secondary to corneoscleral wound neovascularization developed in nine eyes of eight patients 10 months to 17 years after intracapsular cataract surgery. Visualization of superior angle neovascularization, provocation of bleeding by rocking the gonioscopic contact lens, and documentation of vascular leakage by gonio-fluorescein angiography established the diagnosis. All affected eyes have remained hemorrhage-free after argon laser photocoagulation of the angle neovascularization. The clinician should be aware of cataract wound neovascularization, an apparently easy disorder to diagnose and treat, as a cause of vitreous hemorrhage. *(Ophthalmology 96:50-53, January, 1989.) Reprint requests to George Kranias, MD, 2123 Auburn Ave, Suite 210, Cincinnati, OH 45219.*

***PROPIONIBACTERIUM*-ASSOCIATED ENDOPHTHALMITIS AFTER EXTRACAPSULAR CATARACT EXTRACTION. Review of Reported Cases. DM Meisler, S Mandelbaum.** The authors review 16 cases of previously reported culture-proven *Propionibacterium*-associated endophthalmitis after extracapsular cataract extraction (ECCE). The inflammation was observed 2 to 10 months after surgery and occurred after laser posterior capsulotomy in four cases. Clinically, it appeared as a chronic iridocyclitis characterized by granulomatous-appearing keratic precipitates (5 cases), hypopyon (10 cases), and a white plaque on the posterior capsule or intraocular lens (IOL) implant (8 cases). Response to corticosteroid treatment was transient. Surgical intervention was required between 1 and 16 months after the inflammation began and included removal of the IOL and capsular bag via the limbus in 7 cases and pars plana vitrectomy in 11. Intravitreal antibiotics were administered in 12 cases. Postoperative visual acuity ranged from 20/20 to count fingers, with 11 of 16 patients recovering visual acuity of 20/40 or better. *Propionibacterium*-associated endophthalmitis should be suspected if chronic indolent intraocular inflammation develops after ECCE. Intraocular specimens should be obtained and submitted for aerobic

and anaerobic culture and cytologic/histopathologic studies. Based on the clinical courses of these patients, recommendations for management are discussed. *(Ophthalmology 96:54-61, January, 1989.) Reprint requests to David M. Meisler, MD, Department of Ophthalmology, The Cleveland Clinic Foundation, 9500 Euclid Ave, Cleveland, OH 44106.*

THE TREATMENT OF POSTOPERATIVE ENDOPHTHALMITIS. Results of Differing Approaches to Treatment. GA Stern, HM Engel, WT Driebe, Jr. The authors treated 26 patients (19 culture positive and seven culture-negative) with postoperative endophthalmitis over a 4-year period, between 1983 and 1986. All patients received intravitreal antiobiotics as part of their treatment regimen. Culture-negative patients generally responded well to a single intravitreal antibiotic injection. Five of seven (71.4%) culture-positive patients who were treated with a single intravitreal antibiotic injection and no vitrectomy suffered either a recurrence of their infection or did not respond to treatment. Four of five patients who received a vitrectomy in addition to a single intravitreal antibiotic injection were cured of their infections; the one patient who received repeated intravitreal antibiotic injections in combination with vitrectomy were cured of their infections. Although the intravitreal injection of antibiotics provides an extremely high initial level of antibiotics inside the eye, a single intravitreal antibiotic injection may only partially treat bacterial endophthalmitis. In culture-negative cases, a single intravitreal injection of antibiotics appears to be sufficient treatment. In culture positive cases, a higher cure rate is achieved with an aggressive approach which includes the use of repeated intravitreal antibiotic injections and/or vitrectomy. *(Ophthalmology 96:62-67, January, 1989.) Reprint request to George A. Stern, MD, Department of Ophthalmology, University of Florida College of Medicine, Box J-284 JHMHC, Gainesville, FL 32610.*

NEOVASCULARIZATION OF THE OPTIC DISC ASSOCIATED WITH OBSTRUCTION OF THE CENTRAL RETINAL ARTERY. JS DUKER, GC BROWN. Neovascularization of the optic disc following acute central retinal artery occlusion has rarely been reported. Out of a total of 168 cases of CRAO, three (1.8%) developed NVD soon after their CRAO. Rubeosis iridis also developed in two of these three patients. Although all three patients had either atherosclerotic carotid artery disease, diabetes mellitus, or both, in none of the cases was there clinical evidence implicating these diseases as the direct cause fo the NVD. All three eyes received panretinal laser photocoagulation, with eventual resolution of the new vessels. *(Ophthalmology 96:87-91, January, 1989.) Reprint requests to Gary Brown, MD, 910 E. Willow Grove Ave, Wyndmoor, PA 19118.*

IMPROVED READING PERFORMANCE USING INDIVIDUALIZED COMPENSATION FILTERS FOR OBSERVERS WITH LOSSES IN CENTRAL VISION. TB Lawton. By boosting the amplitudes of the intermediate spatial frequencies more than the amplitude of the lower spatial frequencies, reading performance improved significantly when observers with losses in central vision read words that were filtered. Words that were filtered using an image enhancement function based on an observer's losses in visual function relative to a normal observer (1) reduced the magnification (30-70% less magnification was needed) and (2) increased the reading rate (2-3 times), measured in words per minute. The greater the loss in central visual function, the more individualized compensation filters reduced the magnification needed for word recognition. Individualized compensations filters improved the clarity and visibility of words for low vision observers. This study also found that the shape of the enhancement function was important to determine the optimum compensation filter for improving reading performance. In addition, the individualized compensation filters can be implemented by inexpensive hardware, for example in a closed circuit television (CCTV), to provide a significantly more effective low vision aid for observers with losses in central vision to read text, than is provided using only magnification. *(Ophthalmology 96:115-126, January, 1989.) Reprint request to Teri B. Lawton, PhD, Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Dr, Pasadena, CA 91109.*

ERRORS IN THE THREE-STEP TEST IN THE DIAGNOSIS OF VERTICAL STRABISMUS. J Kushner. The Parks three-step test is the standard for diagnosing which isolated cyclovertical muscle is palsied. It does not, however, tell the examiner if in fact one is dealing with a palsy of one cyclovertical muscle. Numerous other causes of vertical strabismus may have a positive Bielschowsky head tilt test. The use of the three-step test in these clinical situations may lead to incorrect diagnosis and treatment. These clinical conditions included contracture of the vertical recti, paresis of more than one vertical muscle, dissociated vertical divergence, previous vertical muscle surgery, skew deviation, myasthenia gravis, and small nonparalytic vertical deviations associated with horizontal strabismus. Several diagnostic steps in addition to the three-step

test are necessary to tell if one is in fact dealing with a palsy of a single cyclovertical muscle. *(Ophthalmology 96:127-132, January, 1989.) Reprint requests to Burton J. Kushner, MD, F4/336, Clinical Science Center, 600 Highland Ave, Madison, WI 53792.*

CLINICOPATHOLOGIC CHARACTERISTICS OF PREMALIGNANT AND MALIGNANT MELANOCYTIC LESIONS OF THE CONJUNCTIVA. FA Jakobiec, R Folberg, T Iwamoto. Primary acquired melanosis (PAM), a disease that affects mostly middle-aged white patients, is predominantly a proliferative condition of the melanocytes that normally populate the conjunctival epithelium. Primary acquired melanosis without atypia (low risk for the development of melanoma) is typically created by increased numbers of melanocytes restricted to the basilar region of the epithelium without nuclear hyperchromasia or prominence of the nucleoli. Primary acquired melanosis with atypia, a formal precursor of melanoma, is characterized by the proliferation of small polyhedral cells, spindle cells, large dendritiform melanocytes, or epithelioid cells that may: remain restricted to the basilar region (basilar nests); form nests at all levels of the epithelium; spread individually to all levels of the epithelium (pagetoid extension); or proliferate in a sheet-like fashion approximating a melanoma in situ. Lesions composed of epithelioid cells or exhibiting intraepithelial pagetoid extension have, respectively, a 75 or 90% chance of eventuating in invasive melanoma. Primary acquired melanosis in an adult should not be confused with "a junctional nevus," which is almost always restricted to childhoold. Invasive melanomas measuring less than 0.8 mm in thickness tend not to be associated with metastases; the tumor cells may be small polhedral (in which case confusion with a compound nevus often arises), epithelioid, spindled, or ballooned. Nodules composed of spindle cells in part or in toto tend to have less metastatic potential at a given thickness measurement than comparable nodules composed of epithelioid or polyhedral cells. The clinical features, electron microscopic findings, and biologic principles underwriting clinical management are also presented. *(Ophthalmology 96:147-166, February, 1989.) Presented in part at The American Academy of Ophthalmology Annual Meeting, New Orleans, November 1986.*

DERMIS-FAT GRAFTS AND EVISCERATION. KF Archer, JJ Hurwitz. Dermis-fat grafts (DFGs) are currently accepted as a viable reconstructive tool in select cases for primary enucleation, replacing an extruded or migrated implant after enucleation, augmenting superior sulcus defects, and reconstruction socket contracture and enophthalmos. The authors describe a new application using dermis-fat grafting either primarily or secondarily in conjunction with evisceration of selected phthisical globes. Enucleation is no longer the only option available when phthisis is present. Evisceration provides improved cosmesis and motility over enucleation. Implementing a DFG with the authors' method allows improvement in the enophthalmos concomitant with a phthisical globe. *(Ophthalmology 96:170-174, February, 1989.) Reprint requests to Kathleen F. Archer, MD, 1712 Santa Fe, Corpus Christi, TX 78404.*

CATARACT SURGERY AND INTRAOCUALR LENS IMPLANTATION IN PATIENTS WITH UVEITIS. CS Foster, LP Fong, G Singh. The authors review the outcome of extracapsular cataract extraction (ECCE) with posterior chamber lens implant in 44 eyes of 38 patients with uveitis. Thirty-two of the 44 eyes received a posterior chamber lens implant; 87% of these achieved a stable visual acuity of 20/40 or better. Sixty-seven percent (8 of the 12 eyes) not receiving an implant achieved this level. The authors' results and current literature suggest that absolute control, preoperatively and postoperatively, of all uveitis inflammation and careful selection of patients as lens implant candidates are crucial for successful cataract surgery in uveitis patients. Complete removal of lens cortex and placement of an all-PMMA posterior chamber lens within the capsular bag are also believed to be important. *(Ophthalmology 96:281-288, March, 1989.) Reprint requests to C. Stephen Foster, MD, Immunology Service, Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston, MA 02114.*

OUTPATIENT TOPICAL USE OF POVIDONE-IODINE IN PREPARING THE EYE FOR SURGERY. L Apt, SJ Isenberg, R Yoshimori, A Spierer. Povidone-iodine 5% solution placed on the eye immediately before ophthalmic surgery within the preoperative preparation significantly reduces the conjunctival bacterial flora. In 40 patients undergoing ophthalmic surgery, the authors compared the outpatient use of povidone-iodine for 3 days before surgery with a 3-day course of a combination antibiotic ophthalmic solution (Neosporin) placed on the other eye. All patients also received topical povidone-iodine on the operating table directly preceding surgery. Cultures taken just before preparation of the operative field showed a similar reduction of bacteria by each regimen. Cultures taken after preparation but before commencement of surgery showed a further reduction for both regimens, but more

for eyes previously treated with the antibiotic (P< 0.02). To minimize the conjunctival bacterial flora before surgery, the authors continue to recommend instillation of a broad-spectrum antibiotic for 3 days before surgery, followed by application of povidone-iodine solution to the eye immediately before surgey within the preoperative preparation. *(Ophthalmology 96:289-292, March, 1989.) Request reprints to Leonard Apt, MD, Jules Stein Eye Institute, UCLA School of Medicine, Los Angeles, CA 90024-1771.*

VISUAL FIELD LOSS IN MIGRAINE. RA Lewis, N Vijayan, C Watson, J Keltner, CA Johnson. Ocular symptoms are common, though transient, initial component of migraine. Although permanent visual loss has been reported in a limited number of patients, detailed evaluations of the visual field using current techniques have not been conducted. This study examined the prevalence of visual field loss in patients with migraine, using an automated static perimeter. All patients had at least a 2-year history of migraine (as diagnosed by a neurologists) and no ocular problems (by history or as determined by a visual screening examination consisting of acuity, intraocular pressure (IOP), and evaluation of the disc). The authors' results for 60 migraine patients showed that 21 (35%) had some form of visual field abnormality (P<0.05). The prevalence of visual field loss was greater with increasing age and duration of disease. These results suggest that visual field loss from migraine may be more common than previously considered. This information also may be useful in elucidating the relationship between migraine and certain vascular conditions of the eye. *(Ophthalmology 96:321-326, March, 1989.) Reprint requests to Richard A. Lewis, MD, 1603 Alhambra Blvd, Sacramento, CA 95816.*

RECURRENCE OF POSTERIOR UVEAL MELANOMA AFTER ^{60}Co EPISCLERAL PLAQUE THERAPY. UL Karlsson, JJ Augsburger, JA Shields, AM Markoe, LW Brady. The authors analyzed the clinical and follow-up data on 277 selected patients with primary choroidal or ciliochoroidal melanoma who were treated with ^{60}Co plaque radiotherapy between 1976 and 1982. Local recurrence of the irradiated melanoma developed in 39 (14%) patients during the follow-up interval. The 5-year tumor recurrence rate (Kaplan-Meier) was estimated to be 12%. Multivariate prognostic factor analysis (Cox proportional hazards modeling identified the largest linear tumor dimension and proximity of the posterior margin of the tumor to the optic nerve head as predictors of recurrence. The 5-year survival rate of patients whose tumors recurred (58%) was significantly (logrank test P= 0.0023) worse than that of patients whose tumor remained clinically controlled (82%). *(Ophthalmology 96:382-388, March, 1989.) Reprint requests to Ulf L. Karlsson, MedDr, Department of Radiation Oncology and Nuclear Medicine, Hahnemann University School of Medicine, Mail Stop 200, 230 North Broad St, Philadelphia, PA 19102.*

SUCCESS OF THE FASANELLA-SERVAT OPERATION INDEPENDENT OF MULLER'S SMOOTH MUSCLE EXCISION. G Buckman, FA Jakobiec, K Hyde, RD Lisman, A Hornblass, W Harrison. The authors examined the histopathologic features of 40 consecutive surgical specimens from 37 patients. Because all specimens contained tarsus, this tissue was graded into two groups according to vertical height: (1) minimal (30%) and (2) moderate (70%). Muller's smooth muscle was graded into four groups: (1) absent to negligible (42.5%); (2) minimal (45%); (3) moderate (10%); and (4) large (2.5%). Levator aponeurosis was absent, and conjunctiva was present, in all resections. Accessory lacrimal gland tissue was present in 42.5% of cases and did not cause decreased tear production. Although 87.5% of cases had absent to minimal smooth muscle resections, these patients had equally successful results in comparison to patients with moderate to large amounts of smooth muscle resections. Based on these data, the authors have concluded that the effectiveness of the Fasanella-Servat operation does not depend on a Mullerectomy, but instead is probably due to a combination of other factors: (1) a vertical posterior lamellar shortening; (2) secondary contractile cicatrization of the wound; and (3) plication or advancement of the Muller's smooth muscle-levator aponeurosis complex on the tarsus. *(Ophthalmology 96:413-418, April, 1989.) Reprint requests to Frederick A. Jakobiec, MD, Department of Ophthalmology, Massachustetts Eye and Ear Infirmary, 243 Charles St, Boston, MA 02114.*

CLINICOPATHOLOGIC REVIEW OF 142 CASES OF LACRIMAL GLAND LESIONS. CL Shields, JA Shields, RC Eagle, JP Rathmell. A review of 142 lacrimal gland biopsies performed during a 25-year period at a major eye hospital showed that 78% of lacrimal gland lesions were of nonepithelial origin and only 22% were primary epithelial neoplasms. The nonepithelial lesions included inflammation (64%) and lymphoid tumors (14%), whereas the epithelial lesions included dacryops (6%), pleomorphic adenoma (12%), and malignant epithelial tumors (4%). These results contradict the much quoted dictum that 50% of lacrimal gland lesions are primary epithelial tumors and 50% are nonepithelial lesions. *(Ophthalmology 96:431-435,*

April, 1989.) Reprint requests to Jerry A. Shields, MD, Oncology Service, 9th & Walnut Sts, Philadelphia, PA 19107.

BENIGN CONJUNCTIVAL MELANOCYTIC LESIONS. Clinicopathologic Features. R Folberg, FA Jakobiec, VB Bernardino, T Iwamoto. The common acquired conjunctival nevus usually undergoes progressive maturation and only exceptionally gives rise to conjunctival melanoma. Pure junctional nevi are rare except in childhood. Histologically, however, a junctional nevus may be indistinguishable from primary acquired melanosis (PAM) with atypia, a condition of middle-aged and elderly individuals that has a tendency to evolve into melanoma. Nevi in adolescents may attract a vigorous lymphocytic response and may cause clinical and histologic confusion with other entities, particularly a regressing nodule of melanoma that occurs predominantly in adults. Rarely, congenital conjunctival nevi are identified, sometimes in patients with adjacent congenital nevi of the eyelid. A variety of unusual nevi, including balloon-cell nevi, Spitz nevi, epithelioid cell nevi, dysplastic nevi, recurrent nevi, episcleral melanosis and the nevus of Ota, blue and cellular blue nevi, melanocytoma, and composite or mixed nevi all may be identified in the conjunctiva. Concepts of histogenesis as well as the clinical, light microscopic, and ultrastructural features of these and other benign pigmentary conditions of the conjunctiva are described. *(Ophthalmology 96:436-461, April, 1989.) Reprint requests to Robert Folberg, MD, Eye Pathology Laboratory, Room 233MRC, University of Iowa, Iowa City, IA 52242.*

ORBITAL EXENTERATION AT THE MAYO CLINIC-1967-1986.GB Bartley, JA Garrity, RR Waller, JW Henderson, DM Ilstrup. During the last 20 years, from 1967 through 1986, 102 patients had orbital exenteration at the Mayo Clinic. The surgical procedure was performed for mucormycosis in one patient and for pain and deformity after a severe facial burn in another; in the remaining 100 patients, exenteration was used to treat a neoplastic disorder. Although 19 different neoplasms were encountered, squamous cell carcinoma, basal cell carcinoma, and melanoma constituted 70% of the total. In 82 patients with no known residual tumor or metastases at operation, the 1-year survival rate was 88.6%, the 5-year rate was 56.8%, and 5-year rate free of recurrence or metastases was 48.3%. In 18 patients with known residual tumor or metastases at exenteration, 55.0% were alive 1 year postoperatively, and the 5-year survival rate was 25.8%. Unusual findings in this series included two patients with metastatic basal cell carcinoma and one patient with a metastatic thyroid Hurthle cell carcinoma. *(Ophthalmology 96:468-474, April, 1989.) Reprint requests to George B. Bartley, MD, Department of Ophthalmology, Mayo Clinic, Rochester, MN 55905.*

OPTIC NEURITIS WITH SECONDARY RETINAL VENOUS STASIS. JS Duker, RC Sergott, PJ Savino, TM Bosley. The authors report five cases of optic neuritis accompanied by secondary impairment of retinal venous outflow producing the clinical appearance of impending or actual central retinal vein occlusion. In four of five cases, intravenous fluorescein angiography showed delayed venous filling with venous dilation and tortuosity. Decreased visual function was entirely attributable to optic nerve involvement because the clinical and angiographic examinations revealed no evidence of capillary nonperfusion, macular edema, or macular hemorrhage. The visual outcome of the patients paralleled that expected with optic neuritis. The authors believe that optic nerve inflammation associated with secondary impairment of retinal venous outflow is a distinct but uncommon entity. Because of its ophthalmoscopic appearance, this variety of optic neuritis may be confused with either papillophlebitis or central retinal venous occlusion in young patients. *(Ophthalmology 96:475-480, April, 1989.) Reprint requests to Robert C. Sergott, MD, Neuro-Ophthalmology Service, Wills Eye Hospital, Ninth and Walnut Sts, Philadelphia, PA 19107.*

EFFICACY OF THE PRIMARY DYE TEST. MM Wright, TZ Bersani, R Frueh, DC Musch. A primary dye test was performed on the right lacrimal system of 25 normal subjects by three physicians of differing levels of experience in performing the test. The frequency of positive primary dye tests for each of the three examiners was higher than previously reported. The most experienced examiner had the highest percentage (100%) of positive primary dye tests, and the least experienced examiner had the lowest percentage (80%) of positive tests. However, variation between the most experienced examiner and the other two was due, at least in part, to a difference in fluorescein instillation. Therefore, the effect of experience could not be ascertained. The most experienced examiner used four moistened fluorescein strips medially and each used a 10-minute interval after eye instillation before looking for evidence of dye passage through the nasolacrimal duct. Twenty-one (84%) of the subjects had a positive primary dye test on initial blowing of the nose. This indicates that even inexperienced examiners can expect to detect a high percentage of functioning lacrimal drainage system with the method of the experienced examiner.

(Ophthalmology 96:481-483, April, 1989.) Reprint requests to Bartley R. Frueh, MD, W.K. Kellogg Eye Center, 1000 Wall St, Ann Arbor, MI 48105-1994.

VISUAL SENSORY DISORDERS IN CONGENITAL NYSTAGMUS. AH Weiss, WR Biersdorf. Congenital nystagmus (CN) is a common disorder indicative of a primary disturbance of the ocular motor or visual sensory systems. The authors prospectively evaluated 81 patients with CN, structural normal eyes, and minimal or no abnormalities of the optic nerve, macula, and retinal pigment epithelium (RPE). Seventy-four (91%) patients were found to have a disorder of the visual sensory system. Thirty-four patients had albinism, 37 had a congenital or early onset disorders of the retinal photoreceptors, and 3 had abnormalities of the optic nerve. The remaining seven (9%) patients had motor CN. Most patients presenting with CN have visual loss and should be evaluated for an underlying disorder of the visual sensory system. *(Ophthalmology 96:517-523, April, 1989.) Reprint requests to Avery H. Weiss, MD, Department of Ophthalmology, University of South Florida Medical Center College of Medicine, 12901 Bruce B. Downs Blvd, Tampa, FL 33612.*

A NEW INEXPENSIVE CUSTOMIZED PLAQUE FOR CHOROIDAL MELANOMA IODINE-125 PLAQUE THERAPY. AK Vine, RK Tenhaken, RF Diaz, BB Maxson, AS Lichter. The authors have developed a new inexpensive precious metal alloy plaque for use in customized iodine-125 plaque therapy. Each plaque is formed from two flat circular gold/palladium foils which are used in dental crown work. Using a simple manual mechanism, the two forms are stamped over a customized acrylic die shaped to the dimensions of the tumor base plus a 2-mm margin. Completed plaques consist of a back wall, a 2-mm side wall, and a 1.5-mm wide lip with holes for suture placement. Advantages include: simple construction from inexpensive components, customized shape, and iodine seeds that are readily visible on plane radiographs. *(Ophthalmology 96:543-546, 1989. Reprint requests to Andrew K. Vine, MD, Ocular Oncology Service, W.K. Kellogg Eye Center, University of Michigan, 100 Wall St, Ann Arbor, MI 48105.*

POSTOPERATIVE INTRAOCULAR PRESSURE RISE IN OPEN-ANGLE GLAUCOMA PATIENTS AFTER CATARACT OR COMBINED CATARACT-FILTRATION SURGERY. T Krupin, ME Feitl, KI Bishop. The authors measured postoperative intraocular pressure (IOP) in patients with open-angle glaucoma undergoing extracapsular cataract extraction with posterior chamber lens implant (ECCE-PC IOL). Patients considered to be under adequate medical glaucoma control had cataract surgery alone or combined with a posterior lip sclerectomy. patients with medically uncontrolled glaucoma had cataract surgery combined with either a posterior lip sclerectomy or a trabeculectomy. Cataract surgery alone (n=26) was associated with a significantly ($P<0.001$) increased IOP on postoperative day 1: preoperative IOP, 18.9 + 3.6 mmHg; postoperative IOP, 34.2 + 12 mmHg. An IOP rise of 10 mmHg or more occurred in 69% of the eyes, whereas 77% of the eyes had an absolute IOP over 25 mmHg. Eyes undergoing combined surgery (n=42) had a preoperative IOP of 21.3 + 4.8mmHg. On postoperative day 1, the mean IOP was 14.9 + 12.0 mmHg. An IOP rise of 10 mmHg or more was observed in 14%, and an IOP over 25 mmHg in 21% of combined surgery eyes. Cataract surgery in eyes with open-angle glaucoma requires careful monitoring and therapy for early postoperative increases in IOP. Combined surgery reduces the frequency and magnitude of, but does not eliminate, this complication. *(Ophthalmology 96:579-584, May, 1989.) Reprint requests to Theodore Krupin, MD, Glaucoma Service, Scheie Eye Institute, University of Pennsylvania School of Medicine, 51 North 39th St, Philadelphia, PA 19104.*

THE EFFECT OF TREATMENT WITH TOPICAL NONSTEROIDAL ANTI-INFLAMMATORY DRUGS WITH AND WITHOUT INTRAOPERATIVE EPINEPHRINE ON THE MAINTENANCE OF MYDRIASIS DURING CATARACT SURGERY. HV Gimber. The author conducted a six-group, randomized, clinical trial to compare the relative efficacies of use of preoperative topical flurbiprofen, (Ocufen) or indomethacin, (Indocid, Indocin), with and without concurrent intraoperative epinephrine treatment; epinephrine treatment alone; and placebo in maintaining surgical mydriasis produced by preoperative administration of phenylephrine and cyclopentolate before cataract intraocular lens (IOL) surgery. Two hundred sixteen cases were randomized to receive one of the six treatment combinations. The treatment groups not receiving epinephrine (placebo, flurbiprofen, indomethacin) had average percent decreases in pupil diameter of 19 to 24%, whereas groups receiving epinephrine (with or without flurbiprofen, indomethacin), had decreases of only 0.8 to 2.6%. The effect of epinephrine treatment was significant ($P< 0.0001$), regardless of nonsteroidal anti-inflammatory drug (NSAID) treatment. Indomethacin patients (without epinephrine) had less miosis than placebo patients; the proportion of cases with large

decreases in pupil diameter (≥2mm) was reduced by approximately 50%. Flurbiprofen had an additive effect with epinephrine; the group with Flurbiprofen + epinephrine treatment had a smaller proportion of cases with pupil size decreases than the group with epinephrine alone. *(Ophthalmology 96:585-588, May, 1989.) Reprint requests to Howard V. Gimbel, MD, FRCS, Suite 450, 4935-40th Ave NW, Calgary, Alberta, Canada T3A2N1.*

ATONIC PUPIL AFTER CATARACT SURGERY. S Lam, RW Beck, D Hall, JB Creighton. A dilated atonic pupil is a recognized but unusual complication of cataract surgery. It appears to be a more common occurrence than the paucity of previously published reports would suggest. In this article, seven cases of post-cataract extraction atonic pupil are described. All patients underwent uneventful cataract extraction with posterior chamber intraocular lens (IOL) implantation. In all except one patient, there was a delay from the time of surgery to the development of the atonic pupil. Pharmacologic testing demonstrated that the site of the lesion was the iris sphincter. Possible pathogenic mechanisms are discussed. *(Ophthalmology 96:589-590, May, 1989.) Reprint requests to Roy W. Beck, MD, Department of Ophthalmology, University of South Florida College of Medicine, 12901 N. Bruce B. Downs Blvd, Tampa, FL 33612.*

HIGH-FREQUENCY FLICKER VISUAL-EVOKED POTENTIAL LOSSES IN GLAUCOMA. ET Schmeisser, TJ Smith. The luminance flicker visual-evoked potential (VEP) shows two response maxima as a function of temporal frequency. These two response peaks may indicate driving of the flicker VEP by two separate neuronal populations, possibly X and Y cells. The authors have recorded flicker VEPs as a function of frequency from both normal subjects and gaucoma patients with asymmetric visual field loss in various stages of their disease. The data obtained demonstrate loss of high flicker rate responses apparently preceding and correlated with perimetric field loss and stage of glaucoma. Flicker VEP responses below 13 Hz tend to be preserved, whereas above this frequency the response attenuation is directly proportional to the severity of visual loss. This technique may provide an early warning of ganglion cell loss in the early stages of this disease. *(Ophthalmology 96:620-623, May, 1989.) Reprint requests to Elmar T. Schmeisser, PhD, Department of Ophthalmology, University of Kentucky, Lexington, KY 40536-0084.*

LEVOBUNOLOL. A four-year study of Efficacy and Safety in Glaucoma Treatment. The levobunolol Study Group. In a 4-year, double-masked, parallel, multicenter study comparing the efficacy and safety of levobunolol and timolol, 391 patients with open-angle glaucoma or ocular hypertension were randomly assigned to receive masked 0.5% or 1% levobunol, or 0.5% timolol, twice daily. Mean decreases in intraocular pressure (IOP) over 4 years of therapy were 7.1, 7.2, and 7.0 mmHg for 0.5% levobunolol, 1% levobunolol, or 0.5% timolol, respectively. Little attenuation of ocular hypotensive efficacy occurred. The 4-year efficacy failure rate for the three groups, which did not differ from each other, was approximately 30%. Adverse experiences requiring cessation of therapy occurred in an additional 10% of patients. The vast majority of efficacy failures (79/95) and of adverse events (33/37) requiring removal from the study occurred during the first 2 years. Overall mean decreases in heart rate for the 4 years ranged from 3 to 6 beats per minute for all treatment groups; overall mean decreases in systolic and diastolic blood pressure ranged between 1 and 2 mmHg. The authors concluded that levobunolol is relatively effective and relatively safe for the long-term (4-year) treatment of elevated IOP. *(Ophthalmology 96:642-645, May, 1989.) Reprint requests to Gary D. Novack, PhD, Nelson Research Center, 1001 Health Sciences Rd West, Irvine, CA 92715.*

ANGLE-CLOSURE GLAUCOMA COMPLICATING CILIOCHOROIDAL DETACHMENT. S Fourman. Acute angle-closure glaucoma complicating ciliochoroidal detachment developed in eight eyes of six patients. The clinical presentation was uniform: extremely shallow central anterior chamber depth, flat peripheral anterior chamber, closed angle, can elevated intraocular pressure (IOP). There were three patients with uveal effusion syndrome, two with posterior scleritis, and one with an arteriovenous malformation. Cycloplegia, along with aqueous suppressants and corticosteroids, successfully resolved the acute glaucoma in all eyes. This rare, secondary glaucoma must be differentiated from primary angle-closure glaucoma, because the treatment is markedly different. Although primary angle-closure glaucoma is treated with miotics and peripheral iridectomy, Such therapy may worsen the glaucoma in eyes with angle-closure glaucoma due to a ciliochoroidal detachment. *(Ophthalmology 96:646-653, May, 1989.) Reprint requests to Stuart Fourman, MD, The Eye and Ear Institute, 203 Lothrop St, Pittsburgh, PA 15213.*

LIMBAL AUTOGRAFT TRANSPLANTATION FOR OCULAR SURFACE DISORDERS. KR Kenyon, SCG Tseng. The authors present limbal autograft transplantation in 26 consecutive cases comprising

both acute and chronic chemical injury (20 cases), thermal burns (2 cases), contact lens-induced keratopathy (3 cases), and ocular surface failure after multiple surgical procedures (1 case), with follow-up ranging from 2 to 45 months (mean, 18 months). The operative technique usually involved transfer of two free grafts of limbal tissue from the uninjured or less injured doner eye to the severely injured recipient eye, the latter having been prepared by limited conjunctival resection and superficial dissection of fibrovascular pannus without keratectomy. Clinical results in 21 patients with follow-up of 6 months or more have consistently shown improved visual acuity (17 cases), rapid surface healing (19 cases), stable epithelial adhesion without recurrent erosion or persistent epithelial defect (20 cases), arrest or regression of corneal neovascularization (15 cases), and probable increased success for lamellar or penetrating keratoplasty (8 cases). No intraoperative complications were encountered, and no adverse reactions developed in donor eyes. They recommended limbal autograft transplantation for treatment of chemical or thermal burns, contact lens-induced keratopathy, and selected persistent corneal epithelial defects. *(Ophthalmology 96:709-723, May, 1989.) Reprint requests to Kenneth R. Kenyon, MD 243 Charles St, Boston, MA 02114.*

THE NEW ENGLAND JOURNAL OF MEDICINE

EFFICACY OF NEONATAL OCULAR PROPHYLAXIS FOR THE PREVENTION OF CHALAMYDIAL AND GONOCOCCAL CONJUNCTIVITIS. R Hammerschlag, C Cummings, PM Roblin, TH Williams, I Delke. From January 1986 through June 1988, the authors gave all infants born at Kings County Hospital Medical Center one of three prophylactic agents:silver nitrate drops, erythromycin ophthalmic ointment, or tetracycline ophthalmic ointment. The treatments were rotated monthly.

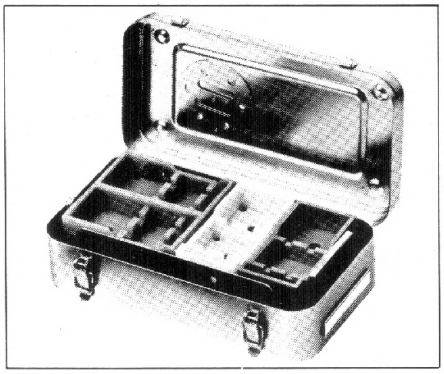
Gonococcal ophthalmia occurred in eight (0.06%) of the 12,431 infants born during the study, one in the silver nitrate group, four in the erythromycin group, and three in the tetracycline group. Seven of these infants were born to women who had received no prenatal care.

From September 1985 through December 1987, they screened 4357 pregnant women for cervical chlamydial infection, of whom 341 (8%) had positive cultures. Of their offspring, 230 were evaluated for neonatal chlamydial conjunctivitis; the incidence was 20 percent in the silver nitrate group, 14 percent in the erythromycin group, and 11 percent in the tetracycline group.

They concluded that neonatal ocular prophylaxis with either erythromycin or tetracycline ophthalmic ointment does not significantly reduce the incidence of chlamydial conjunctivitis in the offspring of mothers with chlamydial infection as compared with silver nitrate, and that better management of maternal chlamydial infection is therefore required. They also concluded that there is a small but appreciable incidence of neonatal gonococcal ophthalmia that could be prevented by better prenatal screening and treatment of maternal gonococcal infection. *(N Engl J Med 320:769-72, March, 1989.) Reprint requests to Dr. Hammerschlag at the Department of Pediatrics, Box 49, SUNY Health Science Center, 450 Clarkson Ave., Brooklyn, NY 11203.*

DNA OF HUMAN PAPILLOMAVIRUS TYPE 16 IN DYSPLASTIC AND MALIGNANT LESIONS OF THE CONJUNCTIVA AND CORNEA. JM McDonnell, AJ Mayr, WJ Martin. The role of human papillomaviruses in pathogenesis of cancer, especially cancer of the anogenital tract is receiving much attention. Some strains of human papillomavirus are associated with benign lesions of the conjunctiva; however, their association with conjunctival dysplastic lesions and carcinomas has remained unclear. The authors examined a group of neoplastic lesions of the conjunctiva for the presence of DNA sequences for human papillomavirus types 16 and 18, using in vitro gene amplification with the polymerase chain reaction. Tissue specimens of five conjunctival dysplastic lesions and one invasive carcinoma and swab specimens of the mucosa of both corneas of a patient with unilateral corneal dysplasia contained DNA sequences related to human papillomavirus type 16. All dysplastic specimens examined were positive for DNA sequences. Viral DNA was not detected in six control specimens from patients with conjunctival melanoma, papilloma, nevus, or pterygium.

It appears that DNA from human papillomavirus type 16 is present in a substantial percentage of conjunctival premalignant and malignant lesions. It may play, or it does in cases of certain other sites, a part in the development of conjunctival dysplasia and carcinoma. *(N Engl J Med, 320:1442-6, June, 1989.) Reprint requests to Dr. McDonnell at the Doheny Eye Institute, 1335 San Pablo St., Los Angles, CA 90033.*



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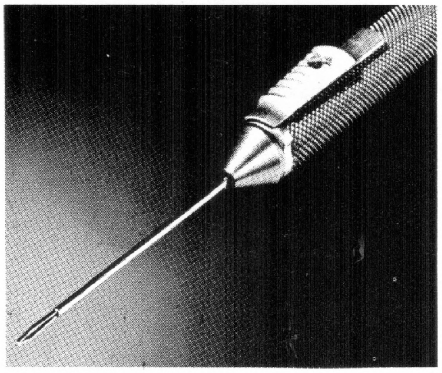

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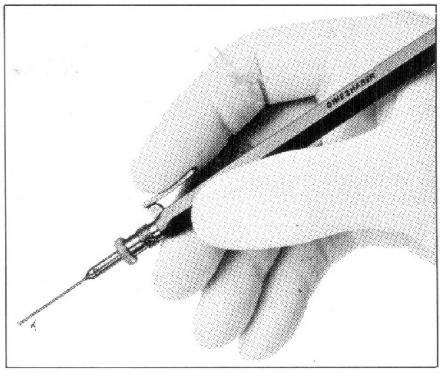

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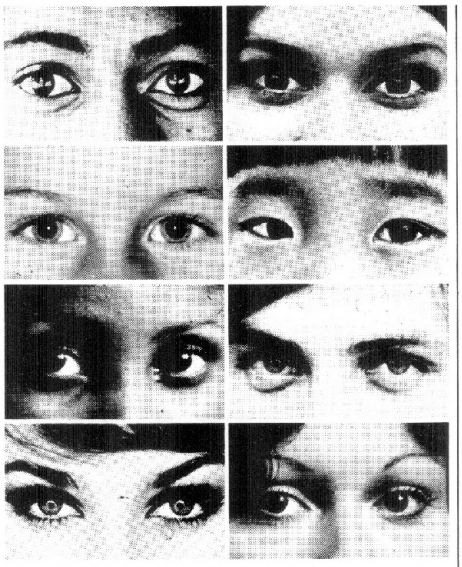

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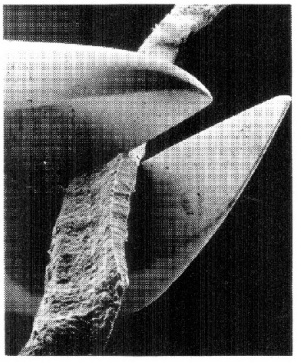

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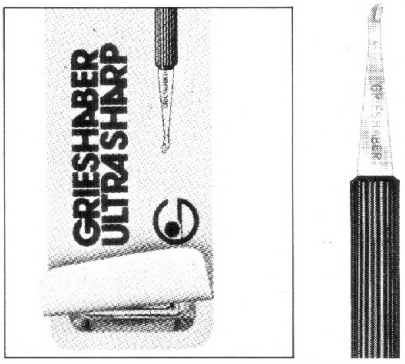

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CONVOCATION '89 AND CONFERENCE, DECEMBER 23, 1989, RAWALPINDI

The Pakistan Academy of Medical Sciences will hold its **Convocation '89 on Saturday, December 23, 1989** at 10 a.m. at the **Army Medical College in Rawalpindi. President of the Islamic Republic of Pakistan, Mr. Ghulam Ishaq Khan** is expected to deliver the Convocation Address.

The **PAMS Convocation '89** will be followed by a **Conference on "Problems of Publication of Biomedical Research Papers in Pakistan."** The **Pakistan Academy of Medical Sciences Oration** will be delivered by a very eminent scientist before the Conference discussions. The distinguished title of **PAMS Professor** is conferred upon the lecturer of the Oration. There will be no reading or presentation of papers during the Conference discussions. However, all the participants will be given copies of all the written papers that are received by the PAMS Vice President, Prof. Najib Khan, F.P.A.M.S. All interested scholars are invited to send their papers before **November 15, 1989**, to Professor Khan's addresses given below.

Pakistan Academy of Medical Sciences' Junior Award and Gold Medal will be presented to a Pakistani professional holding the position of Assistant Professor or under in any of the medical or other biomedical fields for publishing the most outstanding original research paper during the years 1988-89. The PAMS Junior Award and Gold Medal are intended to stimulate interest in research and writing. In addition to a Gold Medal, the recipient will receive a bursary of Rs. 10,000.00. A committee of experts appointed by The Academy evaluates the entries and decides on the most deserving paper. All interested authors are invited to submit their entries before **September 30, 1989** to: **Professor Najib Khan, FPAMS, Vice President, PAMS, Said Clinic, I.I. Chundrigar Road, Karachi, Pakistan Tel: 214841**

For further details contact: **Maj. Gen. Iftikhar A. Malik, F.P.A.M.S., Chairman Department of Pathology, Army Medical College, Rawalpindi, Pakistan. Telelphone: (051) 584796 OR Khalid J. Awan, P.P.A.M.S., 1921 Park Avenue, SW, Norton, Virginia 24273 USA. Telephone: (703) 679-4567.**

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