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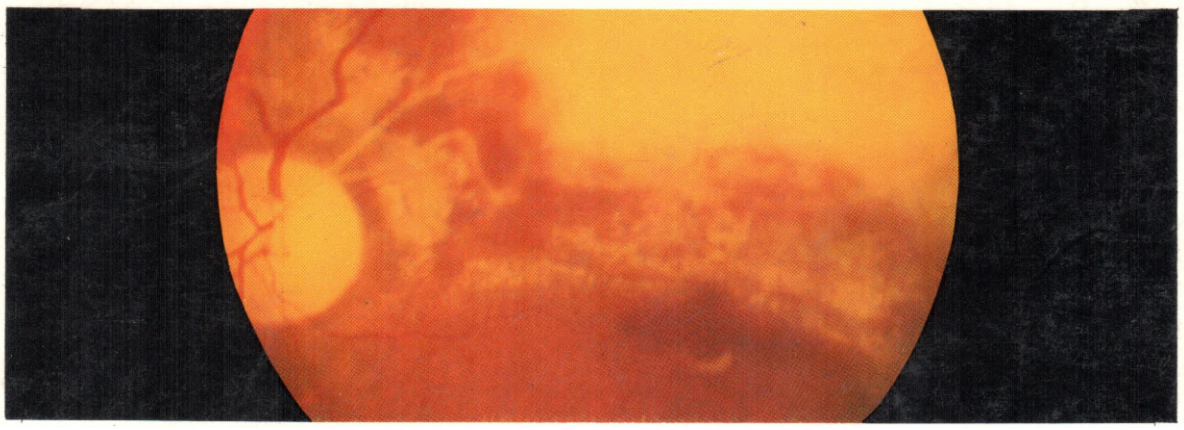

At Page 12 Figure 2 (Saatci, Funenc, Tunc, Cingil) Fundus photo graph demonstrating partial obliteration of the choroidal hemangioma photocoagulation.

In This Issue

PAKISTAN JOURNAL OF OPHTHALMOLOGY

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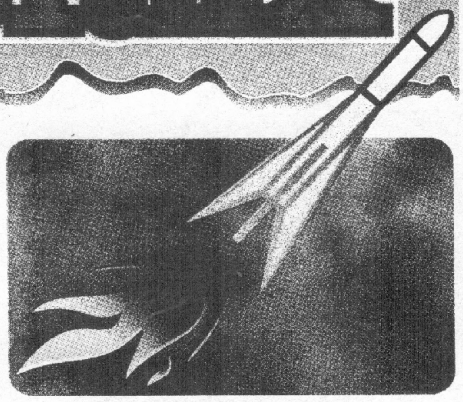

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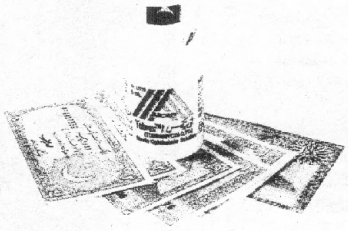

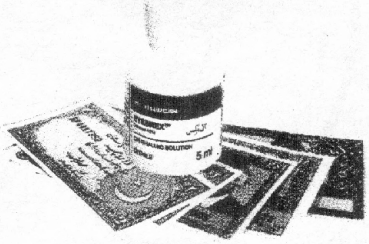

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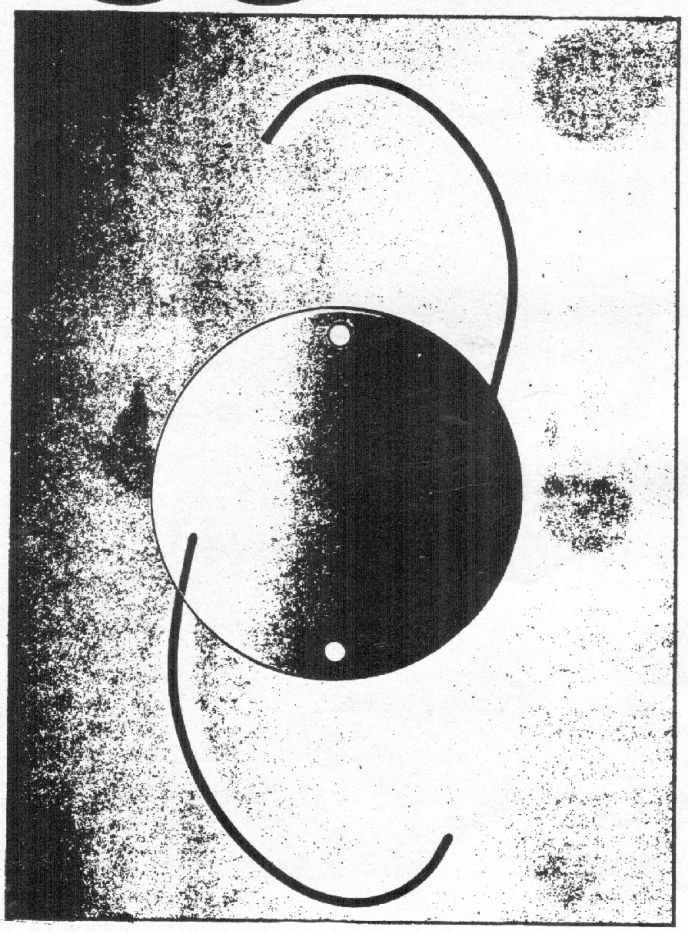

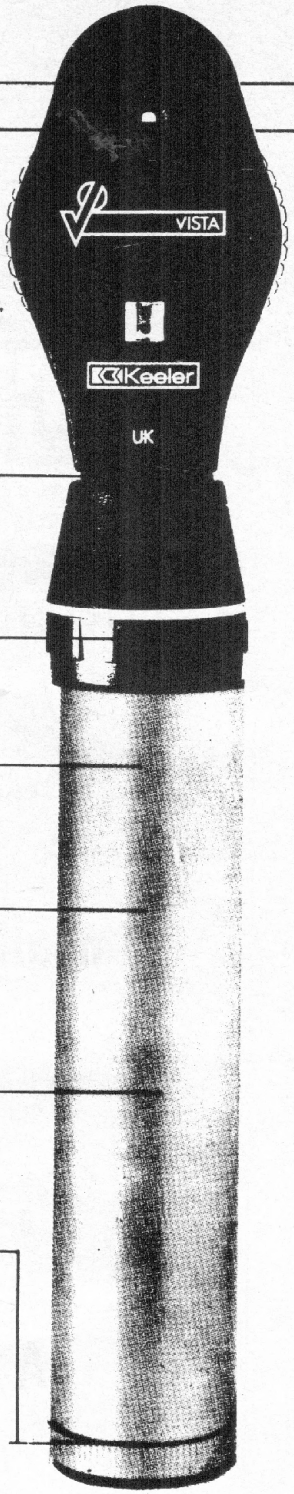

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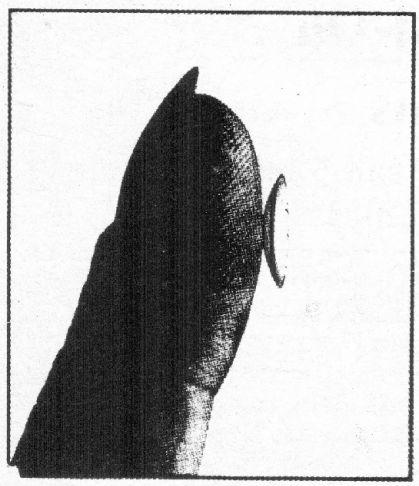

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Of Changes, Cheers, and a Charpoy

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

BismiLlaahir Ruhmaanir Raheem. Nuhmodo Hoo wa nosullee a'alaa rasoolehil kareem.

Once, when land was in a terrible grip of famine, a ram, an ox, and a camel forged an alliance. While searching for food one day, they chanced upon a small bale of hay. Instantly, the friendship lost to temptation, and each turned his mind to schemes of outwitting others to keep the whole find for himself. "My dearest brothers," pleaded ever so politely the ram, "the bale is so small, and to apportion it three ways would give none of us enough. Hence, let's honor our true friendship by letting him who among us has the most glorious past take the whole bundle."

Before others could interject, the ram hastily added, "My modesty forbids, but I have to tell you. Remember the lamb Prophet Ibraheem*A'alaehissalaam* sacrificed in his son's place? Well, I used to graze alongside of him in the same pasture."

Sensing the ram was getting away with it, the ox immediately stepped in to establish his own claim. "That is impressive, " he nodded, "but I hate to tell you, I am one of the yoke that Allah gave *Hudhrut* Adam*A'alaehissalaam* for tilling the land."

The camel saw through their game, and wasn't about to be outfoxed by the two braggarts. He picked up the bale in his teeth, and stretched his neck so high that neither ram nor ox could reach the bale.

"Dear friends," he remarked facetiously, "why don't you ask your glorious pasts to lengthen your necks so you may take this bale out of my mouth."[1]

With this issue, the readers will notice a few important changes in the masthead. These changes usher in a new era for THE JOURNAL in which the publishing operations will be run from a central office in New Garden Town, Lahore, under the supervision of Professor Muhammad Lateef Chaudhry, whom the Executive Council of the Ophthalmological Society of Pakistan (OSP) has selected as the new Editor-in-Chief. Like the Council, most colleagues in Pakistan perceive Professor Chaudhry as a man of ability, and, unlike the menagerie of Maolaanaa Roomee's above apologue, see no need of any past or a long neck for him to grasp this bale of editorial responsibility.

He has just ended his tenure as the Chairman of the Department of Ophthalmology, Fatimah Jinnah Medical College. This would allow him to fully concentrate on the standard, style, and printing schedule of the Society's publication. Professor Chaudhry is a highly respected figure in Pakistan ophthalmology and a clinician of great experience and repute. His considerable and commendable services in the subspecialty of vitreoretinal surgery have justly placed him among Pakistan's pioneers in this field. He is by nature a man of progressive aspirations, and his drive and goodly resources should ensure a bright future for THE JOURNAL. A man of charm and sophistication, Professor Chaudhry will in no time have everyone rallying to his side. It moved me when soon after his selection as the Editor-in-Chief, he stopped me at Lahore International and candidly lauded my ten years of toil to establish and edit THE JOURNAL.

"Your tiring efforts for this journal which you have been imparting all those years were highly appreciated by the Council, (and that) your contributions in this regard for the future will be extremely helpful," wrote recently the President of the Society, Professor Khwaja Shariful Hasan to me, asking on behalf of the Executive Council that I continue contributing to the progress of THE JOURNAL by staying on as its International Editor. Professor Chaudhry has also more than once strongly expressed the same desire to me on a personal basis. I have, therefore, accepted their invitation, and shall earnestly strive to contribute as productively as I can in my this new capacity.

Although during its first decade THE JOURNAL published many highly useful and internationally praised papers, the unsolicited comments received from as far as the Americas and from as near as India show that its general popularity has rested on its regularly published special features, e.g. the challenging Camera Clinicals, the historical Ophthalmic "Pastpourri," the offbeat editorials, the single journal oriented Abstracts from Elsewhere, etc. These features appear to attract the experienced academicians and the trainees alike. Though much devotion, literary expertise, and hard labor are needed to produce them, these items have given THE JOURNAL its "personality." Because of the appeal of the papers published in it—which are always selected with ophthalmologists at all levels of experience in mind—THE JOURNAL has also acquired an impressive national and regional acceptance. Over the last decade, THE JOURNAL has also served as a "How to Write Workshop in Print" for the budding Pakistani ophthalmic authors. This intentional editorial approach, which has been one of the most significant contributions to Pakistan Ophthalmology by the editors, is a very demanding task, at times requiring several hands-on rewritings of submitted manuscripts.

THE JOURNAL, *ulhumdoliLlaah,* is now on secure footing. The demanding task having been accomplished and passed on to ones with fresher enthusiasm and energy, it's now time, to paraphrase Henderson,[2] to stretch for a spell the weary bones on that blessed charpoy for rest and recuperation, but ever curious about the progress of the Official Publication of the Ophthalmological Society of Pakistan.

Reference

1. Hakeem, KA: *Tushbeehaat-e-Roomee.* Lahore, Idaarah-e-Thuqaafat-e-Islaamiyyah, 1990, p 426.

2. Henderson, JW: Orbital Tumors, edit 2. New York, Thieme-Stratton, Inc., 1980, p viii.

Merged Transitional P.J.O.

Since the inception of Ophthalmological Society of Pakistan (O.S.P.) in 1957, there was a desire to have its own journal. What a coincidence that a pioneer member of O.S.P. in 1957 (Professor Raja Mumtaz), once again was the pioneer Editor-in-Chief of Pakistan Journal of Ophthalmology (P.J.O.) and started the publication of P.J.O. which seemed a very difficult and uphill task at that time, but with the collaboration of Dr. Khalid J. Awan, a very hard working, learned, dynamic and renowned ophthalmologist in U.S.A. the P.J.O. achieved a respectable shape and status. Dr. K. J. Awan got a good backing in the person of a humble, quiet and knowledgeable gentleman, Dr. Mohamed Humayun a senior ophthalmologist in Canada.

Somewhere in the middle of first ten years Dr. Khalid J. Awan became Editor-in-Chief with Dr. Humayun as Assistant Editor with an Editorial Board from Pakistan and abroad.

The O.S.P. and its regional branches were coming of age and were having regular Symposia, Seminars, National and International Conferences and everyone here and abroad saw ophthalmology in Pakistan changing very rapidly and were evaluating it at par with the developed world. Concurrently a desire started becoming stronger and more acute among the ophthalmologists of Pakistan to have the journal of their own ophthalmological society printed and published from within Pakistan. However, whenever and where-ever the members of O.S.P. met, various modalities for bringing the P.J.O. to Pakistan were considered, discussed argued upon and planned but no unanimous concrete measures were adopted.

Once again a large group of ophthalmologists requested the pioneer Editor-in-Chief to start the publication of P.J.O. from within Pakistan, which Prof. Raja Mumtaz did with the help of a very dedicated, reliable, remarkably ingenious and skillful Assistant Editor, Dr. Dil M. Mirza who in his own right besides being an innovative ophthalmologist was emerging as a champion of intermediate ophthalmic technology in our region of the developing world.

A few years saw two P.J.Os., both claiming to be the genuine official journals of O.S.P. Confused and disappointed, all the writers screamed for clarification of the position of the journal. President of the O.S.P., Prof. Khawaja Sharif-ul-Hassan in 1994 with his team took a few bold decisions to redefine various issues bothering the O.S.P. and one important issue was the affairs of P.J.O.

A committee of senior ophthalmologists headed by Prof. Mohammad Munir-ul-Haq was constituted to give their final views about the handling of P.J.O. problems.

The committee made clear cut unanimous recommendations to the O.S.P. to start the publication and printing of P.J.O. from within Pakistan forthwith.

The recommendations were discussed in the O.S.P. council meeting in Quetta at the occasion of the Annual Ophthalmological Conference of O.S.P. in September 1994 and all the decisions were passed unanimously and Prof. M. Lateef Chaudhry was asked to take over as Editor-in-Chief from then on and to start the printing and publication of P.J.O. from Lahore, Pakistan.

This decision of the council was later approved by the general body meeting of O.S.P. during the same congress at Quetta.

Now started a new era in the history of P.J.O. with strange feelings of deprivation, outwitting, being ignored, not honoured, allegations and counter allegations from various quarters, but I always have a firm belief in human goodness and to my pleasant surprise and good luck I found every body trying to achieve the same goal but with different perspectives and I found every one eager to see the P.J.O. flourish, maintain its standard, and continuity in the eleventh year, retain its recognition by P.M.D.C. and be willing to cooperate and contribute in the same patriotic and friendly manner.

All these happenings were delaying the first issue of the 11th Volume. So Dr. Khalid J. Awan sought permission of the Chief Executive of O.S.P. i.e. the reigning President of O.S.P. Prof. Kh. Sharif-ul-Hassan to publish a limited number of copies of the P.J.O. from U.S.A. of the 1st issue of the 11th Volume for distribution abroad to avoid the impression of delayed publication and sent the prepared material for printing and publication of this issue from Pakistan for distribution in Pakistan and has accepted to act as International Editor.

I am thankful to the Editors, members of Editorial Boards/Advisory Committees of both the previous P.J.Os (from USA and Pakistan) for showing magnanimity and foresight and for extending full cooperation to start the printing and publication of a single P.J.O. from within Pakisan as the official journal of O.S.P. Hence this issue is a merged, transitional issue which retains essential characteristics and qualities of both the previous versions of P.J.Os and obviously with a better end result. All arrangements are now in hand for future timely publications fulfilling the needs, requirements and desires of the ophthalmologists in Pakistan and abroad.

With best wishes.

Professor M. Lateef Chaudhry
Chief Editor

مُژدہ جانفزا

السلام وعلیکم :

قوم کے تشخص کا انحصار' اس کے تعلیمی معیار سے ہوتا ہے۔ حصول تعلیم کے لئے کتب و جریدے لازم ہیں۔ تحقیق' ان کے لئے پنیری ہے اور اساتذہ باغبان۔ یکم مارچ ۱۹۴۰' محترم قائداعظم کا' اسلامیہ کالج' لاہور گراؤنڈ میں جم غفیر کو پیغام (جس میں مجھے شمولیت کا فخر حاصل ہے) "To day is the lst of March and let us march on" پاکستان کی بنیاد بنا اور اسی سال مارچ ہی میں ۲۳ تاریخ کو قرارداد پاکستان منظر شہود پہ آئی۔ اتفاقاً" ہمیں بھی یہ سعادت مارچ ہی کے مہینہ میں نصیب ہوئی۔

۹ مارچ ۱۹۸۴ کو ہلٹن ہوٹل' لاہور (جو اب آواری ہوٹل کے نام سے موسوم ہے) میں پاکستان جرنل آف آنتھلمالوجی کی بنیاد رکھی گئی۔ پہلا شمارہ' ورجینیا' امریکہ سے ڈاکٹر خالد جے اعوان صاحب کی عرق ریزی سے سامنے آیا' جس کے لئے ممنون ہوں۔ ۵ برس بعد دسمبر ۱۹۸۹ میں' لاہور سے ملکی اشاعت کی کوشش کی گئی۔ نامساعد حالات کی وجہ سے ۱۹۹۴ میں یہ سلسلہ منقطع ہو گیا۔ اب' ہم میں احساس نے پھر انگڑائی لی ہے۔ لہٰذا' تیسری مرتبہ' آپ سے ملتمس ہوں۔ مرکزی آنتھلمولاجیکل سوسائٹی کا ملکی و غیر ملکی اشاعت کے سلسلہ میں اشتراک اور پروفیسر محمد لطیف چوہدری کو مدیر اعلیٰ مقرر کرنیکا فیصلہ' بڑا خوش کن ہے۔ میں خلوص دل سے مبارک پیش کرتا ہوں' ساتھ ہی ۳ مرتبہ اسلامی شرط بھی پوری ہو گئی ہے۔ اب تو کامیابی کی دعا کے لئے ہی ہاتھ اٹھنے چاہئیں۔ آمین

سیاست میں ہماری کافی جگ ہنسائی ہو چکی ہے۔ آیئے' ہم عہد کریں کہ قوم کی آنکھیں وا رکھنے کے لئے ہم کوئی کوتاہی نہیں کرینگے۔ اللہ کرے' انہیں اپنے برے بھلے کی پہچان ہو سکے۔ ثم آمین

والسلام

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۸۔اے' ایجوکیشن ٹاؤن' وحدت روڈ
لاہور۔۱۸ پوسٹل کوڈ : ۵۴۵۷۰

Camera Clinicals

In this section of THE JOURNAL, photographic documentation of interesting and challenging observations are presented to the reader. He should make the diagnosis from the information given here, and compare his conclusions with the expositions given on page 15 under Camera Clinicals: Expositions.

-Editor

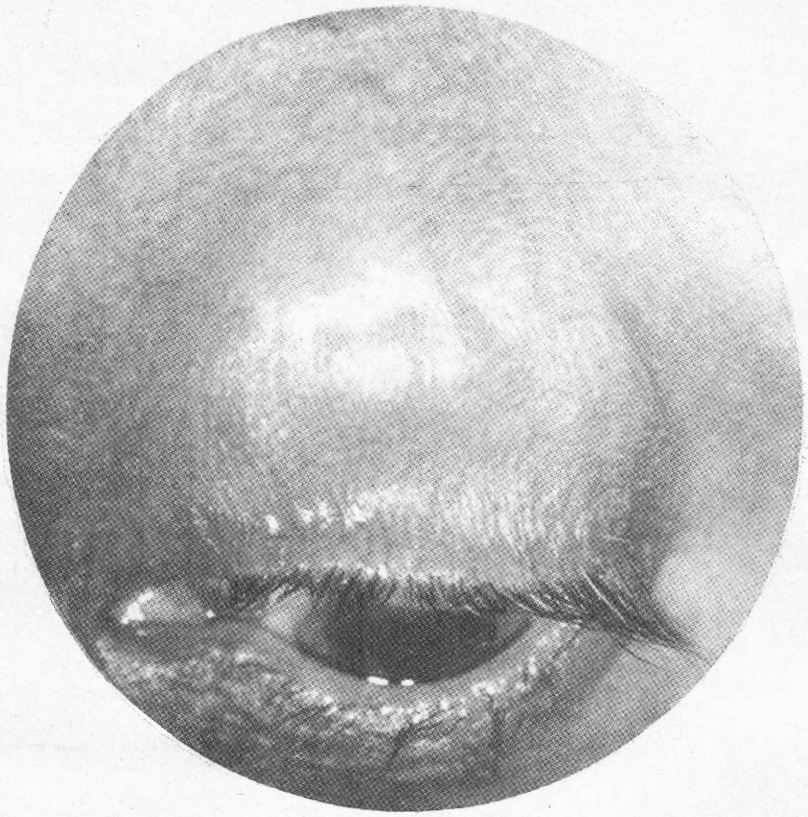

Figure 1

Figures 1 and 2: A 57-year-old Caucasian woman came to our clinic with a complaint of pain and swelling of the upper eyelid of the left eye and double vision. The past medical history of the patient was important in that she had been diagnosed by her family physician to have "arthritis of the spine," chronic sinusitis, and systemic lupus. The patient had also undergone a major surgical procedure nearly five years ago by a general surgeon. Her grandmother had died of "brain tumor" and her mother of some other type of cancer. She had a history of over 15 years of having been on prescribed "nerve pills." The medicines her doctor had given her for her eye complaints had done little to relieve them. The duration of her ocular complaints was about three weeks, a period during which a swelling in the scalp had also appeared on the back of her head.

The eye examination showed that externally the right eye was normal, but the left eye had easily detectable swelling and ptosis of the upper eyelid of the left eye. The swelling of the eyelid became more prominent on looking downward (Figure 1). Her visual acuity was 20/20 (6/6) OD and 20/70 (6/21) OS with correction. There was significant dilatation of superior conjuntival and episcleral vessels and the tissues of the fornix were edematous and angry red. (Figure 2). The left eye had much difficulty in elevation. The examination of the pupils, ophthalmoscopy, and the slit lamp examination were normal. On applanation tonometry, the intraocular pressure was 15 mm Hg in the right eye and 22 mm Hg in the left eye. On palpation, a moderately tender and firm swelling adherent to the eyelid was felt. It also appeared to extend posteriorly into the orbit. The swelling appeared to be the probable mechanical cause of restriction in upward rotation of the left globe. A CT scan was ordered, and the patient was immediately placed on systemic and topical antibiotics.

CAMERA CLINICALS - *Continued*

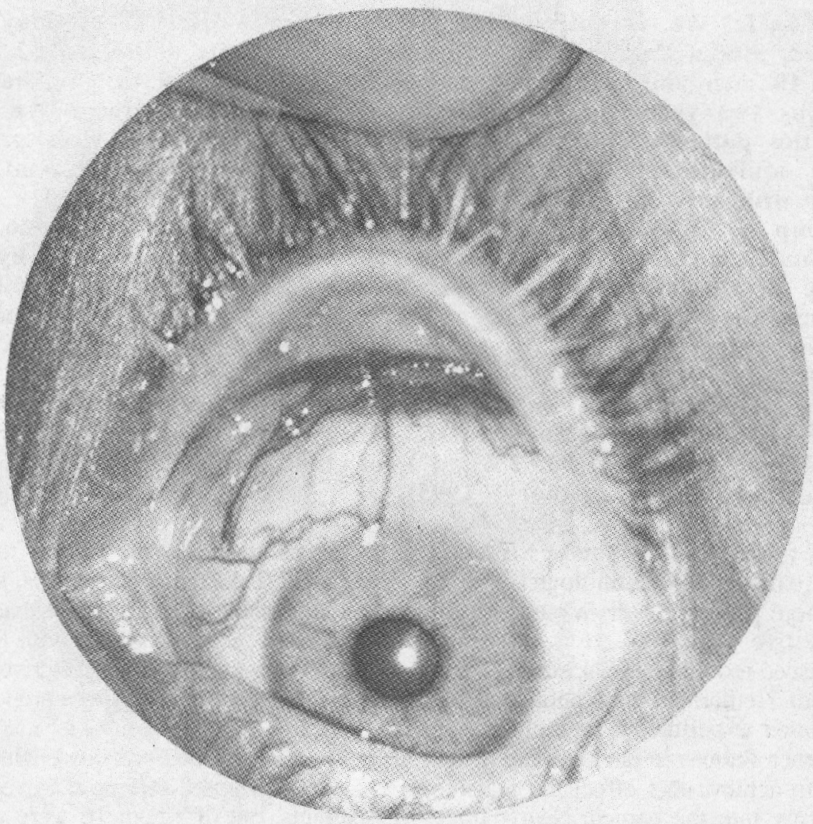

Figure 2

Figure 3 : A 47-year-old man came in for an eye examination because of spells of headaches and pain and blurriness of sight in his right eye. He gave a history of having had several of these self-curing episodes in the past.

Eye examination showed his visual acuity to be 20/20 (6/6) in both eyes with moderate hyperopic astigmatic correction. The right eye had moderate redness with slightly dilated pupil that was reactive to light. The OS appeared normal. However, on applanation tonometry the intraocular pressure was 34 mm Hg in the right eye and 25 mm Hg in the left eye. Gonioscopy confirmed narrow-angle galucoma in both eyes, and the patient underwent argon laser iridectomy separately in both eyes.

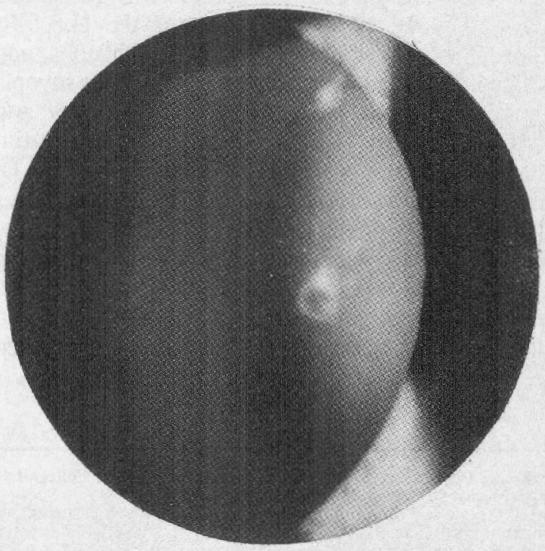

Figure 3

Refractive Surgery in Hyderabad, Sindh, Pakistan

Nazir A. Laghari, F.R.C.S. and G. Munir Vistro, M.B.B.S.

ABSTRACT: We recently started performing radial keratotomy (RK) at Hyderabad, Sindh, Pakistan, and report here the results of RK on 52 eyes of 26 patients, 10 men and 16 women, ranging in age from 18 to 46. The follow-up period was two years for all the patients. Based on the refractive error, we divided the patients into two groups: Group A (30 eyes) with preoperative spherical equivalent myopia varying from -1.50 D. to -3.00 D. and Group B (22 eyes) with this amount varying from -3.25 D. to -7.00 D.

In Group A, 20 eyes (66.6%) were corrected fully, eight eyes (26.6%) were slightly under corrected, and two eyes (6.6%) were over-corrected by +0.50 D. In Group B, all patients were left with residual myopia of -1.00 D. to 1.50 D. The change in astigmatism ranged from a decrease of -1.00 D. cylinder in the preexisting refractive error to to an appearance of new -0.50 D. cylinder. Although no serious complications occurred, in five eyes (9.6%) selfsealing microperforation occurred on the operating table. Interestingly, all of these were the eyes of contact lens wearers. The post-RK uncorrected visual acuity was 6/12 or better in 90.62% (47) of the eyes. (Pakistan Journal of Ophthalmology 11:6-8, January, 1995).

Radial keratotomy (RK) is now almost a routine procedure for a qualified ophthalmologist.[1,2] It is almost ten times more popular in the Western world today than it was five years ago. It is also now becoming an established procedure in Pakistan.

In 1898, Lans[3] of Netherland first published the results of the planned experiments in rabbits, and showed that the cornea flattens in the meridian of the incision, and that to achieve this effect the incision must penetrate deeply into the cornea. Nearly three decades later, in 1930s, Sato[4] of Tokyo performed anterior and posterior incisions on humans but only anterior incisions gave lasting good results. In the late 1960s and early 1970s, Yenaliey of the U.S.S.R. performed this procedure with 4 to 32 incisions, and concluded that radial keratotomy could decrease myopia by upto four diopters. Since 1972, Fyodorov and Durnev[5] of Moscow have been doing radial keratotomy, claiming that from -1.00 D. to -6.00 D. of myopia can be corrected by their technique. Bores and Cowden[6] popularized RK in the US, and now many more American ophthalmologists are doing radial keratotomy with good results. About the same time RK was brought to India by Siva Reddy, who learned radial keratotomy from Fyodorov and published the results of his 200 cases done between 1975-1977.

From The Department of Ophthalmology, Liaquat Medical College Eye Hospital Journalist Colony, Hyderabad, Sindh, Pakistan.

Reprint requests to: Dr. Nazir A. Laghari, The Department of Ophthalmology, Liaquat Medical College Eye Hospital Journalist Colony, Hyderabad, Sindh, Pakistan.

Khan and Kirmani started radial keratotomy in Karachi, Pakistan, in the 1980s, and in 1992, Laghari and associates from Hyderabad, Sindh, Pakistan, presented their experience with RK, concluding that radial keratotomy is an effective and safe procedure provided it is performed by a properly trained surgeon.

Methods and Materials

We performed RK on 52 eyes of consecutive 26 patients, out of whom 16 were women and 10 were men, ranging in age from 18 and 46 years.

The preoperative myopia was between -1.50 D. and -7.00 D., with -1.00 D. or less of astigmatism.

The selection of patient was very careful. A full ophthalmological examination was carried out preoperatively consisting of measuring of visual acuity with and without correction, refraction, slit lamp examination, tonometry and ophthalmoscopy. The corneal thickness was assessed in eight different meridians on automated slit lamp pachymetry.

The initial steps of our technique included topical proparacaine 0.5% anesthetic drops and pilocarpine 1% drops three times. Different central clear zones were used to titrate the surgical effects and four to eight centrifugal free hand incisions were given with diamond knife blade, micrometer handle, Myer-Myco, the length of which was set on the basis of the preoperative assessment. The clear zone diameter, the number of incisions, and the diamond knife length were measured by the Salz et. al[7] guidelines. Postoperatively, tobramycin drops and a 24-hour mild pressure patch were used. Tobramycin drops six times a day and fluorometholone four times a day were used

for upto to two weeks or less. We employed criteria used by several other authors to group our patients:[7,8,9] Group A, myopia between -1.50 D. and -3.00 D. and Group B, myopia between -3.25 and -7.00D.

Results

The operation reduced myopia in all eyes. In Group A, myopia between -1.50 D. and -3.00 D., eight undercorrections and two overcorrections in the range of).5 D. occurred. In Group B, myopia between -3.25 and -7.00D, the residual refractive error between -1.00 and -1.50D occurred. The postoperative visual acuity was 6/6 in 20 (38.46%) eyes, 6/9 (6/6 with -0.50 D.) in eight (15.38%) eyes, 6/12 (6/6 with -0.75 D.) in 19 (36.53%) eyes, and 6/18 (6/6 with -1.25 D.) in three (5.76%) eyes. In two eyes, vision decreased by one line, three eyes gained one line. Overall, the visual acuity of 6/12 or better without correction was achieved in 90.62% eyes in our series.

Overcorrection by +.50 D. occurred in two (3.84%) eyes. We had an undercorrection of upto -1.25 D. in Group A, and from -0.75 D. to -1.50 D. in Group B.

COMPLICATIONS: Microperforation was the only operative complication in our series. Five eyes had corneal microperforation during surgery, three of which developed it during the surgery in the periphery. All five of them were contact lens wearers. None of the perforation was large enough to require suturing or termination of surgery. One eye had shallow anterior chamber on the first postoperative day, but it was deep on the second postoperative day without any intervention on our part.

The change in astigmatism ranged from a decrease of -1.00 D. to an appearance of -0.50 D. In our series astigmatism did not increase more than -0.50 D. For 25% of the eyes, the preexisting astigmatism of -0.50 D. to -1.00 D. disappeared, and in 15% of the eyes we found new astigmatism of -0.50 D.

Fluctuation of vision was in 10% of eyes upto two months after the operation and in 5% of eyes upto three months after surgery. Between the morning and evening examinations, the eyes had an increase in minus power of 0.50 D. to 1.00D.

On the other hand, between 1-6 months after the surgery, 15% of the eyes changed by 0.50 D. to 1 D. Tables 1 and 2 present a comparison of our study with different RK studies from various centers around the world.

Discussion

Like other microsurgical procedures in ophthalmology, radial keratotomy is now creating its place in Pakistan , and any lack of its popularity is mainly due to inadequate public awareness about RK. Radial keratotomy is a method of choice for those myopic population who can not tolerate eyeglasses or contact lenses, because of very few and uncommon complications radial keratotomy is considered a very successful procedure. Highest satisfaction is achieved when myopia is from low to moderate and astigmatism is not more than one diopter. Our results are comparble to other studies.[10,11,12]

An interesting aspect that needs further study is the effect of partial correction on the visual fluctuation, found in 10% of our eyes, and the patient satisfaction.

In 15% of our eyes postoperative astigmatic error developed that was not there preoperatively, and this has also been reported in other series.[8,9,10] This postoperative change of astigmatism presumably results from asymmetrical incision with different depth and healing.[11,12] There was a greater change in refraction than in corneal curvative[10, 11] and than in patients with a similar refractive error who have not had radial keratotomy.

The operation was most effective in eyes with refraction between -1.00 and -3.00D. Although the achieved correction was -7.00D in some cases, it was not possible to accurately predict the refraction many years after surgery for an individual eye. Microperforations are not uncommon during radial keratotomy, and most of these selfseal,[13,14] as was the case in our patients. Also, 15% of our eyes showed a continued decrease in minus power. These points indicate progression of effect.[15,16]

After the PERK (Prospective Evaluation of Radial Keratotomy) Study in the USA in 1985, the radial keratotomy is considered safe and effective, and it is now being routinely performed in almost all over the world. Basing on our results, we can say that similar efficacy and safety are present for RK in the Pakistani patients. Severe complications such as cataract, keratitis, endophthalmitis, epithelialization of scars, and recurrent erosions were not found in our series.

Table 1
Comparison of RK studies in Eyes with -300 D. or Less Myopia (Group A)

Study or surgeon	PERK	Dietz	Salz	Lindstrom	Salz et al	Laghari & Vistro (This study)
Year published	1985	1987	1986	1988	1990	1994
Number of eyes	118	181	78	27	34	30
No. of incisions	8	8	4	4	4	4
Uncortd. VA>6/12	92%	95%	91%	93%	100%	100%
SE Ref: +1 to -1D	84%	90%	95%	90%	96%	95%
SE Ref: >+1.0D	11%	13%	4%	<1%	3%	<1%

Key: SE: Spherical equivalent; D: Diopter; Ref.: Refractive error; No.:Number; VA:Visual acuity; Uncortd:Uncorrected

Table 2
Comparison of RK results in Eyes with -3.00 or more myopia (Group B)

Study or surgeon	PERK	Dietz	Salz	Lindstrom	Salz et al	Present study (Laghari & Vistro)
Year published	1985	1987	1986	1988	1990	1994
Number of eyes	245	249	28	27	125	22
No. of incisions	8	8	4	4	8 (36%) 4 (61%)	8 (85%) 4 (15%)
Uncortd. VA:>6/12	76%	88%	90%	84%	74%	90.6%
SE Ref: +1 to -1.0D	55%	76%	93%	92%	80%	96.8%
SE Ref: > +1.00D	11%	13%	0%	0%	3.2%	0%

Key: SE: Spherical equivalent; D: Diopter; Ref.: Refractive error; No.:Number; VA:Visual acuity; Uncortd:Uncorrected

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OPHTHALMIC "PASTPOURRI"

Ophthalmology: A Subspecialty in 1300s

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

Rashid-ud-Din Fadhl-Allah of Tabriz, a Muslim physician and premier, established "a spacious university," named Rab-i-Rashidi for learning and training in various sciences and arts. In one of his letters, preserved in the Library of Cambridge University, he wrote:

"To each of the oculists, surgeons, and bonesetters who work in...our hospital we have ordered that five of the sons of our servitors should be entrusted so as to be instructed in the oculist's art, in surgery and bonesetting. For all of these men...we have founded a quarter behind our hospital...Their street is called "The Street of Healers." Other craftsmen and industrialists too, whom we have transferred from various countries, have been established, each group in a particular street."

Durant, W: The Reformation. In Durant, W: *The Story of Civilization,* Vol 6. New York, MJF Books, 1957, p 665.

Unusual Anterior Migration of Circling Scleral Explant

Shoaib A. Tarin, F.C.P.S. and Nafis-ur-Rehman, F.R.C.S.

ABSTRACT: We report two unusual cases of postsurgical anterior migration, one delayed the other early, of 360° encircling scleral explant. In one patient, a 70-year-old man, the complication developed 16 years after the retinal detachment surgery, and the explant had eroded through the corneal stroma and was found lying in the superotemporal cornea. In the second patient, a 47-year-old man, the complication arose just nine months after the procedure for a traumatic retinal detachment surgery, but the displaced explant did not invade the cornea. (Pakistan Journal of Ophthalmology 11:9-10, January, 1995.)

Encircling explant for scleral buckling in the treatment of retinal detachment is a common procedure, but the type of explant and its suturing on the sclera vary from case to case and according to the surgeon's preference.[1] Jess[2] was the first to initiate, in 1937, the idea of suturing foreign material, a piece of gauze, to the sclera to temporarily indent the wall of globe against the detached retina. However, the credit for developing this technique into a sophisticated modern procedure and the introduction of circling element goes to Schepens and his team, who published their experience in a series of articles.[3] Since then a considerable improvement has been made in explant material and design. Like every other surgical procedure, buckling procedure also is not without its share of complications.[4] One of its late but fortunately uncommon complications is the anterior migration of the scleral explant. Occasionally, the extruded scleral explant may become infected.[5] We report two unusual cases in whom the explant "cheesewired" anteriorly through the rectus muscle insertions, and in one case even dug through the corneal stroma.

Case Reports

CASE 1: A 70-year-old man presented in November of 1993 with complaints of pain, redness, and watering of the right eye. These symptoms had persistently existed for five months prior to his visit. The eye had been operated on somewhere else 16 years ago. However, examination revealed that a 360° encirclement with 2.0 mm wide silicone rubber band had been performed at the initial surgery. No other details were available. The vision was LP (light perception) in the left eye, which was phthisical. The right eye had optic atrophy but flat retina. The exposed solid silicone band was buried into the corneal stroma in its superonasal quadrant (Figure 1). Apparently, it had migrated forwards after cheesewiring through the insertions of medial and superior rectus muscles. The site of migration of band had engorged vessels in the episcleral region. Despite all of this, no pus or other apparent signs of infection were present.

We dissected the cornea at the limbus and the adjoining conjunctival and episcleral tissues, removed the extruded portion of the explant, and resutured the partially split corneal tissue. The wound was covered with surrounding healthy conjunctiva. (Figure 2)

CASE 2: A 47-year-old man received a blow to his right eye. It was followed by reduced vision. He consulted us for treatment one year later, in November 1992. Examination revealed traumatic mydriasis, posterior dislocation of the lens, which was sitting on the inferior detached retina. The retinal detachment also involved the macula. He underwent retinal detachment surgery with 360° encirclement with 2.5 mm silicone rubber band and internal tamponade with air. Surgical procedure comprised of 360° conjunctival peritomy with traction sutures passed under the rectus muscle insertions. The rectus muscles were not disinserted. The anchoring sutures were placed in each quadrant close to the muscles on either side. These sutures were secured under tension giving rise to a scleral indentation along both the anterior and posterior edges of the explant. Retina was found to be flat on subsequent examinations.

He reported nine months later with history of redness, pain, and watering of the operated right eye, which had a localized bulge in the superotemporal globe. Upon exploration, it was found that the silicone expalnt had become infected and had migrated anteriorly. The band was removed. The retina remained flat afterwards, but owing to the optic atrophy the visual acuity was bare perception of light. Vascular engorgement at the site of migration was noticed in this case also. The patient's left eye had been found to be amblyopic during the initial eye examination, before he underwent retinal surgery on the right eye.

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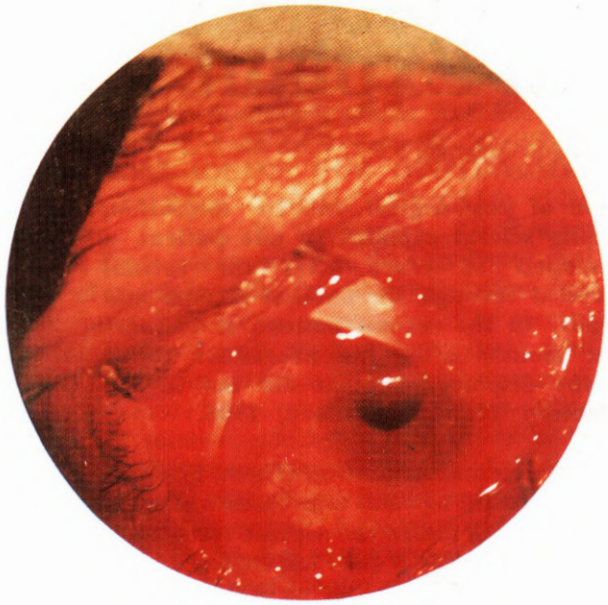

Figure 1 (Tarin and Nafis-ur-Rehman): Case 1. Right eye. The anteriorly migrated scleral circling explant has eroded through the stroma of the superonasal cornea. A heavy infiltration is present in the surrounding tissues.

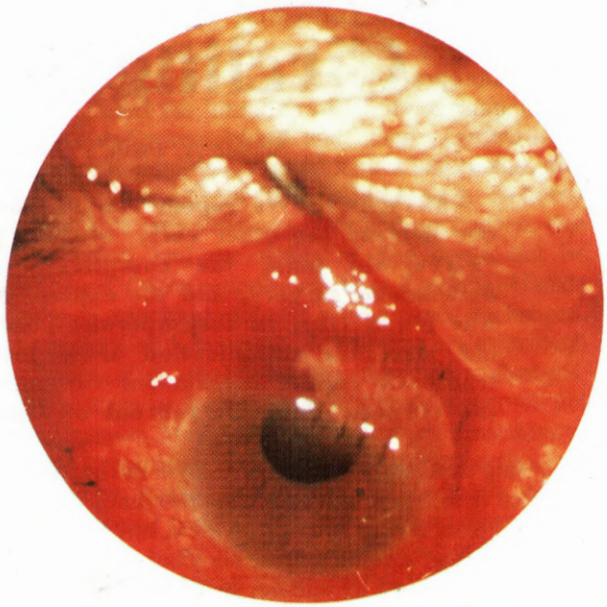

Figure 2 (Tarin and Nafis-ur-Rehman): Case 1. Right eye. Resutured partial thickness corneal tissue after excision of the extruded explant. The wound is covered with a flap of surrounding healthy conjunctiva.

Discussion

An uncommon complication of extrascleral buckling procedure has been highlighted in these two cases. In these cases inert solid silicone explants were secured onto the sclera. There was greatly different interval between surgery and occurrence of forward migration of the explant in our two cases.

The possible mechanisms which might be responsible for this complication include: (1) At least theoretically, a faulty surgical technique resulting in an encircling explant that is too tight, too anteriorly placed, and insufficiently secured to the sclera may contribute to the erosion of the muscle insertions by the explant.[6] However, we belief this mechanism was not the reason for anterior migration in either of our cases, because the explant was well-secured in Case 2 and the anterior migration occurred after 16 years in Case 1. (2) Explant infection may suggest that the anteriorly directed pressure of the advancing edge of the explant may cause local tissue nicrosis and/or ischemia, resulting eventually in "cheesewiring" through the muscle insertions. Infection of the explant was found only in our Case 2.

The presence of engorged episcleral vessels close to the migrating explant site may be explained by the following facts. The anterior migration may sever through the muscular anterior ciliary arteries, leading to the development of collaterals, or rather opening up of the preexisting channels. This would also suggest that the mechanism of "cheesewiring" must be a gradual process, allowing time for the re-establishment of the collateral circulation.[7]

Although infection was the cause of band extrusion in Case 2, the band migration in Case 1 occurred 16 years after retinal detachment repair, and no infection was found at the time of explant removal. We have no satisfactory explanation for explant migration after a well-executed encircling procedure in this patient.

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■■■

Successful Laser Therapy of Choroidal Hemangioma with Bullous Retinal Detachment

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ABSTRACT: Choroidal hemangiomas may cause visual loss by a direct involvement of the macula or by an associated retinal detachment. Differential diagnosis can be a major problem, and ultrasonography is the key diagnostic tool. Photocoagulation is the mainstay of treatment, and is indicated only when there also is a concurrent retinal detachment. We successfully treated by argon green laser photocoagulation a choroidal hemangioma with associated bullous inferior retinal detachment in the left eye of a 48-year-old woman. (Pakistan Journal of Ophthalmology 11:11-13, January, 1995).

The circumscribed choroidal hemangioma is a rare, discrete, orange-red vascular tumor that occurs characteristically in the juxtapapillary or the macular region of the fundus.[1] Unless the tumor is large and located in the macular area, the patients are free of symptoms until mid life or thereafter, when they develop serous retinal detachment.[2] Most often, their condition is misdiagnosed and improperly treated as malignant melanoma of the choroid.[3,4]

We present here a case of choroidal hemangioma with an inferior bullous retinal detachment that was successfully treated with laser photocoagulation.

Case Report

A 48-year-old otherwise healthy woman had a complaint of decreased vision in her left eye for eight weeks. She was told of having a choroidal malignant melanoma at another institution. She sought a second opinion. Her past ocular, medical, and family histories were unremarkable. On eye examination, visual acuity was 20/20 in her right eye and perception of hand movements in the left. Applanation intraocular pressure was 15 mm Hg in each eye. The external and slit lamp examinations were normal. Funduscopic examination of the right eye was normal, but there was a discrete, slightly elevated, orange-colored mass in the upper temporal fundus under the superior temporal vessels. It was six-optic disc diameter in size. There was an inferior bullous retinal detachment beginning near the inferior temporal vessels. Fluorescein angiography showed an early and progressively diffuse leakage. A-scan ultrasonography revealed a 4.2 mm thick choroidal mass with high internal reflectivity, and B-scan ultrasonography showed a raised, solid lesion with a bullous retinal detachment. (Figure 1)

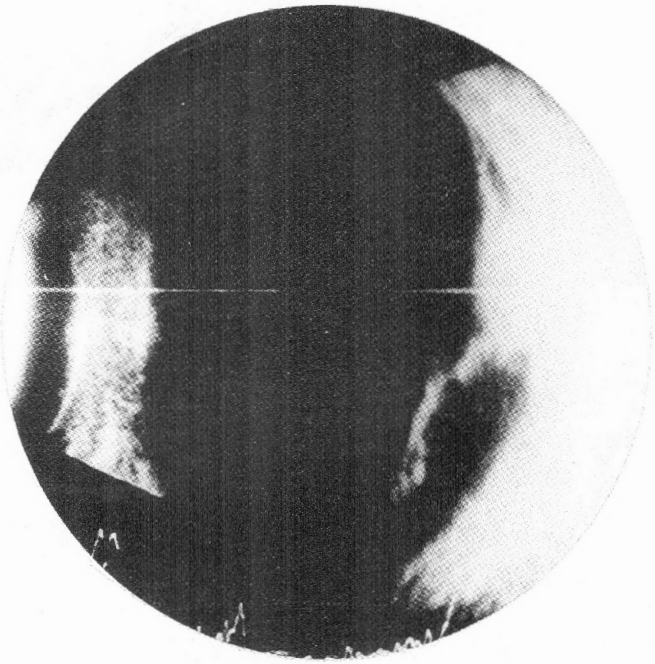

Figure 1 (Saatci, Gunenc, Tunc, Cingil): Initial B-scan ultrasonographic appearance of the mass with a concurrent inferior retinal detachment.

No acoustic choroidal excavation and orbital shadowing were noticed. MRI of the eye did not yield any positive diagnostic clue. There were no pertinent laboratory data and systemic findings. Thus, we diagnosed the mass as a choroidal hemangioma and treated the lesion with argon green laser photocoagulation in two four-week apart sessions.

The laser applications in each session were made over the whole surface of the tumor. In the first session, a total of 373 confluent laser applications of

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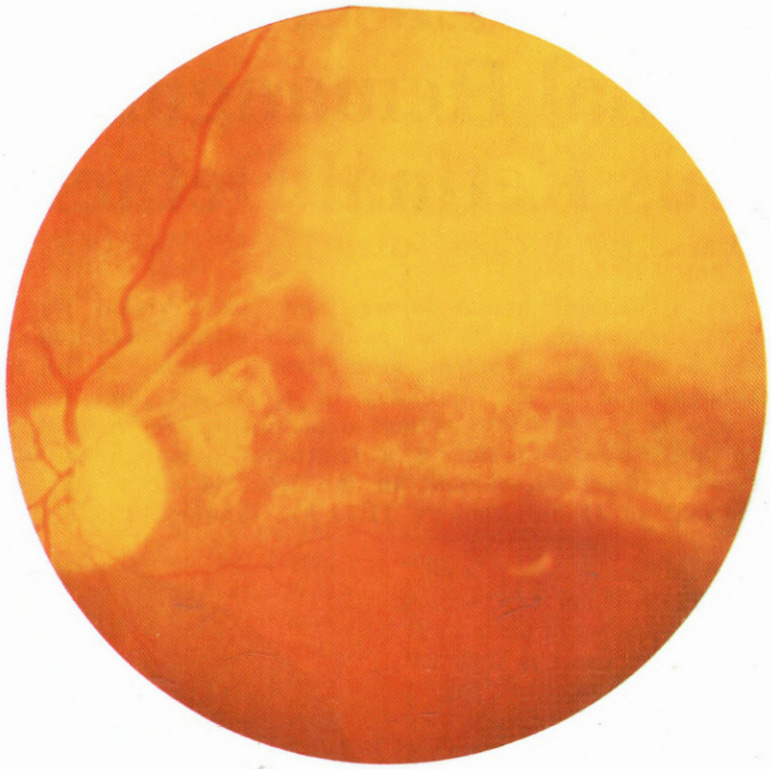

Figure 2 (Saatci, Gunenc, Tunc, Cingil): Fundus photograph demonstrating partial obliteration of the choroidal hemangioma following photocoagulation.

300 μm size at 300 mW power for 0.2 to 0.5 second durations were made. At the second session, a total of 186 similar laser applications were carried out. Three months later, though there was no increase in the visual acuity of the eye, a total resolution of the bullous retinal detachment was noted. The fluorescein fundus angiography demonstrated partial obliteration of the hemangioma (Figures 2, 3, and 4).

Discussion

The main clinical challenge in cases with choroidal hemangioma is to reach an accurate diagnosis. Usually, in the case of a solitary choroidal hemangioma, the rather sudden onset of ocular symptoms in a healthy middle-aged adult first arouses a suspicion of malignant intraocular tumor. Witschel and Font[4] showed that in a series of 45 patients with histologically proven solitary choroidal hemangioma, 31 had a preoperative diagnosis of malignant intraocular tumor. Fluorescein angiography, ultrasonography and perhaps the magnetic resonance imaging are the most promising methods in differential diagnosis. Fluorescein angiography usually reveals marked early hyperfluorescence of the large choroidal vascular channels during the prearterial and arterial phases.[5] On the other hand, angiographic findings may be quite variable and in most instances they are not diagnostic.[6] Classic ultrasonographic features of the hemangioma are an initial high spike with relatively high internal reflectivity in A-scan ultrasonography and a round tumor appearance with internal acoustic solidity in B-scan ultrasonography.[7] Additionally, no acoustic hollowness and choroidal excavation can be noted. We also performed a magnetic resonance imaging study (MRI) in our patient, hoping to get further supportive evidence, but radiologists could not delineate the tumor properly. However, it has been suggested that the choroidal hemangioma is relatively hyperintense to the overlying vitreous in T_1-weighted MRI and isointense to vitreous in the T_2-weighted MRI.[8] We based our diagnosis mainly on the ultrasonographic findings and believe that ultrasonography remains the key method in diagnosis of choroidal hemangioma.

Treatment is indicated only when there is an associated retinal detachment.[2] The goal of treatment is to reduce leakage from the tumor vessels, and it is not necessary to destroy the tumor totally.[9] Either cryotherapy or photocoagulation over the tumor surface can be chosen according to tumor location.[1,10] We applied photocoagulation over the tumor surface twice and the end result was the resorption of the subretinal fluid. Though the initial thickness of the tumor was 4.2 mm, we succeeded in causing a relative

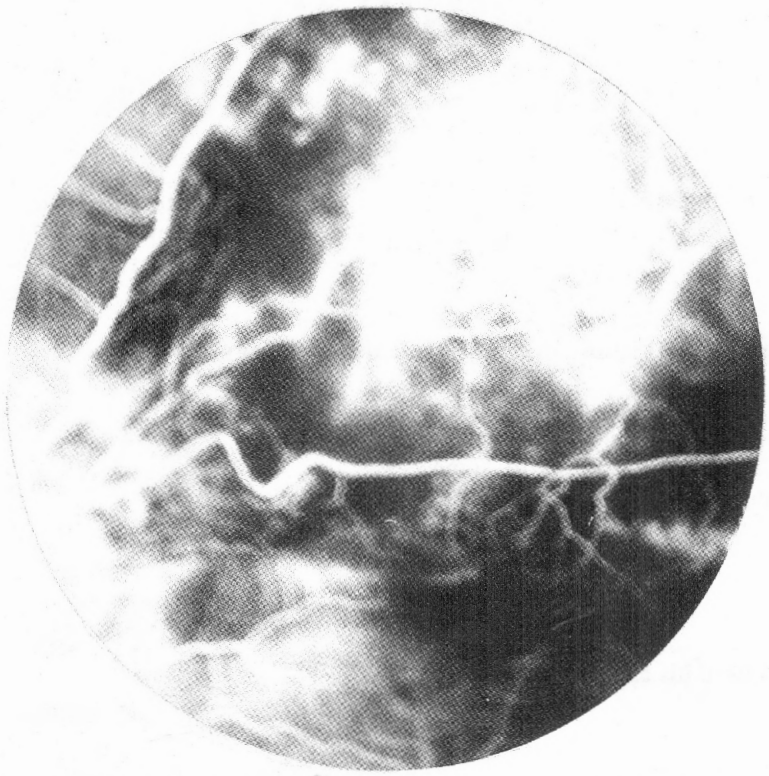

Figure 3 (Saatci, Gunenc, Tunc, Cingil): Venous phase of fluorescein angiogram showing hyperfluorescent central area with surrounding hypofluorescent rim consistent with partial obliteration of choroidal hemangioma.

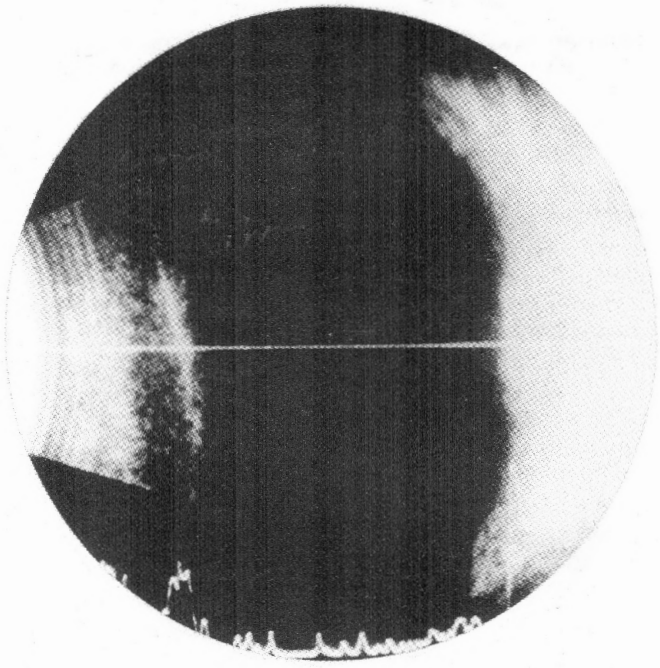

Figure 4 (Saatci, Gunenc, Tunc, Cingil): Final B-scan ultrasonographic appearance revealing disappearance of subretinal fluid and the diminished mass iof the tumor.

shrinkage of the tumor and the resolution of the bullous retinal detachment.

Our case is a well-documented example of choroidal hemangioma that clearly demonstrates the diagnostic importance of ultrasonography and the therapeutic effectiveness of tumor surface laser photocoagulation.

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A Technique for Easier Aspiration of 12 O'clock Cortex

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ABSTRACT: The optimum aspiration of cortical material from 12 o'clock position during extracapsular cataract extraction somtimes is an exaspirating and risky procedure. The creation and retraction of a superiorly based anterior capsular flap not only helps in the successful "in-the-bag" placement of an IOL, it also exposes the residual cortex at 12 o'clock position for its easier and safer aspiration. (Pakistan Journal of Ophthalmology 11:14, January, 1995.)

Ophthalmologists who perform extracapsular cataract extraction are familiar with the difficulty in aspiration of cortex from the 12 o'clock position. In some instances, repeated attempts to accomplish it may lead not only to surgeon's frustration but also to complication of zonular rupture or the posterior capsular tear.

In 1993, Qamar[1] devised and presented at the 17th Annual Congress of the Ophthalmological Society of Pakistan a technique to simplify "in-the-bag" placement of the IOL. I liked his technique, and have found that it also is very helpful in an easier aspiration of the residual cortex at 12 o'clock position.

Technique

The initial and concluding steps of extracapsular cataract extraction with posterior chamber IOL implantation are similar to other standard techniques. However, in making the anterior capsulotomy, the capsular flap is left attached from 11:30 to 12:30 o'clock position. After the removal of the nucleus, the flap is gently retracted into the lips of the corneal section. This exposes the cortex at 12 o'clock, making its safe aspiration much easier. In capsulorhexis, the flap is begun in both directions, completing the capsular tear first anticlockwise and then clockwise, or vice versa. The anticlockwise tear stops near 12:30 o'clock and the anticlockwise tear at 11:30 o'clock (Figure 1). It is important, however, that when opting for capsulorhexis, one must begin it in both directions before completing the capsular tear on either side. After clearing the capsular bag of all the cortex, it is filled with any of the viscoelastic materials and the IOL slipped inside it while the capsular flap is still under retraction (Figure 2). The flap is then excised, and operation concluded in the standard fashion. I have successfully used this method in over 100 cases.

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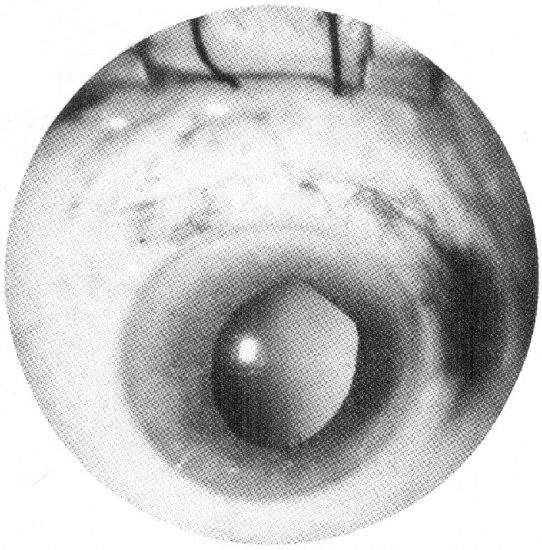

Figure 1 (Awan): Eye after cortical aspiration. The straight edge of the pupil and the capsulotomy opening is due to the retraction of the superiorly-based anterior capsular flap.

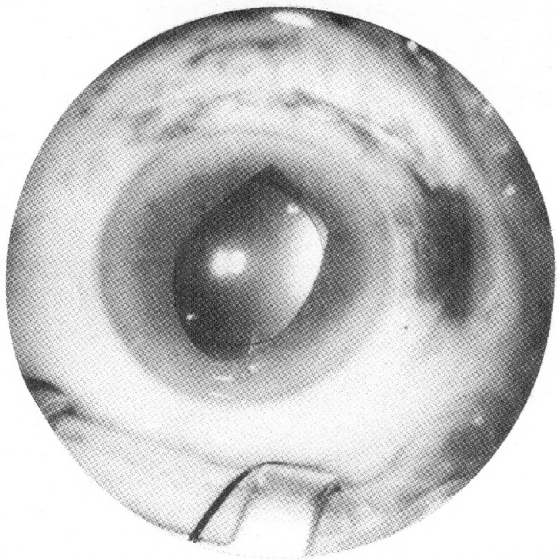

Figure 2 (Awan): The same eye as in Figure 1 after "in-the-bag" IOL implantation and before excision of the superiorly-based anterior capsular flap.

Figures 1 and 2

Palpebro-Orbital Metastases from Breast Adenocarcinoma

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

ABSTRACT: A 56-year-old woman developed left palpebral and anterior orbital metastases five years after radical mastectomy for adenocarcinoma of the breast. This uncommon lesion caused aching, passive congestion, ptosis, and restriction of elevation, with diplopia, of the left eye, probably due to the involvement of the superior rectus and the levator muscles. The diagnosis was confirmed by ultrasonography and CT scanning. Despite chemotherapy and radiation, the patient's general condition went on deteriorating, and she passed away 14 months following the diagnosis of ocular metastases. (Pakistan Journal of Ophthalmology 11:4-5,15, January, 1995.)

Figure 1 shows a lump in the upper eyelid with a few dilated skin vessels. On lifting the upper lid (Figure 2), the vessels of the globe also appear congested and there also is a red, fleshy mass involving the palpebral conjunctiva. The patient did not appear to have any or only very minimal proptosis, and on palpation the tumor was adherent to the deeper eyelid. On ultrasonography and CT scanning the tumor, the lesion definitely extended into the upper anterior orbit for a short distance. The patient had several cutaneous bumps over her body. The biopsy of one of these lesions confirmed the diagnosis of metastatic carcinoma. The patient had undergone radical mastectomy for confirmed breast carcinoma five years prior to palpebro-orbital involvement. Chemotherapy initially led to disappearance of the several of the skin lesions, but then their growth could not be checked even by the added radiotherapy and systemic corticosteroids. The radiotherapy of the orbit, performed to relieve pain, helped only minimally. Following orbital radiation, the sight was lost in the left eye due to the radiation retinopathy that appeared within a few months of treatment.

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Comments

The metastatic involvement of eyelid is rare,[1] and the incidence of orbital metastatic tumors is also only from 2%[2] to 10.5%[3] of orbital tumors. In a large series of orbital tumors in Pakistan, Munir-ul-Haq[4] found the incidence of metastatic tumors in orbit to be only 1.2%.

It is interesting that some authors have claimed that the incidence of orbital metastatic tumors is rising, but, interestingly, in the most recent report of a long-standing continued series from Mayo Clinic, Rochester this figure has dropped to 6% from the past figure of 7.3%.[5]

Uncommon as they are, still the the most common of the orbital metastatic tumors is the adenocarcioma of breast, followed by the lung cancer. The experience with this patient also suggests that the appearance a metastatic tumor in the eyelid or orbit is a sign of grave prognosis for life.

References

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2. Ibid. part 2, p 1144.
3. Rootman, J: Diseases of the Orbit. New York, J.B. Lippincott Company, 1974, p 409.
4. Munir-ul-Haq, M: Statistical analysis of 581 primary orbital tumors in Pakistan. Pak J Ophthalmol 3:111, 1987.
5. Henderson, JW, Cambell, RJ, Farrow, GM, and Garrity, JA: Orbital Tumors, 3rd edit, New York, Raven Press, 1988, p 361. ■■

Figure 3

Stationary Subcapsular Lenticular Opacities from Argon Photocoagulation

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

A 47-year-old man developed two anterior subcapsular opacities during an argon laser iridectomy procedure. One of these opacities near the pupillary border resulted from an accidental application of laser when patient unexpectedly moved his eye. Both opacities have remained stationary with no adverse effect on vision for four years. **(Pakistan Journal of Ophthalmology 11:5,15, January, 1995.)** Reprint requests to Khalid J. Awan, FPAMS at the address given with the above paper.

Book Reviews

ORBITAL TUMORS, 3rd Edition, 1994, by John W. Henderson, R. Jean Campbell, George M. Farrow, and James A. Garrity. Raven Press Ltd., 1185 Avenue of Americas, New York, NY 10036 USA. Clothbound, 448 full-sized pages, illustrated with a total of 430 figures, many in full color, table of contents, index. Price, US$136.50.

Henderson and his "cushioned chaise lounge" have done it again! The third edition of *Orbital Tumors* is a most impressive monogram on its subject, and it's produced beautifully, too.

This edition of the classic by Henderson has undergone more changes than just its size and publisher, and all of these changes are meritable and impressive. The material is presented in more easily readable two-column format, a welcome departure from the previous single column style. The major change is the extensive use of soft tissue imaging photographs. The number of full color illustrations has also increased. Also, other than Farrow, there is addition of two more collaborators.

The contents of the book, like the previous two editions, are divided into three sections, Diagnosis of Orbital Tumors, The Individual Tumors, and The Surgical Approaches to Orbital Tumors. These sections are further subdivided into chapters.

The three chapters of Section 1 are The Patient, Orbital Imaging and Radiography, and Laboratory Supplements. The last chapter concisely comments on immunohistochemical techniques, diagnostic role of various specific antigens, steroid markers, molecular genetic analysis, etc. Section II is subdivided into 18 chapters: The Tumor Survey (Mayo Clinic Series 1948-1987); Cysts; Vascular Hamartomas, Hyperplasias, and Neoplasms; Vascular Malformations; Fibrous Connective Tissue Tumors; Fibro-osseous, Osseous, and Cartilaginous Tumors of Orbital Bone; Tumors of Primitive Mesoderm, Smooth Muscle, and Adipose Tissue; Tumors of Nerve Sheath Origin; Miscellaneous Tumors of Presumed Neuroepithelial Origin; Malignant Melanoma; Hematopoietic Tumors; Histiocytic Disorders; Primary Epithelial Neoplasms; Secondary Epithelial Neoplasms; Metastatic Carcinomas; Meningioma; Inflammatory Orbital Tumors; and Miscellaneous Tumors. Section III contains discussions of The Surgical Approaches to Orbital Tumors. Included here are orbitotomy and orbitectomy via the anterior and the lateral routes, exenteration of the orbit, and the applications of YAG and CO_2 lasers in these procedures.

The writing is very fluent and lucid. A very impressive feature of the book is the presentation of bibliography. Each chapter has an adequate number of most important and the latest references, which are cited in the text, and grouped at the end under each related and respective disorder. This style of reference presentation makes *Orbital Tumors* a highly useful and truly scholarly work by a tremendously experienced and confident man of learning, a magnificent teacher who keeps in mind the needs of all his readers.

As Henderson says in the preface, *Orbital Tumors* will certainly provide "an attractive update for readers of the past editions and a stimulating introduction to the subject for a newer generation of orbitologists." ■

-KJA

PRACTICAL ATLAS OF RETINAL DISEASE AND THERAPY, 1993, edited by William R. Freeman. Raven Press Ltd., 1185 Avenue of Americas, New York, NY 10036 USA. Hardcover, full-sized 330 pages, illustrated with over 600 full color figures and countless fluorescein angiographs, table of cotents, index. Price, US$ 173.50.

This beautifully printed atlas is a collaboration of two dozen American experts in the vitreoretinal field. *Atlas* is divided into 18 chapters under subtitles of Hereditary Chorioretinal Dystrophies, New Devices for Retinal Imaging and Functional Evaluation, Uveitis Affecting the Retina and Posterior Segment, Inflammatory Multifocal Chorioretinopathies, Infectious Viral and Opportunistic Retinitis, Diagnosis and Treatment of Posterior Uveal Tumors, Retinal Complications of Cataract Surgery, Branch and Central Retinal Vein Occlusions, Macular Degeneration and Related Disorders, Laser Treatment for Diabetic Retinopathy, Vitreoretinal Surgery for Complications of Diabetic Retinopathy, Diagnosis and Treatment of Peripheral Retinal Lesions, Management of Rhegmatogenous Retinal Detachment, Pneumatic Retinopexy,Vitreoretinal Surgical Techniques, Posterior Penetrating Trauma, Proliferative Vitreoretinopathy, and Retinopathy of Prematurity.

Each chapter is contributed by a different author or authors. Therefore, variability in presentation approach and preferences in different sections naturally are unavoidable, despite the fact that the format of text arrangement is uniform throughout the book. The portions that stand out are Chapter 6 on uveal tumors, Chapter 9 on macular degeneration, Chapter 11 on diabetic retinopathy, Chapter 13 on retinal detachment, and Chapter 18 on retinopathy of prematurity.

From the title of the book one would expect in depth coverage of therapy of each disorder under a separate subheading, but this is not so. The therapy is dealt with only in brief comments, and that too in the main text, making it a hunting trip to locate it. Also bibliography does not lend to a ready use, because the references are not cited in the text. Nonetheless, trainees will find *Atlas* helpful in learning.■■■ *-KJA*

Abstracts from Elsewhere

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

American Journal of Ophthalmology

FOVEOMACULAR DYSTROPHY. Lim, JI, Enger, C and Fine, SL. The authors reviewed clinical records on 92 eyes with foveomacular dystrophy of 47 patients. The examination included routine eye evaluation, fluorescein angiography, electroretinography, and electro-oculography. The presenting symptoms were decreased visual acuity in 45 (53%) patients and metamorphopsia in six (13%). The condition was not diagnosed in seven patients (15%) and misdiagnosed as age-related macular degeneration in seven (15%). In an average follow-up period of five years, in 29 patients (56 eyes), the visual acuity changed only two lines. In most patients with foveomacular dystrophy the vision appears to remain relatively stable. *(Am J Ophthalmol 117:1, January 1994. Reprint request to: Jennifer I. Lim, M.D., Department of Ophthalmology, Emory University Eye Center, 1327 Clifton Road, N.E., Atlanta, GA 30322 USA.)*

FACTORS AFFECTING VISUAL OUTCOME AFTER SURGERY FOR BILATERAL CONGENITAL CATARACT. Gilda M. Bradford, Ronald V. Keech, and William E. Scott. After an average follow-up period of six years and three months after bilateral congenital cataract surgery in 33 patients, 23 patients tested with optotypes showed a visual acuity of 20/80 (6/24) or better. Binocular vision was present in only eight patients. The conditions that affected the visual prognosis were ocular anomalies, systemic anomalies, and the postoperative complications. However, interestingly, preoperative nystagmus, age at surgery, microphthalmos, and postoperative strabismus were not prognostically significant in visual outcome. *(Am J Ophthalmol 117:58, January, 1994.) Reprint requests to Gilda M. Bradford, M.D., Department of Ophthalmology, Medical College of Georgia, Augusta, GA 30912.*

MICROSCOPICALLY CONTROLLED EXCISION OF CONJUNCTIVAL SQUAMOUS CELL CARCINOMA. Buun, DR, Tse, DT, Folberg, R. The authors report that histologically verified tumor-free surgical margins cannot be assured by excision alone even though with or without adjunctive cryotherapy excision is an accepted method of managing conjunctival squamous cell carcinoma. They used an adaptation of the Mohs' micrographic technique for cutaneous tumors to monitor the conjunctival tissue margins by histologic review at initial tumor excision in treatment of 19 patients with squameous cell carcinoma of the conjunctiva. Adjunctive cryotherapy was utilized in one patient because the deep scleral margin remained positive after lamellar sclerectomy, and further excision was not possible. Tumor-free conjunctival defect was allowed to heal by secondary intention in all patients. There were no recurrences documented during the next six to sixty months of follow-up. Scarring with secondary restricted motility was encountered in one patient. The authors believe their method of tissue margin surveillance offers a high cure rate for conjunctival squamous cell carcinoma treatment. *(Am J Ophthalmol. 117: 97-102, January, 1994.) Reprint requests to David T. Tse, M.D., Bascom Palmer Eye Institute, P. O. Box 016880, Miami, FL 33101.*

THE EFFECT OF LONG-TERM MEDICAL THERAPY ON THE OUTCOME OF FILTRATION SURGERY. Johnson, DH, Yoshikawa, K, Brubaker, RF, Hodge, DO. Since long-term medical therapy and laser trabeculoplasty have been implicated as risk factors in the outcome of glaucoma filtration surgery, the authors conducted a retrospective analysis of 150 patients undergoing primary trabeculectomy during three key periods: before use of B-blockers and laser trabeculoplasty (1975 and 1976), after introduction of B-blocker therapy but before use of the laser (1980), and after common use of B-blockers and laser (1985 and 1986). There was a decreased probability of successful filtration surgery (intraocular pressure less than 21 mm Hg, 75% vs 91% at one year, P = .05; 50% vs 86% at five years, P = .01) in eyes treated with laser trabeculoplasty at some time before filtration surgery. Whether laser was detrimental to subsequent filtration surgery or merely acted as a selection factor in identifying patients who would have less successful surgical outcome is unknown. Patients surgical outcome was not influenced by preoperative use of topical medications. Similar outcome was noted in fellow eyes of those patients who had bilateral filtration procedures despite the longer period of therapy in the second eye (mean 1.8 years between operations). In the eyes with low preoperative intraocular pressure (less than 21 mm Hg,) the pressure was successfully reduced to a lower level in 70% with surgery at one year postoperative. *(Am J Ophthalmol 117:139-148, January, 1994) Reprint requests to Douglas H. Johnson, M.D. Mayo Clinic, 200 First Street, S.W., Rochester, MN 55905.*

A REVIEW OF 340 ORBITAL TUMORS IN CHILDREN DURING A 60-YEAR PERIOD. Kodsi, SR, Shetlar, DJ, Campbell

RJ, Garrity, JA, Bartley GB. To determine the distribution of various pathologic processes and trends over a period of 60 years, the authors studied their institution's cases of 340 children with histopathologically verified orbital tumors. The children's ages ranged from 18 years and younger. The study was for period between 1932 and 1991. The most common tumors were cysts (79 of 340, 23.2%), vascular lesions (60 of 340, 17.6%), optic nerve and meningeal neoplasms (56 of 340, 16.5%), inflammatory masses (29 of 340, 8.5%), osseous and fibrocystic lesions (27 of 340, 7.9%, and rhabdomyosarcoma (24 of 340, 7.1%. The frequency of primary orbital malignancies in biopsy material remained the same of the 60 year period. However, the overall incidence of orbital biopsy specimens containing a malignancy decreased as a result of a reduction in the number of secondary and metastatic neoplasms that underwent biopsy. *(Am J Ophthalmol 117:177-182, January 1994.) Reprint requests to R. Jean Campbell, M.B., Ch. B., Mayo Clinic, 200, First Street, S.W., Rochester, MN 55905.*

TREATMENT AND PATHOGENESIS OF TRAUMATIC CHORIORETINAL RUPTURE (SCLOPETARIA). DF Martin, CC Awh, BW McCuin, GJ Jaffe, JH Slott, R Machemer. These authors treated seven patients (eight eyes) with traumatic chorioretinal rupture (sclopetaria) from severe ocular trauma who were all referred with diagnoses of retinal detachment, giant retinal tear, or ruptured globe. But these eyes had no retinal detachment. They all had large, peripheral, full-thickness breaks of the choroid and retina. All but one eye were initially treated by observation alone. The one case was treated with a scleral buckling procedure. All retinas remained attached for six months. Two eyes developed detachment after a year of initial injury. Two eyes later developed vitreous hemorrhage associated with posterior vitreous detachment, and only one of these eyes required vitrectomy to clear the visual axis. The pathogenesis of sclopetaria appears to be mechanical disruption and retraction of tissue rather than acute tissue dissolution. The risk of acute retinal detachment is low. They prefer to initially observe the patients with nonsurgical management and watch for complications which may occur later. *(Am J. Ophthalmol ll7: 190-200, February, 1994). Reprint requests to Daniel F. Martin, M.D., Emory Eye Center, 1327 Clifton Rd., N.E.,Atlanta, GA 30322.*

EXPERIMENTAL TRANSPLANTATION OF HUMAN RETINAL PIGMENT EPITHELIAL CELLS ON COLLAGEN SUBSTRATES, NS Bhatt, DA Newsome, T Fenech, TP Hessburg, JG Diamond, MV Miceli, KE Kratz, PD Oliver. These authors studied the use of human retinal pigment epithelial cells cultured on a collagen support as a potential transplantation therapy to replace diseased or damaged retinal pigment epithelium. They used a transvitreal approach to transplant human retinal pigment epithelial cells attached to either a sheet of noncross-linked or cross-linked type I collagen into a subretinal space of New Zealand white rabbits whose eye lack pigment. After six weeks the rabbits were killed, and the eyes were fixed for light microscopy. There was no evidence of proliferative vitreoretinopathy or graft rejection in the eyes receiving noncross-linked collagen support leading the authors to believe that their method may be applicable to replace dysfunctional retinal pigment epithelial cells in humans. *(Am J Ophthalmol 117: 214-221, February, 1994). Reprint requests to: David A. Newsome, M.D., Touro Infirmary, 1401 Foucher St., New Orleans, LA 70115.*

FLUORESCEIN ANGIOGRAPHY ON ACUTE NONARTERITIC ANTERIOR ISCHEMIC OPTIC NEUROPATHY, AC AC Arnold, RS Hepler. These authors did a comparative study of fundus fluorescein angiograms on 41 patients with nonarteritic anterior ischemic optic neuropathy of less than three weeks' duration. Diseased patients showed statistically significant delay in the time of onset and the time to completion of prelaminar optic disk filling. Neither onset nor completion of peripapillary choroidal filling were markedly delayed when compared with control subjects. Frequency of occurrence of delayed filling within peripapillary choroidal watershed zones was not increased in patients with disease. There was no consistent correlation by quadrant between optic disk filling delay, choroidal filling delay, optic disk swelling or hyperfluorescence, and visual field deficit. No trend for change in characteristics was found with increasing time interval from onset of symptoms to performance of angiography. Fluorescein angiography in nonarteritic anterior ischemic optic neuropathy demonstrates delayed optic disk filling without consistent relation to adjacent peripapillary choroidal filling delay or other disease findings. *(Am J Ophthalmol 117: 222-230, February, 1994.) Reprint requests to Anthony C. Arnold, M.D. Jules Stein Eye Institute, 100 Stein Plaza, UCLA, Los Angeles, CA 90024-7005.*

INFECTION AFTER INSERTION OF ALLOPLASTIC ORBITAL FLOOR IIMPLANTS, JA Mauriello,Jr., S Hargrave, S Yee, R Mostafavi, R Kapila. Ten patients developed infections after alloplastic implantation (nine silicone, one gelatin film (Gelfilm) implant) for orbital floor fracture repair. Infection resulted from the following: (1) dental surgery, (2) upper respiratory infection, (3) inferior extrusion of a retained implant into the maxillary sinus with a fistulous tract into the inferior conjunctival fornix, (4) rhinoplasty, (5) snorting cocaine and other drugs, (6) postoperative infection after orbital floor repair, and (7) medial implant migration resulting in chronic dacryocystitis. In all ten patients, implants were removed because of

orbital abscess, recurrent infection, or chronic low-grade infections. Microbiologic culture of removed implants disclosed *Staphylococcus aureus, S. epidermidis, Serratia marcescens,* and *Pseudomonas aeruginosa* as the offending organisms. The main complication of infection included severe cicatricial entropion of the lower eyelid in three patients. The final globe position was not adversely affected by implant removal performed from five months to 20 years after insertion. Guidelines for prevention and management of orbital implant infections based on these ten patients are presented. *(Am J Ophthalmol* 117: 246-252, February, 1994). *Reprint requests to Joseph A Mauriello, Jr. M.D., Department of Ophthalmology, UMD-New Jersey Medical School, Doctors Office Center, 90 Bergen St., Newark, NJ 07103-2499.*

SEVERE DIABETIC RETINOPATHY AFTER CATARACT SURGERY, H Schatz, D Atienza, HR McDonald, RN Johnson. These authors did a comparative study of 32 consecutive diabetic patients who had cataract surgery and 32 patients without diabetes (control group) who had cataract surgery to determine if the retinopathy was asymmetric and worse in the operated eye. Twenty-three (72%) of the 32 study patients had asymmetric retinopathy (with the more severe retinopathy in the eye that underwent cataract surgery in each case) compared with three (9%) of the control group ($P < .0005$). The eyes that had cataract surgery did poorly in terms of visual acuity with no eyes achieving 20/20 or 20/25, only three eyes achieving 20/30 or 20/40, and 16 achieving 20/100 or worse. *(Am J Ophthalmol 117: 314-321, March, 1994.) Reprint requests to Howard Schatz, M.D., 1 Daniel Burnham Ct., 210C, San Francisco, CA 94109.*

PUPILLARY BLOCK DURING CATARACT SURGERY, SA Updegraff, GA Peyman, MB McDonald. These authors believe that sudden phakic pupillary block occurring immediately upon cortical cleaving hydrodissection during cataract surgery in two patients is related to the recent introduction of viscoelastics with properties that enhance the maintenance of the anterior chamber during capsulorhexis. They think that the cause of the block was a combination of O-ring capsulocortical and iridocapsular seals that tamponade hydrodissection fluid posteriorly. Additional causative factors were diabetes, poorly dilating pupils, and increased vitreous pressure, which may have contributed to the sudden and irreversible nature of this block. If this complication is not noted, an aqueous misdirection syndrome may ensue, requiring pars plana vitrectomy. Immediate mechanical breakage of the pupillary and capsular block, resulting in an immediate decrease in intraocular pressure from greater than 70 mm Hg, may cause severe retinal vascular damage. These cases stress the importance of mechanical pupil dilation to prevent this serious complication of cataract surgery. *(Am J Ophthalmol 117: 328-332, March, 1994.) Reprint requests to Marguerite B. McDonald, M.D., LSU Eye* Center, *2020 Gravier St., Suite B, New Orleans, LA 70112-2334.*

INCREASED PREVALENCE OF OCCLUDABLE ANGLES AND ANGLE-CLOSURE GLAUCOMA IN PATIENTS WITH PSEUDOEXFOLIATION, FJ Gross, D Tingey, DL Epstein. Association between pseudoexfoliation and angle-closure glaucoma is controversial. These authors studied the angle configurations of 54 patients with pseudoexfoliation and found gonioscopically occludable angles in five cases (9.3%). They also analyzed the data from several large studies of pseudoexfoliation patients and found an increased prevalence of acute angle-closure glaucoma in this group. These data suggest that pseudoexfoliation patients may represent a high-risk population for the development of angle-closure glaucoma. *(Am J Ophthalmol 117: 333-336, March, 1994). Reprint requests to Fredric J. Gross, M.D., Suite 508, Medical Tower, Norfolk, VA 23507.*

PHOTOREFRACTIVE KERATECTOMY FOR THE CORRECTION OF MYOPIA AND ASTIGMATISM, JP Colliac, HJ Shammas, DJ Bart. Photorefractive keratectomy corrects myopia with or without astigmatism by decreasing the refractive power of the central cornea. The Colliac matrix formula determines the anterior corneal radius of curvature expected to achieve emmetropia. The authors used the formula as an algorithm for the computer-controlled delivery of the laser beam. The formula was evaluated by using theoretical and clinical cases. They examined the relationship between the correction induced by photorefractive keratectomy, the diameter of ablation zone, and the thickness of the ablated corneal lenticule on the optical axis. Comparison between attempted and achieved keratometric readings showed the accuracy of the formula to be in the order of $\pm$ 0.75 diopter. *(Am J Ophthalmol 117: 369-380, March 1994.) Reprint requests to Jean-Phillippe Colliac, M.D., 9 rue de Montalembert, 75007 Paris, France.*

FINDING THE RETINAL HOLE IN THE PSEUDOPHAKIC EYE WITH DETACHMENT, H Lincoff, I Kriessig. The newly developed wide-field indirect contact lenses, recommended and used for pancoagulation of the retina posterior to the equator, have proven to be unexpectedly helpful for finding retinal breaks anterior to the equator in the pseudophakic eye. Through a 6-mm pupil, it is possible with some ocular rotation, tilting of the lens, and scleral depression to bring into view the retina anterior to the equator and frequently the ora serrata. These authors found or confirmed 45 small retinal breaks anterior to the equator in 24 retinal detachments in pseudophakic eyes with the wide-field

indirect contact lens. The indirect contact lens eliminates the blur that occurs when viewing through the edge of the intraocular lens, and its image suffers less interference from lens and capsular opacities. *(Am J Ophthalmol 117: 442-446, April, 1994.) Reprint requests to Harvey Lincoff, M.D., Department of Ophthalmology, New York Hospital, 525 E. 68 th St., New York, NY 10021.*

EFFICACY OF LODOXAMIDE 0.1% OPHTHALMIC SOLUTION IN RESOLVING CORNEAL EPITHELIOPATHY ASSOCIATED WITH VERNAL KERATOCONJUNCTIVITIS, CI Santos, AJ Huang, MB Abelson, CS Foster, M Friedlaender, JP McCulley. A multicenter, randomized, double-masked parallel-group study compared the long-term efficacy and safety of lodoxamide 0.1% ophthalmic solution and placebo in 118 patients with vernal keratoconjunctivitis. The test drugs were instilled four times daily for 90 days. Lodoxamide 0.1% ophthalmic solution was significantly (P<.05) more effective than placebo in lowering severity scores for epithelial disease and corneal staining, evidence of the superior efficacy of lodoxamide 0.1% ophthalmic solution in reversing the corneal complications commonly associated with moderate to severe vernal keratoconjunctivitis. Additionally, lodoxamide 0.1% ophthalmic solution ameliorated the other key signs of vernal keratoconjunctivitis, including upper tarsal papillae, limbal signs (papillae, hyperemia, and Trantas' dots), and conjunctival discharge. The between-group differences in the relief of symptoms (itching, tearing and photophobia) were clinically significant but not always statistically significant. Treatment-related adverse events were reported with similar frequency in both treatment groups, and none were serious. *(Am J Ophthalmol 117: 488-497, April, 1994.) Reprint requests to Carmen Santos, M.D., 269 Pinero Ave., Rio Piedras, PR 00927.*

RELATIONSHIP BETWEEN FLOATERS, LIGHT FLASHES, OR BOTH AND COMPLICATIONS OF POSTERIOR VITREOUS DETACHMENT, T Hikichi, CL Trempe. The vitreous and retinal conditions of 902 consecutive symptomatic eyes (785 patients) were examined biomicroscropically to ascertain the relationship between floaters, light flashes, or both, and complications of posterior vitreous detachment. The 785 patients were divided into groups: group 1, 342 eyes with floaters alone; group 2, 240 eyes with floaters and light flashes; and group 3, 203 eyes with light flashes alone. The authors also studied 636 fellow eyes. The prevalence of posterior vitreous detachments was significantly higher in groups 1, 2, and 3 than in the asymptomatic eyes in group 2 than in groups 1 and 3, and in group 3 than in group 1. The prevalence of retinal breaks in eyes with posterior vitreous detachment was 5%, 13%, and 4% in groups 1, 2, 3, and the symptomatic eyes respectively; the prevalence was significantly higher in groups 2 and 3 than in asymptomatic eyes and group 1. The prevalence of vitreous hemorrhage in eyes with retinal breaks was 71%, 70%, and 6% in groups 1, 2, and 3, respectively. of 117 patients with bilateral symptoms 105 had the same symptoms and 104 had the same vitreoretinal relationship bilaterally. The results show that the presence of both floaters and light flashes carries the highest risk of development of posterior vitreous detachment and retinal breaks among the three symptoms, and that vitreous hemorrhage is a good indicator of retinal breaks in eyes with floaters. *(Am J Ophthalmol 117: 593-598, May, 1994. Reprint requests to Clement L. Trempe, M.D., c/o Library, Schepens Eye Research Institute, 20 Staniford St., Boston, MA 02114.*

PATIENT DISSATISFACTION AFTER FUNCTIONALLY SUCCESSFUL CONJUNCTIVODACRYOCYSTORHINOSTOMY WITH JONES TUBE, N Rosen, I Ashkenazi, M Rosner. One accepted procedure for treatment of epiphora resulting from obstructed canaliculi is conjunctivodacryocystorhinostomy with a Jones tube. These authors analyzed the results and patient satisfaction of 121 patients who underwent conjunctivodacryocystorhinostomy with Jones tubes because of their clinical impression that a high rate of functional success after surgery is associated with a lower rate of patient satisfaction. The success rate was 92.6% (112 of 121 patients) Thirteen of the 112 patients who had functional success was not satisfied, and 36 reported having more complications than expected. The highest rate of dissatisfied patients occurred in patients 70 years of age or older, and in patients 19 years of age or younger. Thus, the indication for conjunctivodacryocystorhinostomy in these age groups should be limited to exceptionally remarkable symptomatic cases. The drawbacks of the procedure should be explained to all candidates to minimize dissatisfaction resulting from unrealistic expectations. *(Am J Ophthalmol 117:636-642, May, 1994). Reprints requests to Nachum Rosen, M.D., Goldschleger Eye Institute, Sheba Medical Center, Tel Hashomer 52621, Israel.*

TREATMENT OF NONBACTERIAL CONJUNCTIVITIS WITH A CYCLO-OXYGENASE INHIBITOR OR A CORTICOSTEROID, R Notivol, M Martinez, MVW Bergamini, for the Pranoprofen Study Group. A multicenter, double-masked, parallel-group clinical trial was carried out in 151 patients with moderate to severe chronic conjunctivitis. The study compared the antinflammatory efficacy and safety of pranoprofen 0.1%, a new cyclo-oxygenase inhibitor, with fluorometholone 0.1%, after topical doses four times a day for 15 days. The basal mean score for the signs and

symptoms of inflammation, was significantly reduced, with no significant difference between the two groups, at days 8 and 15. There was a significant difference of approximately 1.0 mm Hg in the mean intraocular pressure between treatment, which was a decrease of 0.3 mm Hg with pranoprofen and an increase of 0.8 mm Hg with fluorometholone. One patient in the pranoprofen group had an adverse experience, compared to nine patients in the fluorometholone group. The data suggest that pranoprofen has efficacy equivalent to a moderate-potency corticosteroid with a better safety profile. It should be considered for the treatment of chronic conjunctivitis of presumed nonbacterial origin. *(Am J Ophthalmol 117: 651-656, May, 1994) Reprint requests to Miguel Martinez, M.D., Laboratorios Cusi S.A., Apartado 2, 08320 El Masnou, Spain.*

OPTIC DISK APPEARANCE IN OCULAR HYPERTENSIVE EYES, JB Jonas, KA Konigsreuther. These authors examined the optic disk appearance in ocular hypertensive eyes that had a normal result of conventional computed perimetry. Color stereo-optic disk photographs of 104 ocular hypertensive subjects and of 216 normal individuals were morphometrically evaluated. In the ocular hypertensive eyes as compared to the normal eyes, significant differences were detected for a smaller area and an abnormal shape of the neuroretinal rim, larger zones alpha and beta of the parapapillary chorioretinal atrophy, a decreased visibility of the retinal nerve fiber layer, and higher frequency of localized nerve fiber layer defects. The variables most useful to indicate optic nerve damage were an abnormal shape of the neuroretinal rim and a decreased visibility of the nerve fiber layer. The most specific variable was the presence of localized retinal nerve fiber layer defects. Evaluation of these variables may be helpful for the early diagnosis of glaucoma. *(Am J Ophthalmol 117: 732:740, June, 1994) Reprint requests to Jost B Jonas, M.D. University Eye Hospital, Schwabachanlage 6, D-91054 Erlangen, Germany.*

COMBINED CYCLOSPORINE AND CORTICOSTEROID THERAPY FOR SIGHT-THREATENING UVEITIS IN BEHCET'S DISEASE, SM Whitcup, EC Salvo, RB Nussenblatt. Profound ocular inflammation and blindness may be caused by Behcet's disease a multisystem disorder. These authors reviewed 19 patients who had severe ocular Behcet's disease who were treated with cyclosporine and corticosteroid therapy. Previous treatment with corticosteroids alone failed to control the uveitis in all patients. Ten patients were given cyclosporine therapy alone, and nine patients were given lower dosages of cyclosporine in combination with prednisone. The follow-up period on therapy was 51 months. After three months of therapy, a trend toward greater improvement in visual acuity was noted in patients treated with combined cyclosporine and prednisone compared to those receiving cyclosporine alone, but after one year little difference was observed in the improvement between the two groups. However, a trend toward greater renal toxicity was seen inpatients treated with cyclosporine alone after both three months and one year of therapy. Because of either a suboptimal therapeutic response or adverse effects, all ptients treated iwth cyclosporine alone at baseline had prednisone added to their regimen after a mean time of 23.5 months. Overall, visual acuity remained stable or improved in 28 of 37 eyes over the course of therapy. These data suggest that combined cyclosporine and prednisone therapy is an effective treatment for Behcet's uveitis and may be less toxic than therapy with cyclosporine alone. A prospective, randomized trial with a larger sample size is needed to provide definite data. *(Am J Ophthalmol 118: 39-45, July, 1994). Reprint requests to Scott M. Whitcup, M.D., National Eye Institute Bldg. 10, Rm. 10N 202, Bethesda, MD 20892.*

HIGH-DOSE METHYLPREDNISOLONE AND ACETAZOLAMIDE FOR VISUAL LOSS IN PSEUDOTUMOR CEREBRI, GT Liu, JS Glaser, NJ Schatz. These authors treated four patients who had acute, severe visual loss associated with pseudotumor cerebri with intravenous methylprednisolone for five days followed by an oral taper, in combination with acetazolamide and ranitidine. In addition to high-grade disk edema, one patient had serous detachment of both maculas and lipid deposition, one had a unilateral macular star, and one had a monocular branch retinal artery occlusion. These three patients experienced rapid and lasting improvement in visual acuity, visual field, papilledema, and symptoms. Vision of the fourth patient did not improve, requiring optic nerve sheath fenestration for chronic papilledema. Transient acne developed in one patient. This regimen is a safe, effective treatment of acute, severe visual loss associated with florid papilledema of pseudotumor cerebri. Lack of immediate improvement is an indication for optic nerve sheath decompression. *(Am J Ophthalmol 118: 88-96, July, 1994) Reprint requests to Grant T. Liu, M.D., Division of Neuro-ophthalmology, Department of Neurology, Hospital of the University of Pennsylvania, 3400 Spruce St., Philadelphia, PA 19104.*

BIOMICROSCOPIC AND HISTOPATHOLOGIC CONSIDERATIONS REGARDING THE FEASIBILITY OF SURGICAL EXCISION OF SUBFOVEAL NEOVASCULAR MEMBRANES, JDM Gass. Recovery of excellent visual acuity in patients with presumed ocular histoplasmosis but not in patients with age-related macular degeneration may be the result of surgical excision of subfoveal neovascular membranes. This author analyzed the clinical and histopathologic findings in five patients with presumed ocular histoplasmosis to provide an explanation for

this discrepancy. This study shows evidence that the new vessels arising in the choroid in these patients usually grow within the subsensory retinal space and not in the subpigment epithelial space, as occurs in patients with age-related macular degeneration. In presumed ocular histoplasmosis, the new vessels are partly engulfed by an monolayer of proliferating retinal pigment epithelium. Surgical excision of this membrane permits reapproximation of the rtinal receptors and native pigment epithelium and may be associated with remarkable return of visual acuity. *(Am J Ophthalmol 118: 285-298, September, 1994.) Reprint requests to J. Donald M. Gass, M.D. Bascom Palmer Eye Institute, P. O. Box 016880, Miami, FL 33101.*

RESULTS ONE YEAR AFTER USING THE 193-nm EXCIMER LASER FOR PHOTOREFRACTIVE KERATECTOMY IN MILD TO MODERATE MYOPIA, AR Talley, DR Hardten, NA Sher, MS Kim, DJ Doughman, E Carpel, CS Ostrov, SS Lane, P Parker, RL Lindstrom. Photorefractive keratectomy using the VISX 2015 193-nm excimer laser was performed on 91 healthy eyes of 91 patients as part of a clinical trial. Preoperative refractive errors (spherical equivalent) ranged from -1.00 to -7.50 diopters (mean, -4.16 ± 1.41 diopters). No patient had more than 1 diopter of refractive astigmatism. Six months postoperatively, the average residual refractive error was + 0.09 ±0.63 diopters (range, -2.13 to +1.63 diopters). Correction within 1 diopter of that attempted was attained in 85 eyes (93%). Uncorrected visual acuity of 20/40 or better was attained in 86 eyes (95%), and was 20/25 or better in 67 eyes (74%). At one year, follow-up information was available on 85 eyes of 85 patients. The average residual refractive error was -0.15 ± 0.65 diopters (range, -2.50 to + 1.63 diopters). Correction within 1 diopter of that attempted was attained in 85 eyes (93%). Uncorrected visual acuity was 20/40 or better in 83 eyes (98%) and was 20/25 or better in 68 eyes (80%). One patient lost three lines of best-corrected visual acuity because of corneal haze, dropping from 20/15 to 20/30, whereas all other patients returned to best-corrected visual acuity within one line of their preoperative best-corrected visual acuity. Photorefractive keratectomy with the 193-nm excimer laser appears to be a useful treatment modality for the reduction of mild to moderate myopia. *(Am J Ophthalmol 118: 304-311, September, 1994). Reprint requests to David R. Hardten, M.D., 710 E. 24th St., Suite 106, Minneapolis, MN 55404.*

FLUOROPHOTOMETRY IN MYOPIC PHAKIC EYES WITH ANTERIOR CHAMBER INTRAOCULAR LENSES TO CORRECT SEVERE MYOPIA, JJ Perez-Santonja, JL Hernandez, JM Benitez del Castillo, C Rodriguez-Bermejo. A surgical procedure of implanting an anterior chamber intraocular lens in a phakic eye is effective for the correction of severe myopia. The potential risks on the anterior segment structures are scarcely known. These authors conducted a study to evaluate the permeability of the blood-aqueous barrier and the lens transmittance changes after Worst-Fechner lenses were implanted to correct myopia. In fifteen eyes that had a Worst-Fechner lens implanted to correct myopia preoperative and serial postoperative fluorophotometry was done. Lens transmittance was evaluated by lens autofluorescence, and permeability of the blood-aqueous barrier was estimated by anterior vitreous fluorophotometry, which was carried out before and after intravenous injection of fluorescein. Preoperative lens transmittance was 0.971, and after the surgery the lens transmittance decreased drastically by the end of 14 months. Fluorescein concentration in the anterior vitreous was 18.522 preoperatively and was significantly higher at the end of 14 months. This study shows a decrease in lens transmittance and a prolonged breakdown in the blood-aqueous barrier after Worst-Fechner lenses were implanted. *(Am J Ophthalmol 118: 316-321, September, 1994). Reprint requests to Juan J. Perez-Santonja, M.D., Sorolla 32-3, 03420- Castalla, Alicante, Spain.*

A RANDOMIZED, DOUBLE-MASKED STUDY ON THE TREATMENT OF RETINAL VEIN OCCLUSION WITH TROXERUTIN, A Glacet-Bernard, G Coscas, A Chabanel, A Zourdani, F Lelong, MM Samama. It is known that hemorheologic factors probably play a role in the pathogenesis and prognosis of retinal vein occlusion. So, these authors designed a prospective, randomized, double-masked study to evaluate the effect of troxerutin, a rheologic drug, on retinal vein occlusion. The study was done on 53 patients, 27 with central retinal vein occlusion and 26 with a branch retinal vein occlusion. They were randomly assigned for treatment with either troxerutin or a placebo. All patients were similar in age, gender, associated diseases, hemorheologic values, and clinical severity of the retinal vein occlusion. At the end of the study, the troxerutin-treated group showed significant improvement in visual acuity, macular threshold, retinal circulation times, and macular edema. Also, they had diminished in progression of ischemia and decreased red blood cell aggregability when compared with the controls. These encouraging results obtained with a rheologic treatment attest to the pathogenic role of blood viscosity in retinal vein occlusion and suggest that large-scale randomized study should be conducted. *(Am J Ophthalmol 118: 421-429, October, 1994). Reprint requests to Gabriel Coscas, M.D., University Eye Clinic of Ophthalmology, 40 Avenue de Verdun 94010, Creteil, France.*

TREATMENT OF SECONDARY POSTERIOR CAPSULAR MEMBRANES WITH

THE ND:YAG LASER IN A PEDIATRIC POPULATION, CS Atkinson, DA Hiles. This article tells about thirty-two eyes of 28 pediatric patients which were treated with the H.S. Meridian Micruptor KKK Nd:YAG laser for secondary posterior capsular membranes after cataract extraction either with or without posterior chamber intraocular lens implantation. This laser allows for 90-degree rotation of the laser delivery system to treat recumbent patients who may be under general endotracheal anesthesia. In all patients, at least a 5-mm axial capsulotomy was created. The energy requirements for the procdeure were related to the density of the membrane, which coorelated with the time lapse between cataract extraction and laser capsulotomy. A second laser capsulotomy was performed in eight eyes. Nd:YAG capsulotomy can be performed in a child of any age by using the Microuptor III. For surgeons who choose to retain the posterior capsule in pediatric cataract extraction, particularly after posterior chamber intraocular lens implantation, this technique offers the noninvasive capability to create and maintain a clear visual axis. *(Am J Ophthalmol 118: 496-501, October, 1994). Reprint requests to C. Scott Atkinson, M.D., Children's Eye Services, 3460 Fifth AVe., Suite 3301, Pittsburgh, PA 15212.*

INTRAOPERATIVE FIBRINOLYSIS OF SUBMACULAR HEMORRHAGE WITH TISSUE PLASMINOGEN ACTIVATOR AND SURGICAL DRAINAGE, H Lewis. This study determined the safety and efficacy of intraoperative pharmocologic lysis of recent submacular hemorrhage with tissue plasminogen activator followed by surgical drainage of the unclotted blood in patients with age-related macular degeneration. Twenty-four consecutive eyes with recent (<14 days old) submacular degeneration secondary to age-related macular degeneration and good visual acuity before development of submacular hemorrhage were treated with vitrectomy, subretinal injection of tissue plasminogen activator, and removal of the liquefied blood. These patients were followed for a six months period. Twenty eyes (83%) had improved visual acuity after surgery, and eight eyes (33%) attained visual acuity of 20/200 or better. In a subset of 16 eyes with submacular hemorrhage in seven days duration or less, eight (50%) attained visual acuity of 20/200 or better. Factors associated with poor visual outcome included submacular hemorrhage with duration greater than seven days ($P < .001$), the presence of hemorrhagic pigment epithelial detachment ($P + .04$), and massive subretinal hemorrhage ($P + .04$). Tissue plasminogen activator thrombolysis may be a valuable adjunct to the surgical treatment of select patients with submacular hemorrhages secondary to age-related macular degeneration. *(Am J Ophthalmol 118:559-568, November, 1994). Reprint requests to Hilel Lewis, M.D., Division of Ophthalmology, A31, Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH 44195.*

TREATMENT STRATEGIES FOR SCLERITIS AND UVEITIS ASSOCIATED WITH INFLAMMATORY BOWEL DISEASE, SH Soukiasian, CS Foster, MB Raizman. Nineteen patients with anterior uveitis, episcleritis, or scleritis associated with inflammatory bowel disease were treated by these authors. Sixteen patients (84%) of the patients received adequate control of ocular inflammation. This control was achieved by corticosteroids alone, without systemic adverse effects, in only three patients, all of whom had anterior uveitis associated wtth ulcerative colitis. Systemic nonsteroidal anti-inflammatory drugs proved beneficial in six of seven patients, and one additional patient benefited from another anti-inflammatory drug (hydroxychloroquine sulfate). Systemic cytotoxic immunosuppressive therapy was used in the remaining seven patients, six of whom had bilateral disease. Ocular inflammation was controlled in six of these patients. Azathoprine was beneficial for scleritis but was less effective for anterior uveitis, especially in Crohn's disease, thus necessitating the use of another cytotoxic agent. HLA-B27-positive anterior uveitis was more refractory to corticosteroid therapy and was more likely to require systemic cytotoxic immunosuppressive therapy. With the medical and surgical strategies described, vision was improved and maintained in all patients in the study. *(Am J Ophthalmol 118:601-611, November, 1994). Reprint requests to C. Stephen Foster, M.D., Immunology Service, Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston, MA 02114.*

INCIDENCE AND PROGRESSION OF CORTICAL, NUCLEAR, AND POSTERIOR SUBCAPSULAR CATARACT, The Italian-American Cataract Study Group. This study was conducted on a total of 1,399 persons, between 45 and 79 years of age. The follow-up study was designed to estimate the incidence of progression of cortical, nuclear, and posterior subcapsular cataracts and to evaluate the usefulness of the Lens Opacities Classification System II in a longitudinal study. Survival analyses were performed on 1,193 persons with at least three visits, by using data obtained from Zeiss slit-lamp and Neitz retroillumination lens photographs. The three-year cumulative incidence for persons age 65 to 74 years was 18%, 6%, and 6%, for cortical, nuclear and posterior subcapsular cataracts, respectively. Progression was much higher than incidence for each type of opacity. Regression, which probably comes mostly from misclassification in the gradings, was modest for cortical and nuclear cataracts but was sizeable for posterior subcapsular cataracts. Patient age, baseline lens status, cataract grading system, definition of change, and analytic methodology can have important effects on estimates of cataract

incidence and progression. *(Am J Ophthalmol 118: 623-631, November, 1994)., Reprint requests to Giovanni Maraini, M.D., Institute of Ophthalmology, University of Parma, Via Gramsci 14, 43100 Parma, Italy, or Robert D. Sperduto, M.D., National Eye Institute, National Institutes of Health, 9000 Rockville Pike, Building 31, Room 6A52, Bethesda, MD 20892.*

POVIDONE-IODINE FOR OPHTHALMIA NEONATORUM PROPHYLAXIS, SJ Isenberg, L Apt, R Yoshimori, RD Leake, R Rich. These authors evaluated the effectiveness and safety of povidone-iodine for ophthalmia neonatorum prophylaxis. The agents currently used to prevent ophthalmia neonatorum are less than optimal, with reports indicating evidence of bacterial resistance, ineffectivensss, and toxicity. Povidone-iodine ophthalmic solution, which has been shown to be effective in the preoperative preparation of the eye, generates no resistance, is an effective antimicrobial agent, and has low toxicity. A bacterial culture was taken from the conjunctiva of each eye of 100 infants within 30 minutes of birth. A drop of 2.5% povidone-iodine solution was then placed on one eye, while the other eye received either one drop of silver nitrate 1% ophthalmic solution or 0.5% erythromycin ointment. Conjunctival bacterial cultures were again taken two to four hours after birth. At each culture at 24 hours after birth, the eyes were examined for toxic changes. To measure the effectiveness of the medications, the number of bacterial colony-forming units and species from each culture was compared. All three agents significantly reduced the number of colony-forming units, but povidone-iodine caused the most significant decrease. The number of species was reduced significantly by povidone-iodine (P = .00051) and silver nitrate (P = .007), with povidone-iodine yielding the most significant decrease. Erythromycin did not significantly reduce the number of species. Silver nitrate demonstrated more ocular toxicity at the 24-hr determination point than did either of the other two medications (P<.001). Povidone-iodine 2.5% ophthalmic solution is an effective antibacterial agent on the conjunctiva of newborns and causes less toxicity than silver nitrate. *(Am J Ophthalmol 118: 701-706, December, 1994). Reprint requests to Sherwin J. Isenberg, M.D., Department of Ophthalmology, Harbor/UCLA Medical Center, 1000 W. Carson St., Torrance, CA 90509.*

FK 506 TREATMENT OF NONINFECTIOUS UVEITIS, M Ishioka, S Ohno, S Nakamura, K Isobe, N Watanabe, Y Ishigatsubo, S Tanaka. These authors studied the clinical effects of the immunosuppressive agent FK506 in patients with noninfectious uveitis. Sixteen patients with noninfectious uveitis who had visited the Uveitis Survey Clinic of the Yokohama City University Hospital were given FK506. Eight had Behcet's disease; five, Vogt-Koyanagi-Harada syndrome; one, sympathetic ophthalmia; one, retinal vasculitis; and one; sarcoidosis. In patients with Behcet's disease, ocular attack score before and after therapy was compared to judge clinical status. For the other diseases, the ocular inflammatory symptoms were observed after the initiation of FK506 treatment. All patients underwent blood and urine examinations, electrocardiography, and chest x-rays before and after FK506 treatment. Of the patients with Behcet's disease, five improved one remained unchanged, one deteriorated, and the status of one could not be determined. Of the patients with Vogt-Koyanagi-Harada syndrome, four improved, and one remained unchanged. The patient with sympathetic ophthalmia improved, the patient with retinal vasulitis remained unchanged, and the status of the patient with sarcoidosis could not be determined. Major adverse effects were sensations of warmth, hypomagnesemia, renal dysfunction, glucose intolerance, nausea, vomiting, and disorders of the central nervous system. All adverse effects disappeared or improved when FK506 was stopped or when the dosage was decreased. Renal dysfunction and glucose intolerance appeared when the blood level of FK506 was high. In conclusion the FK506 was effective in patients with uveitis, but it is important to monitor the occurrence of adverse effects. *(Am J Ophthalmol 118: 723-729, December, 1994. Reprint requests to Shigeaki Ohno, M.D., Department of Ophthalmology. Yokohama City University School of Medicine, 3-9 Fukuura, Kanazawa-ku, Yokohama 236, Japan.*

HARD-PALATE MUCOSA GRAFT IN STEVENS-JOHNSON SYNDROME, GE Mannor, WD Mathers, DE Wolfley, JA Martinez. The authors evaluated the use of hard-palate mucosa grafts in the treatment of cicatricial entropion and trichiasis asociated with Stevens-Johnson syndrome. Six patients, two men and four women, were treated with hard-palate mucosa grafts of one or more eyelids with cicatricial entropion, trichiasis, and corneal disease. Visual acuity improved in one of nine eyes and remained stable in the rest. Corneal epithelial disease improved in eight of nine eyes, while in one eye the epithelial defect stablized. The corneal epithelium of all three corneal transplants remained intact, although two rejected and one transpant repeated. Cicatricial entropion resolved and symblephara improved in all 16 eyelids. Trichiasis resolved or improved in 12 of 16 eyelids and remained stable in the eyelids. The chronic relapsing nature of Stevens-Johnson syndrome requires caution in interpreting surgical intervention in the treatment of dysfunctional eyelids. However, hard-palate grafts may be considered for patients with the Stevens-Johnson syndrome and severe ocular surface disease. *(Am J Ophthalmol 118: 786-791, December, 1994). Reprint requests to William D. Mathers, M.D., Department of Ophthalmology, University of Iowa Hospitals and Clinics, 200 Hawkins Dr., Iowa City, IA 52242-1091.*

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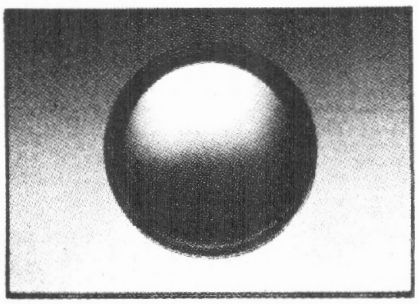

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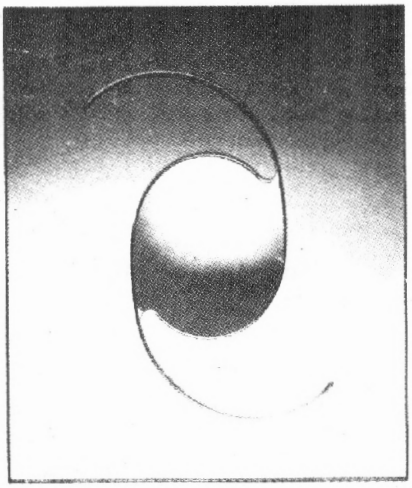

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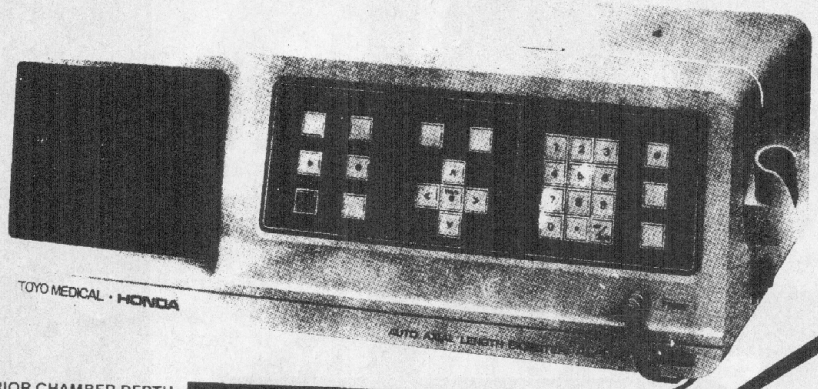

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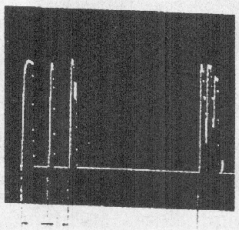

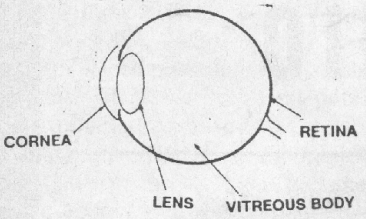

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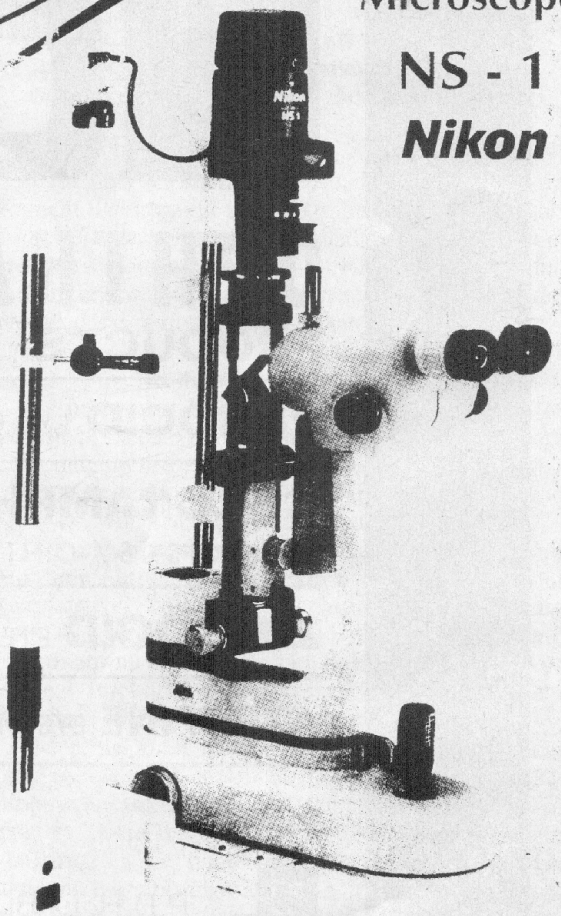

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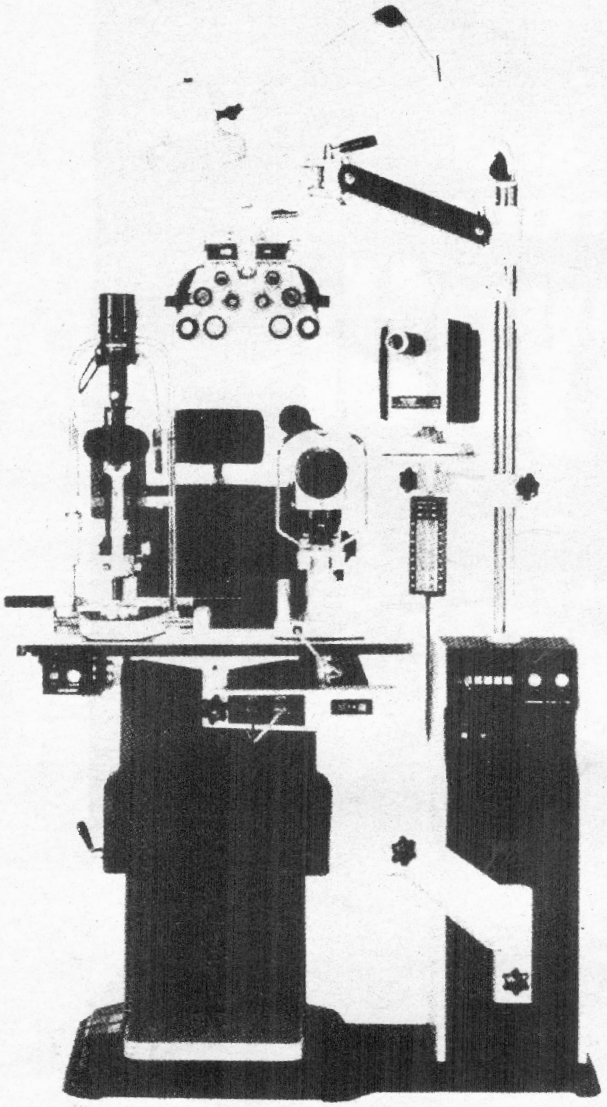

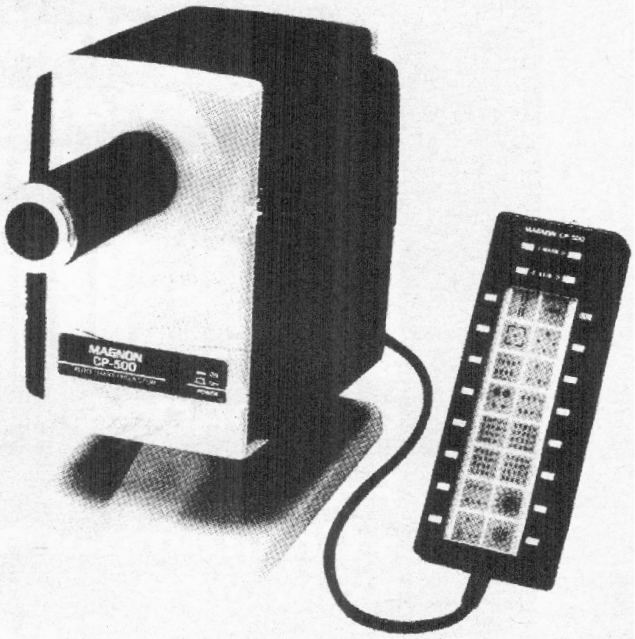

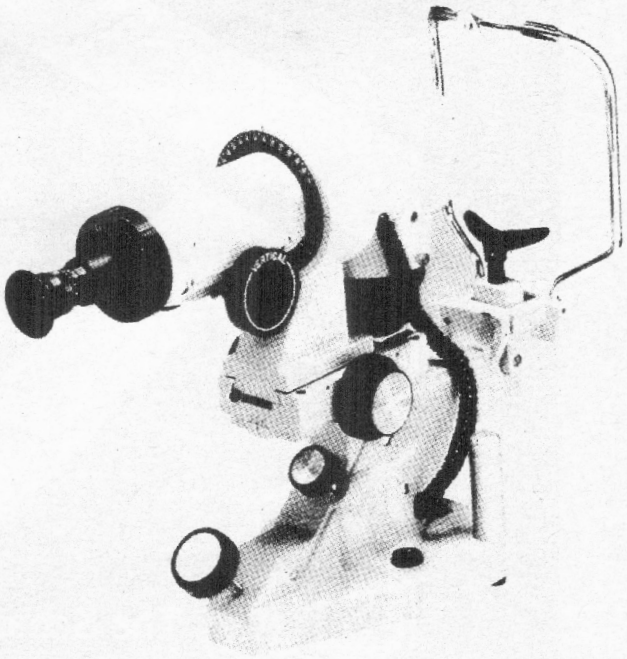

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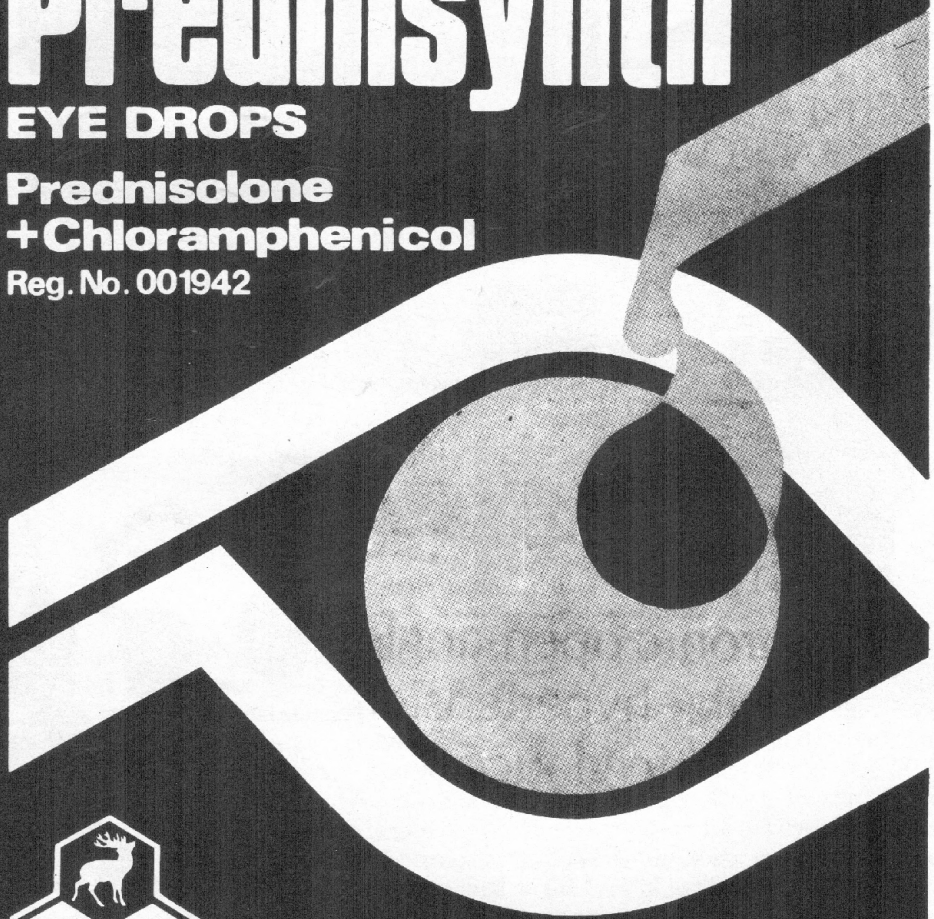

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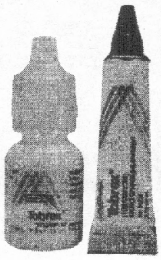

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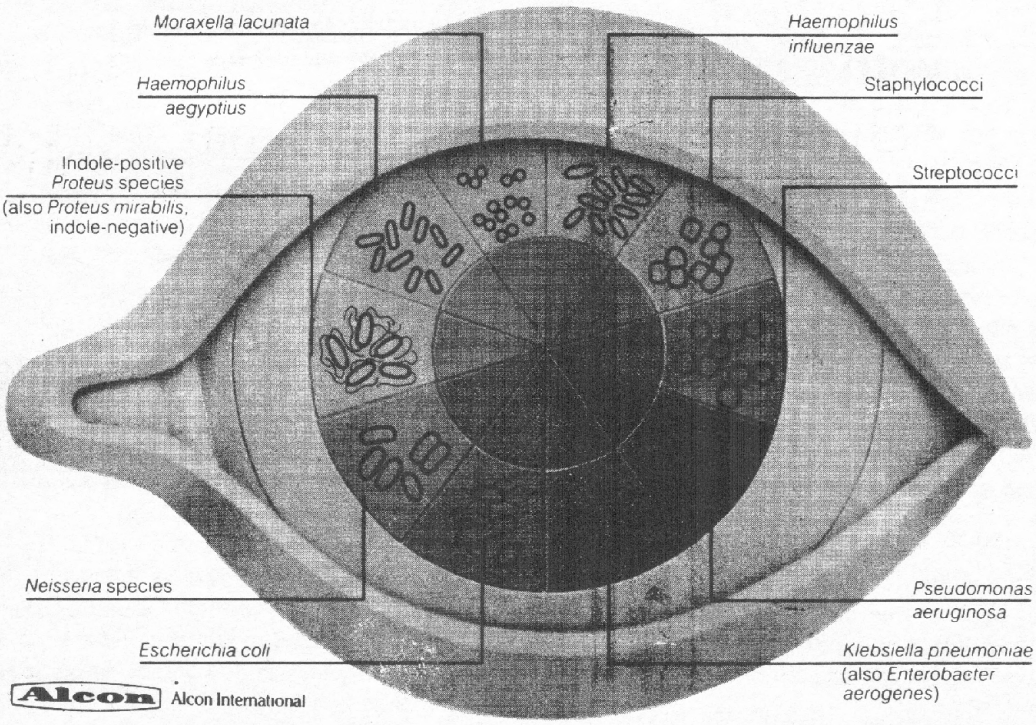

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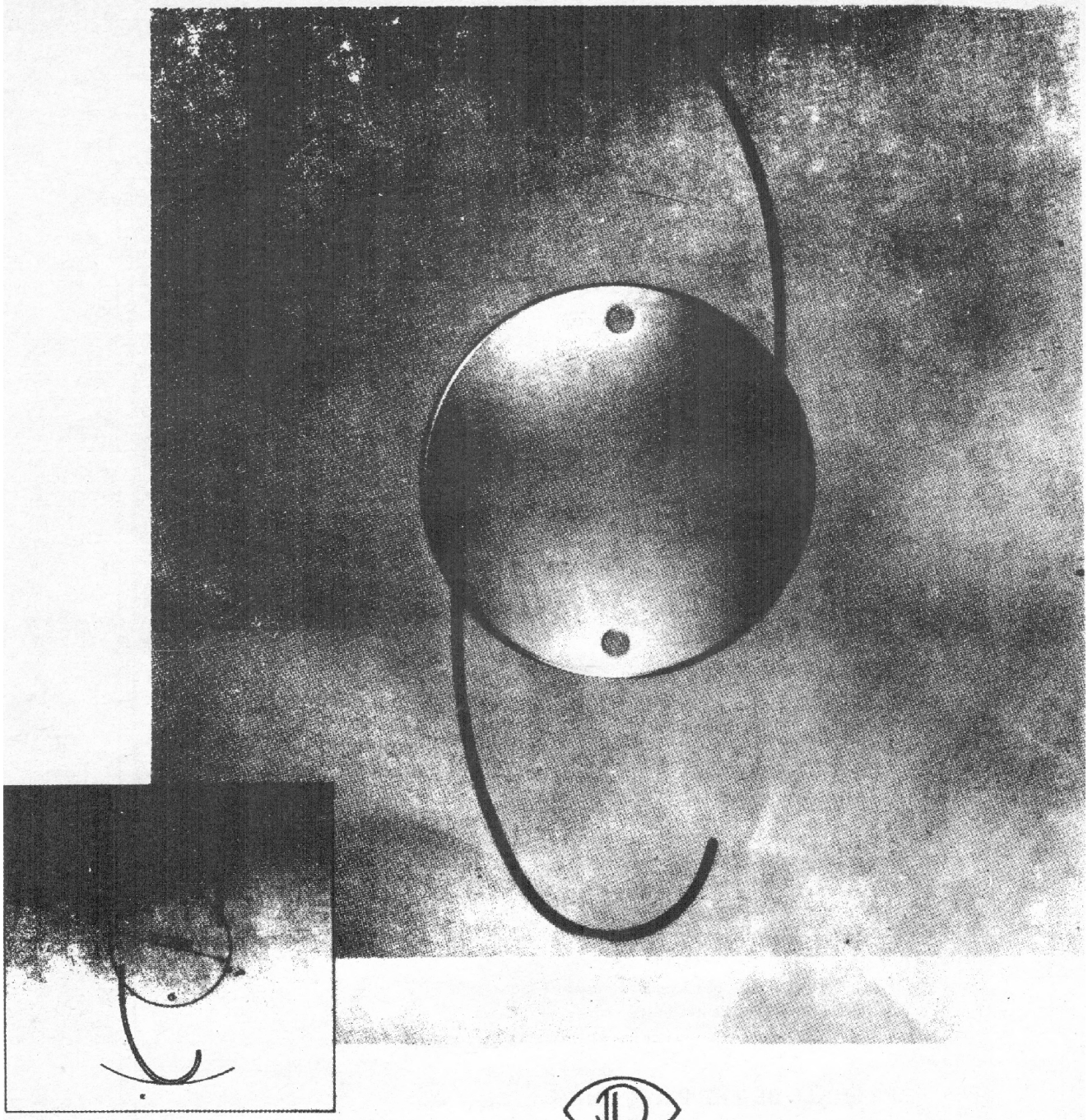

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