PUBLISHED QUARTERLY 786 ISSN 0886-3067

مجلہ طب العیون پاکستان

PAKISTAN JOURNAL OF OPHTHALMOLOGY

THE OFFICIAL JOURNAL OF THE OPTHALMOLOGICAL SOCIETY OF PAKISTAN

Approved by the PAKISTAN MEDICAL & DENTAL COUNCIL

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(Volume 10, 1994)

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BISMILLAHIR-RAHMANIR-RAHEEM

مجلہ طب العیون پاکستان

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THE OFFICIAL JOURNAL OF THE
OPHTHALMOLOGICAL SOCIETY OF PAKISTAN

October, 1994 جمادی الأولی ١٤١٥ هجري PUBLISHED QUARTERLY Volume 10, Number 4

EDITORIAL OFFICES INTERNATIONAL:
1921 Park Ave., S.W. Norton, Virginia 24273 USA.
Telephone: (703) 679-4567
Fax: 703-679-5736

PAKISTAN (INLAND ONLY):
238 Jinnah Colony
Faisalabad, Pakistan

INDEX ISSUE

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Publisher: Khalid J. Awan, M.D., F.P.A.M.S.

Sponsor: Pakistan Academy of Medical Sciences and Ophthalmological Society of Pakistan

Manuscripts: Send manuscripts and all correspondence related to them to Khalid J. Awan, M.D., F.P.A.M.S. Editor, Pakistan Journal of Ophthalmology, 1921 Park Avenue, S.W. Norton, Virginia 24273 U.S.A.

Subscription: Non-members. Pakistan R. 400.00 per year; United States, $50.00 per year; Elsewhere U.S. $60.00 per year by surface mail and $98.00 by air mail. Single copies: Pakistan Rs. 150; Elsewhere U.S. $15. Send subscription with check or money order to Pakistan Journal of Ophthalmology, 1921 Park Avenue, S.W. Norton, Virginia 24273 U.S.A.

Replacement Issues-Policy: All requests for replacement of copies lost in the mail must be received within ninety (90) days of the last month the issue was published. After this period, a charge of $10.00 per copy will be made, provided the copies are available.

Address changes: POSTMASTER please send address change to Pakistan Journal of Ophthalmology, 1921 Park Avenue, S.W. Norton, Virginia 24273 U.S.A.

Published quarterly in January, April, July and October.

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ISSN 0886-3067

THE JOURNAL: A History of the First Decade

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

Bisme-Allah-ir Ruhmaan-ir Raheem. NuhmodoHoo wa nosullee a'alaa rasooleHil kareem. It was 1984. The combined meeting of the 8th Afro-Asian Congress of Ophthalmology and the annual conference of the Ophthalmological Society of Pakistan (OSP) were in full swing at the Lahore Hilton. Two things of consequence for me took place during that meeting: I presented my observations and conclusions on the occurrence of narrow-angle glaucoma in two ectomorphic sisters with hypertelorism, and the OSP voted to launch a journal of its own. At that time Pakistan had no national ophthalmic periodical, not even any transections of the Society, despite the fact that it had been in existence for 27 years. I had repeatedly expressed to several colleagues in Pakistan that the OSP should have its own official journal, and many ophthalmologists in Pakistan enthusiastically supported this view. The membership gave a huge approval to the Society's decision, and because of his seniority, Professor Raja Mumtaz was selected to look after the project. In his acceptance speech, Professor Raja proclaimed that though he himself had never written or published a paper, he intended to find an editor and a team with necessary experience and know-how who would carry out this important responsibility in a deserving fashion.

Some foreign guests among the commercial reps who regularly visited Pakistan were skeptical of this decision of the OSP ever becoming a reality. At one lunch table they occupied, I heard a whisper: "They will never have a journal, they don't have the ability to pull it off." The immediate thought that then engaged my mind was that if I become involved with the Society's journal, I'll put every bit of my ability and every ounce of my energy into proving this slanderous view wrong. That afternoon Professor Raja earnestly asked me to be the editor. I accepted on the condition that he would stand by me whenever unforseen political exploitations or personal agendas hindered my efforts and the smooth progress of the journal. Very graciously, he gave me his word to always do exactly that. I proposed the name of the *PAKISTAN JOURNAL OF OPHTHALMOLOGY. The Official Journal of the Ophthalmological Society of Pakistan*, and requested him to name the editorial board.

After designing and drawing the logo for THE JOURNAL and finalizing its style and policies, I embarked on gathering ideas and support from the national and international leaders of ophthalmology. To get training in editorial operations, I took time off from my practice and went to the Chicago offices of the *American Journal of Ophthalmology* for an apprenticeship under its legendary Editor-in-Chief, Frank W. Newell, M.D., who also accepted my request to join our Editorial Board as the Consulting Editor.

The quality of contents and textual accuracy were my foremost objectives, for I knew on them depended the success and acceptance of the journal by the international ophthalmic community. My other goal was the uninterrupted and on time publication of each issue, without which no periodical can have credibility.

When I had finished the layouts of the first issue, Professor Raja requested that I get it printed in the U.S. At my request, the Pakistan Academy of Medical Sciences (PAMS) provided assistance and expertise, and the first issue of THE JOURNAL was unveiled in October, 1984. The quality of the first issue was internationally lauded. After several issues, a letter effusively praising THE JOURNAL came even from the foreign rep who had made the above mentioned sarcastic remark. Soon, THE JOURNAL was included in the lists of the indexing publications, such as *Excerpta Medica* (Amsterdam), *Ophthalmic Literature* (London), *Ocular Review* (Chicago), etc.

I had suggested to Professor Raja to get THE JOURNAL registered as the publication of the Society. The registration did not come through even after the second issue was out. The authorities demanded to examine a specimen of THE JOURNAL before granting registration. Finally, Professor M. Munirulhaq presented a copy of the first issue I had published in the United States to the authorities, whereupon they granted the registration. However, the registration was not issued in the name of the Society. It was issued in the name of Professor Raja, because he had filed the application in his own name.

Within a year, despite the support and appreciation of many respected Society members, political and personal interests unfortunately began to interfere with the progress of THE JOURNAL. My private and public meetings with Professor Raja to sort things out turned out even more puzzling and disconcerting. Even the venerable late Professor Mahmud Ali Shah was disappointed in the negative stand of some key figures in the matter, but he knew very clearly why this was being done, and it sadly had nothing to do with patriotism, profession, or the printing of THE JOURNAL in the United States. Nonetheless, his staunch support and encouragement kept me going. Then, it was learned from the members of the Society that many of them were not getting their copies, despite the fact that I always supplied sufficient number of copies of each issue to those who were responsible for distribution in Pakistan. Although a few detractors desirous of editing and publishing the journal themselves continued to stir things up, every

President of the OSP insisted that I continue the journal I had founded for the Society. In 1989, when I was awarded the prestigious President of Pakistan Gold Medal in Ophthalmology (Ramazan Ali Syed Medal), disruptive activities against THE JOURNAL trickled down to a minimum. Professor Raja requested me to continue editing THE JOURNAL, announcing that like everything else in Pakistan my assignment had turned into two five-year plans instead of a single five-year plan.

At the 1990 annual meeting of the Society at Lahore, where Dr. Abdul Qadir Khan was the Chief Guest, Professor Raja utterly surprised me by announcing that a "journal" of ophthalmology will appear from Lahore. Later, I learned that Dr. Qadir Khan had donated Rs 1,00,000 to the OSP for THE JOURNAL. The Society had never reimbursed any expenses on THE JOURNAL, and this donated amount also was not turned over to the editorial office. There appeared instead the Lahore "journal" with Dr. Dil Mohmamad Mirza as the editor. However, because of its poor quality and editing the President and membership of the OSP denounced it. The OSP President wrote me earnestly asking that I continue publishing THE JOURNAL as the Society's official publication.

Another important development took place at the same time. The Pakistan Medical and Dental Council (PM&DC), the government's licensing and academic promotions agency, announced the list of its approved medical journals. Basing its decision on quality, the PM&DC placed THE JOURNAL on its list (PF 11-F-90.6898, Dec.1990) but rejected the Lahore publication.

This development failed to bring a change of heart in the detractors, and having become fed up, I let it be known at the 1991 OSP annual meeting at Peshawar that I was seriously considering stepping down as the Editor. The OSP President, Professor M. Munirulhaq and the President-Elect, Professor Kh. Sharif-ul-Hasan approached me and pleaded with me that I stay on as the Editor-in-Chief, promising me their unflinching support during their terms. Professor Munirulhaq stood by his words till the end of his term.

With the present issue, a decade has passed since that historic 1984 meeting. Without demands of any unbearable sacrifices on my part, it brought the gratifying but perhaps of not much significance eponym of Awan's syndrome (*Japanese Journal of Ophthalmology* 35:428, 1991) to my first description of the association of hypertelorism and narrow-angle glaucoma in ectomorphic women in their 60s. As for THE JOURNAL, it has also successfully completed its remarkable first decade in the face of myriads of incomprehensible and painfully distracting difficulties that always demanded the dearest of sacrifices. I hope and pray that its growing pains are now over.

In the first issue of the Journal, and then again in my July 1991 editorial, I proposed that we should place on our Editorial Board "a few capable, energetic, and devoted young physicians from each province" to work with me to get experience, and then transfer the publication of the JOURNAL to Pakistan. Editing is a very demanding and exacting job. To achieve any measure of respectibility, a journal needs an editor who is devoted and genuinely qualified with suitable background. I hope that the Society's leaders and membership will take a more assertive stand in determining the future of its journal.

■■■

OPHTHALMIC "PASTPOURRI"

Keratotomy for Myopic Astigmatism - A 100 Years Ago

A CENTURY AGO, on October 30, **1891,** William H. Bates, M.D., an assistant surgeon at the New York Eye Infirmary, successfully performed refractive keratotomy with a Graefe cataract knife on a 12-year-old girl's left eye and then on April 7, **1893** on a 23-year-old doctor's right eye, repeating the procedure on his other eye (left) the next day, to correct myopic astigmatism. After a six months follow-up, the girl's vision of the operated eye "certainly improved," and the vision of the doctor "without glasses is better," Bates reported. He offered the following views on the operation:

> "Incisions of the cornea are made at right angles to the most convex meridian. The amount of correction can be regulated by the number, depth, and location of the incisions.
>
> The operation promises a permanent effect. The risk to the eye is not great. It is not as dangerous an operation as the operation for iridectomy, which is usually performed without accident."

(123-949)

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 88.

-Editor

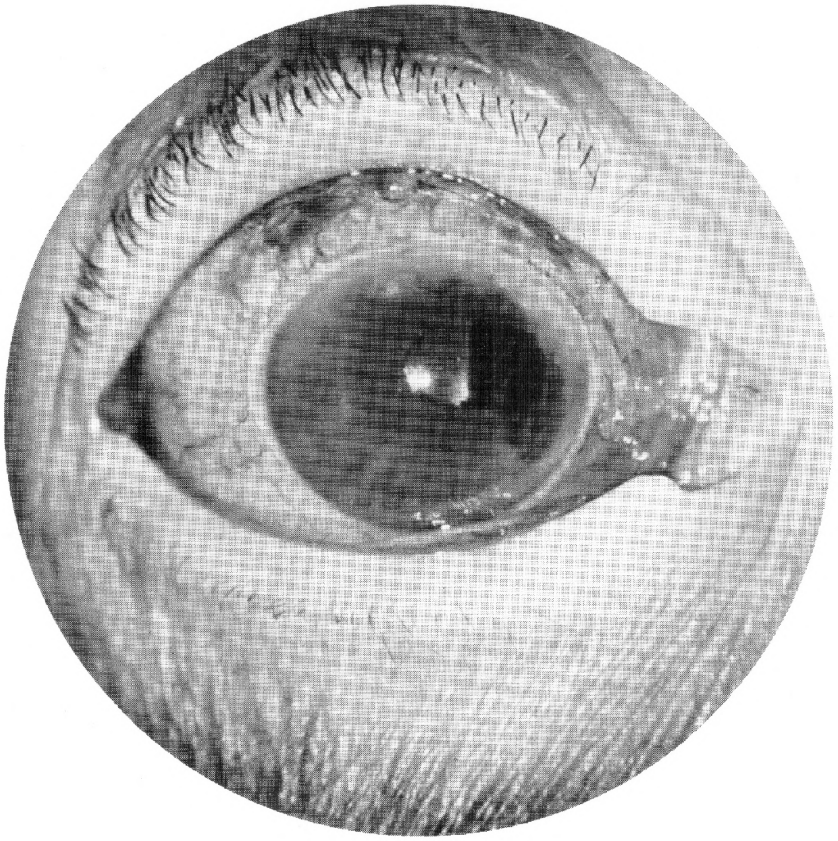

Figure 1

Figure 1: A 73-year-old woman had extracapsular cataract extraction with posterior chamber intraocular lens implantation on her right eye. On the first postoperative day, she had no complaints and her uncorrected visual acuity was 20/50 (6/15). External eye examination showed a dark area on the nasal iris with a very peculiar sharp vertical margin on its pupillary side. This lesion was not present preoperatively, and no bleeding had occurred in the anterior chamber during the surgery. Her intraocular pressure with applanation tonometry was 17 mm Hg in the operated eye. On ophthalmoscopy, the media and posterior pole were clear. On questioning, the patient informed the ophthalmologist that she had faithfully followed the postoperative instructions, including not sleeping on the operated side. The patient did not have diabetes, hypertension, or any other serious systemic problem.

The patient was placed on antibiotic-corticosteroid combination drops q.i.d., and closely followed in office. After a few days, the exact diagnosis of the problem became obvious on slit lamp examination.

CAMERA CLINICALS - *Continued*

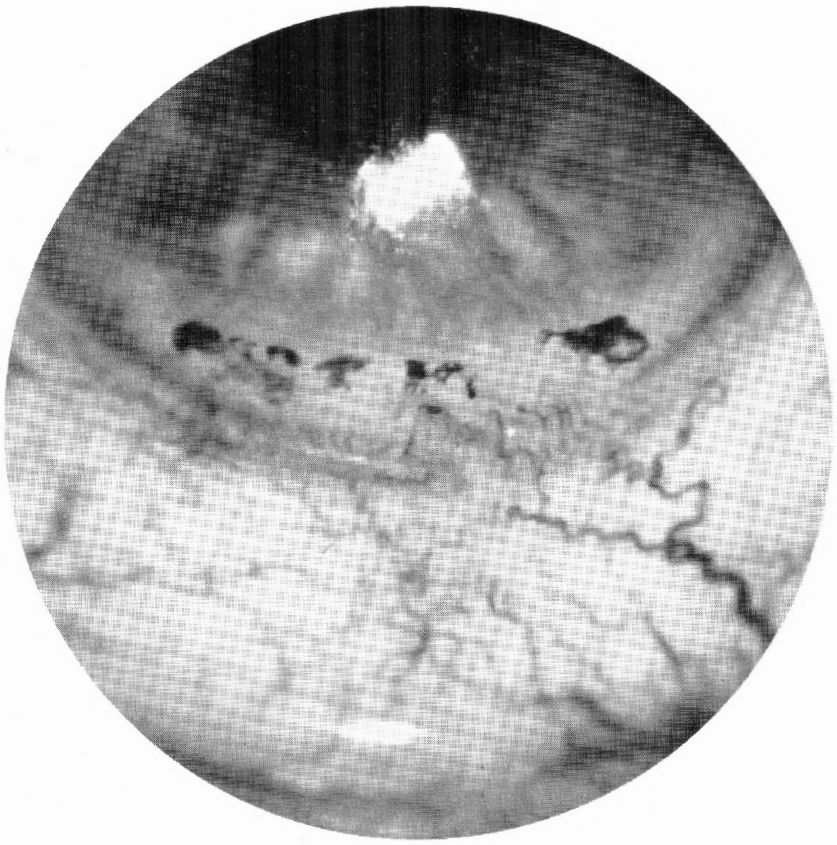

Figure 2

Figure 2 : A 36-year-old man came in with history of redness and pain of several days duration in his left eye. He had not used any medication for it. The patient claimed to be otherwise healthy.

On eye examination, his visual acuity was 20/20 (6/6) in the right eye and 20/30 (6/9) in the left eye without glasses. External examination showed a inflamed left eye with redness mainly affected the inferior fornix and the surrounding conjunctiva. The most interesting finding was the presence of lesions shown in Figure 2. His pupils were equal and normally reactive. On slit lamp examination, no abnormality was detected in the cornea, the anterior chamber, the lens, or the anterior vitreous except for what was seen on the external examination (Figure2).

He was placed on antibiotic-corticosteroid drops every two hours in the left eye, and referred to his family physician for systemic evaluation. In about two weeks the conjunctivitis completely cleared up and the drops were discontinued by tapering. However, the other findings of Figure 2 lingered for over another month. Eventually, they also spontaneously disappeared without any sequelae.

Painful Phantom Eye

S. Imtiaz Ali Shah, F.C.P.S.

ABSTRACT: During a period of one year and three months, I examined a total of 56 patients with empty orbits to assess the incidence of painful phantom eye after the loss of a globe, and to study the effectiveness of appropriate preoperative explanation and early postoperative fitting of an ocular prosthesis in the prophylaxis and treatment of this unusual and vexing condition. The patients were divided into two groups: Group 1 included 44 patients who had their eyeballs removed elsewhere, and Group 2 comprised of 12 patients who underwent enucleation or evisceration at our institution. Our patients had surgery for panophthalmitis, nine patients; crushed globe, one patient; retinoblastoma, one patient; and expulsive hemorrhage, one patient. Nine of these patients had evisceration and three had enucleation. Two out of 44 patients in Group 1 had symptoms of a painful phantom eye and responded well to proper fitting of a prosthesis and reassurance. None of the patients in Group 2 developed painful phantom eye, placing the overall rate of occurrence of a phantom eye at 3.6% in patients with a surgical loss of the globe. (Pakistan Journal of Ophthalmology 10:77-78, October, 1994.)

The perception by the patient of a painful "phantom" organ following the loss of a limb, a leg, a breast, or penis has been recorded and is a well-recognized entity in surgical practice.[1] However, the phenomenon of "phantom eye" is an unusual and rare occurrence following an enucleation of an eye. There are not many reports on it in the literature. In 1982, Awan[2] described a case of a 70-year-old woman who developed this rare compliction after the removal of her left eye that had developed intractable pain and glaucoma following central retinal vein occlusion. The eye was excised by the technique of intrascleral enucleation as devised and published by Awan.[3] In his article he also referred to another report of "phantom vision" by Cohn.[4]

After having recognized the painful phantom eye for the first time, I decided to conduct a study to assess the incidence of this peculiar and vexing complication among the enucleation patients in Pakistan. To my knowledge, this is the first study of its kind.

Materials and Methods

A total of 56 patients who had undergone surgical removal of a globe were included in this study, which extended over a period of one year and three months, from March 1992 to June 1993. These patients were divided into two groups.

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The patients (44) who had undergone enucleation or evisceration elsewhere and were first seen by us with an empty socket were placed in Group 1. The patients (12) who had enucleation or evisceration at our institution were placed in Group 2. The patients with congenital anophthalmia or phthisis bulbi who did not have enucleation were not included. A careful and strictly non-suggestive questioning of these patients and their responses was the basis of our conclusions.

The treatment schedule adopted for the patients with painful phantom eye comprised of proper fitting of ocular prosthesis and meticulous and thoughtful reassurance. To observe the true effect of these measures, analgesics, antibiotics and tanquilizers were not employed in treating any of the patients.

Results

Two out of 44 patients in Group 1 presented with painful phantom eye. These patients were anxious by temperament and were not satisfied with the previously prescribed tranquilizers and analgesics. They were provided with ocular prosthesis and enough time was spared for their reassurance. They responded well, and did not complain of the same symptom during the follow-up period.

None of the patients in Group 2 developed painful phantom eye. History of panophthalmitis was present in 21 out of 44 cases in Group 1. Remaining 23 patients did not come up with a conclusive history of the cause of the globe removal. In Group 2, nine patients with panophthalmitis underwent evisceration. Enucleation was done in a child with retinoblastoma

which was confirmed histopathologically. Orbital implant was placed in the muscle cone of the empty socket to prevent the threatening complication of contracted socket, as is recommended by many authors.[5,6] One patient with crushed globe underwent enucleation in an attempt to prevent sympathetic ophthalmitis in the other eye. Table 1 gives causes for the removal of globe in both groups.

Table 1
Reasons for globe removal
(56 cases)

Reason	Group 1	Group 2
Panophthalmitis	21	9
Retinoblastoma	-	1
Crushed globe	-	1
Expulsive hemorrhage	-	1
Unknown	23	-
Total	44	12

Discussion

Pain is a complex neural and psychological feeling, and not simply a sensory happening. This fact is well explained by the painful phantom sensation arising from parts of the body which no longer exist. Another important observation is that an individual with congenital absence of a limb has no phantom sensation,[1] indicating that the neural organization of conscious awareness of one's own body scheme requires a period of learning after birth. The incidence of phantom limb and pain is variable according to different reports, and perhaps even for different parts of the body as well. For instance, for its incidence is reported to vary from 5 to 30 per cent in amputation of the lower extremity.[7] The psychological makeup of the patient and the circumstances under which the loss of limb took place are perhaps also important factors. In a retrospective random survey of 5,000 war veterans with amputation of the lower extremity, 85 per cent had significant phantom symptoms, an astounding figure indeed. The authors felt that the lower incidence of these findings in other studies is due to the fact that in order to protect their credibility and relationship with their physicians, the patients simply stop complaining.[7] It is possible that similar reasons are behind the extreme rarity of the phantom eye. Awan[2] reports that Cohn's patients "never spontaneously spoke of their phantom eye."

In our patients, after globe removal, the phantom image seemed fixed in the patients' awareness. These patients develop pain in the phantom eye which may be unbearable and in many instance refractory to all therapy, obviating all the benefits of the surgical intervention. Awan[2] thus describes his frustration: "The delight the patient expressed after seeing the good cosmetic results of the operation was ruined when she began having an awareness that the eye was still there. Feeling the pressure of the globe, she said, was not as much a problem as her perception of the blind field of the excised eye. She complained that, although she knew the eyeball was not there, she still felt that the blind field was present and she said it interfered with her ability to see with her good eye. It has been almost a year and a half since the enucleation, but she continues to express her complaints. Every effort on my behalf has failed to alleviate the bizarre phenomenon. Fortunately, phantom eye is a rare phenomenon; I have found no references to it in the ophthalmic literature."

The phantom pain appears to have a central origin, with a great relation to patient's psyche. Physicians treating these patients with conventional pain killers turn helpless and usually rapport between the patient and his physician is lost. To solve this problem, the patient must be forewarned about the possible postoperative occurrence of painful phantom eye. In some cases, simple but thoughtful and attentive explanation is all that is required. In others, provision of a cosmetically matching prosthesis may do the trick.

Pain is a protective mechanism for the body, it is triggered in the body tissues and perceived in the thalamus. Phantom eye pain on the other hand is a paradox which serves no protective function. In present series this problem was dealt with an acceptable measure of success by giving careful preoperative explanation and by providing a good postoperative ocular prosthesis.

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A Rare Case of Choroidal Malignant Melanoma in Pakistan

M. Afzal Sheikh, F.C.P.S., Atiq Qureshi, F.C.P.S.

ABSTRACT: Malignant melanoma of the choroid is very rare in Pakistanis. A 43-year-old woman from Gujranwala had uneventful right extracapsular cataract extraction on January 20, 1993. On postoperative examination a retinal detachment was found, the further evaluation of which suggested the presence of a choroidal malignant melanoma of the inferoposterior fundus. The eye was enucleated on January 27, 1993, and the diagnosis confirmed by histopathologic studies. No systemic or local metastases were found after a follow-up of 18 months. (Pakistan Journal of Ophthalmology 10:79-81, October 1994.)

The medical literature from Pakistan does not tell us the incidence of malignant melanoma of the choroid. However, a case of malignant melanoma in a woman has been reported by Jahangir and Kadri.[1] One of us (Sheikh) has seen two more cases during his 19 years at the Mayo Hospital, one of the busiest medical centers of country. These non-reported cases were a man of 48 from Peshawar and another man in his fifties from Sialkot area. Both these patients travelled to the United Kingdom for further evaluation and underwent enucleation there. The present case is only the third case from our big center, supporting the extremely low incidence of this tumor in Pakistan.

Case Report

Mrs. S.B., a 43-year-old woman, was admitted on January 5, 1993 for cataract extraction. The history was that of a relatively rapid deterioration of vision in her right eye. She also mentioned off and on redness of the eye with dull pain. Her general health and build appeared normal, with no evidence of any systemic disease. There was no relevant family history.

On eye examination, the visual acuity was faulty light projection in the right eye and uncorrected 6/36 (20/120) in the left eye. The visual acuity in the left eye improved to 6/6 (20/20) through a pinhole.

The slit lamp examination showed a very thick cataract in the right eye. On ophthalmoscopy, the right fundus was difficult to examine, but the fundus was normal in the left eye. Intraocular pressure in the right eye was 10 mmHg and 19 mmHg in the left eye. Extraocular movements were normal and full.

The patient underwent extracapsular cataract extraction on January 20, 1993 by one of us (Q). Soon after the surgery, the fundus showed a solid retinal detachment. The fundus examination showed no retinal tear, but a subretinal mass 2x3 disc diameter in size was detected. A-scan ultrasonography suggested an inferoposterior choroidal malignant melanoma.

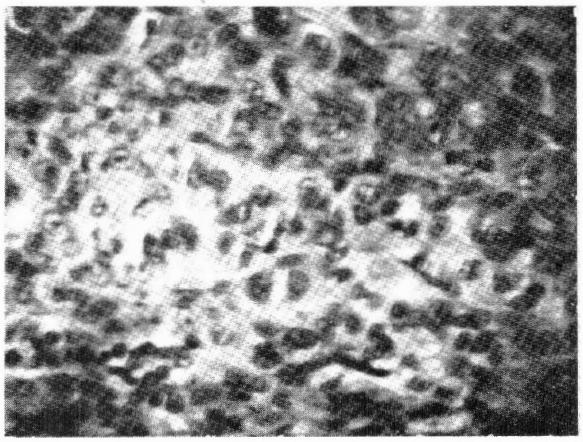

Figure 1 (Sheikh and Qureshi): Right eye. Malignant melanoma of the choroid. Spindle B and spindle A cells. (H&E x 200)

On January 27, 1993 eye was enucleated and submitted for histopathological studies to the Department of Pathology, King Edward Medical College, Lahore. The pathology report confirmed the diagnosis of a malignant melanoma of the choroid. (Figure 1). On gross examination, the whitish mass was occupying the inferoposterior fundus close to the macula. On hematoxylin and eosin staining, the tumor cells showed round and oval nuclei with some mitotic figures. There was no evidence of local spread, and the bone and liver scans on January 16, 1993 also showed no systemic spread. No metastases have been uncovered after an 18-month follow-up.

Discussion

Malignant melanoma of the choroid is the most common primary ocular tumor in adults in Caucasian races, but it interestingly is very rare in Pakistan.

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rarest in other races especially in Pakistani people. Yanoff and Fine[2] state that the ratio of its occurrence in the white and black populations of the United States is is 15:1. Shields and Shields[3] could find only two cases in the Asian patients in their review of 3,000 tumors. In the United States, the overall incidence of uveal malignant melanoma is 5 to 7 cases per million per year, 7.5 per million per year for the age-group over 20, and 21 per million per year over the age of 50; pointing out, thereby, that one out of every 2,500 white Americans will develop a uveal melanoma during his lifetime. In Pakistan, the incidence of malignant melanoma of the choroid is extremely low in the experience of most clinicians, but unfortunately no definite published data are available. The case of Jahangir and Kadri[1] is the only published case of malignant melanoma of the choroid in the Pakistani ophthalmic literature. There must have been other cases which unfortunately have not been documented. In 1990, Munirulhaq[4] found only 4.1% melanotic lesions in his world famous series of 1,400 cases of orbital tumors. Even this incidence is small when compared to that of Europe. In a recent report from the Institute of Nuclear Medicine and Oncology, Lahore (INMOL) on 198 cases of pediatric malignancies, no pigmented tumor was present.[5] However, malignant melanoma is extremely rare in children even in white races, though it may even be congenital.[1]

Non-rhegmatogenous exudative retinal detachment is a common (75% cases) feature of the malignant melanoma of the choroids,[2] and the possibility of this tumor must be entertained in all exudative retinal detachments. Our case is a good reminder of this. Exceptionally, a retinal hole, usually a horseshoe tear, may be present.[2,6] The retinal detachment secondary to a malignant melanoma of the choroid usually does not resolve spontaneously. However, Pitts, Awan, and Yanoff[7] have reported most unusual spontaneous resolution of such retinal detachment. They also described massive retinal fibrosis and a second small malignant melanoma within the retinal fibrosis, probably a result of intraocular seeding of the tumor, both even individually very rare occurrences. Hemosideric heterochromia iridum may also very rarely develop in eyes in which massive intraocular bleeding occurs secondary to a malignant melanoma of the choroid.[2,7,8] The histopathologic examination of our patient showed no such finding.

Malignant melanoma of the choroid is found in the age group of 50 to 60, and only rarely before the age of 25.[2] The clinical presentation of malignant melanoma is variable i.e., blurring of vision, vitreal hemorrhage (if near the optic nerve), retinal detachment, 83% of which occur as localized solid detachment.[2] Macular edema misdiagnosed as central serous chorioretinopathy or as cystoid macular edema.[9] Sometime these cases present themselves as ocular inflammation and hemorrhage.[10] Malignant melanoma of choroid may be misdiagnosed as case of only glaucoma, and 5% of these may present as absolute glaucoma and some even as painless blind eye. A patient with malignant melanoma may present with opaque media or postoperative choroidal detachment.[1] Although diagnosis of uveal malignant melanoma in straightforward cases is not difficult, it sometimes becomes almost impossible to differentiate it from a nevus, a melanocytoma, a hemangioma, pigment epithelial hyperplasia, intraocular hemorrhage, disciform macular degeneration, localized detachment of the retina, or, rarely, chorioretinal inflammation.

In our case, no spread was detected after an 18-month follow-up. The tumor may spread through sclera, invasion of the optic nerve, through vortex vein, and the extraocular spread is seen in 13% of cases.[2]

There is no familial history in our case. Previously, 14 families were on record where more than one familial member had uveal melanoma.[11] Very recently, 11 additional cases of familial uveal melanoma have been reported.[12] This addition has doubled the familial incidence reported in the literature.

Although there is male preponderance in large uveal malignant melanoma surveys quoted in literature,[13] in Pakistan, the sex incidence appears to be equal when we take into account the case reported by Jahangir and Kadri.[1] What is even more interesting is the similarity between their case and the patient reported here by us. Their patient was a 45-year-old woman, ours a 43-year-old woman; the lesion in their case was adjacent to the macula, so was in ours; the tumor in their case was 2.5 x 3.5 disc diameter, so nearly was in ours; and the tumor in their patient was spindle B type, so was the tumor of our patient.

Histopathologically, the uveal malignant melanoma cells were classified by Callender[16] in 1931. This classification with minor alterations is still popular for prognostic purposes. (1) Spindle A cell is the second rarest type (5%). These cells are cohesive, contain small, spindled nuclei with indistinct cytoplasm, no distinct nucleoli and extremely rare mitotic figures. (2) Spindle B cell is the commonest type (39%) has prominent spindled nuclei with distinct nucleoli. (3) Fascicular type (6%) are actually spindle cells that are arranged in palisading fashion. (4) Epithelioid, the rarest (3%) type, cells have no cohesiveness but distinct borders and have large oval nuclei with distinct nucleoli. (5) Mixed cell type is the commonest type (45%). The mixed type tumor is mostly composed of spindle-cells with some epithelioid cells. (6) Necrotic type (7%) tumor has cystic spaces left behind due to necrosis of areas in the tumor, due perhaps to some autoimmune mechanism.[2,16]

Despite so many types of presentation, a choroidal malignant melanoma may be entirely asymptomatic.[10] Blind eyes enucleated for some other reasons have shown incidence of malignant melanoma arising *de novo,* but an existing nevus may undergo malignant

changes.[14,15] In any event, sometimes it becomes necessary to differentiate between a large nevus and a small malignant melanoma of the fundus. Gass[17] considers the following five points to be suggestive of a malignant melanoma: (1) 3 mm or more elevation, (2) multiple orange pigment deposits, (3) serous retinal detachment when there are no drusen or choroidal neovascularization, (4) tumor's breaking through Bruch's membrane, and (5) fluorescein angiography showing multiple leaking pinpoints on the tumor surface. He also cautions against making a diagnosis of malignant melanoma when a lesion is only slightly elevated and less than five disc diameter in size. However, the patients with such a lesion should be closely watched.

The choroidal malignant melanoma in the patient reported here and in the one in the case reported by Jahangir and Kadri[1] were not large lesions. Over the years, the trend of treating malignant melanomas of the fundus has shifted away from enucleation. Some authorities have shown that in comparative terms the mortality rate before enucleation is 1% per year, but sharply rises to 8% per year after enucleation.[15] Many experts now reserve enucleation for tumors that are very large, cause severe secondary glaucoma and total retinal detachment in the involved eye, or show well documented fast growth. Jahangir and Kadri's patient's involved eye had lost central vision and, therefore, its enucleation was justified. In our patient eye had lost sight and also had retinal detachment. Shields and Shields[18] recommend radiotherapy by episcleral plaque, or photocoagulation by argon laser, or a combination of both for small- to medium-sized malignant melanomas of the choroid in eyes with useful sight. For case selection, he advises following criteria: (1) unequivocally documented growth in a small lesion. (2) A lesion suspected of growth and the margin of which is 2 mm of fovea or the optic disc. (3) A medium sized tumor that is 3 mm from the optic disc or the fovea.

The technique of photocoagulation with argon laser involves several sessions that are about three weeks apart. In the first session, two confluent rows of burns encircle the outermost margin of lesion. The laser settings usually are at 200 to 500μ spot size, 500 to 1000 mW power setting, and 0.5 second duration. Two or three similar treatments are repeated at three-week intervals. This is followed by four- to five-week apart heavy treatments of the surface of the tumor at settings of up to 1,500 mW with a duration of 1 to 1.5 seconds. Depending on the size of the tumor, it may require anywhere four to ten such treatments to destroy the whole tumor. The end point is the appearance of a depressed pigmented hypofluorescent scar, which is hypofluorescent on fluorescein angiography. In radiothrapy, a plaque of radioactive Cobalt^{60}, Iridium^{192}, Iodine ^{125}, or Ruthemium^{106} is placed in the episcleral area to deliver 8,000 to 10,000 $_{c}$Gy. The tumor area is located by transillumination. To be sure, ^{32}P test is performed just before the cobalt plaque is sutured in place. When ^{32}P test is negative, plaque is not used. Some authors recommend local resection of the tumor in carefully evaluated and selected cases.

Acknowledgement

We are thankful to Professor Mahmood Mahju for his guidance. Thanks are also due to the Department of Pathology, King Edward Medical College, to the staff of the fundus fluorescein angiography, ultrasound, and photography divisions, and to the Atomic Energy Department of Mayo Hospital for their help.

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Timing of Probing for Nasolacrimal Duct Obstruction in Infants and Children

Zia Mohammad, F.C.P.S. and M. Daud Khan, F.C.P.S.

ABSTRACT: We report the results of management of congenital nasolacrimal duct impatency in infants and children, with a special reference to a comparison of conservative therapy and surgical probing-irrigation. The incidence of nasolacrimal stenosis was 53 patients (1.7%) out of a total of 3,108 patients we examined. During the period from December 1990 to December 1991, 53 patients with epiphora and discharge received treatment. Spontaneous recovery ensued conservative treatment and massage in 33 (62.4%) of the patients. One probing-irrigation procedure relieved tearing in 15 (28.3%) of the patients in whom conservative approach had failed. The second probing-irrigation succeeded in another four (7.5%) patients. One patient (1.8%) did not respond even to the third probing-irrigation. Therefore, probing-irrigation succeeded 75% of the time on the first attempt and 20% of the time on the second attempt, and failed even on the third attempt 5% of the time in patients who did not respond to conservative therapy (15 or 38%). Probing was tried only in patients who were older than six months. (Pakistan Journal of Ophthalmology 10:82-84, October, 1994.)

Congenital obstruction of the nasolacrimal system is most common at the level of valve of Hasner, and it leads to epiphora and accumulation of mucopurulent secretions.[1,2] Although it opens spontaneously during the first year of life,[3] in 5% to 15% of cases the obstruction persists and requires surgical intervention. Probing of the nasolacrimal duct is highly effective in relieving epiphora and discharge in those patients who do not clear spontaneously with medical treatment and massage.[4] The obstruction and the resultant continued tearing and discharge are not only unsightly and a potential source of ocular infection, they also are a constant source of anxiety for the parents. Therefore, we probe and irrigate the nasolacrimal passages to clear the symptomatic illness before one year of age.

Patients and Methods

We examined 3,108 patients during the period from December 1990 to December 1991. Out of these, 53 patients (1.7%) were found to be suffering from congenital nasolacrimal duct obstruction. On first visit, these patients were put on topical antibiotics, and the parents were instructed about the hydrostatic massage at the sac area. We reexamined the patients after two to three weeks. If the condition showed no improvement, the patient was either treated surgically, when more than six months of age, or the medical treament was continued when the patients was under the age of six-month.

In infants older than six months who did not respond to conservative treatment, probing and syringing were performed under a brief halothane general anesthesia. A punctum dilator was used to dilate the lower punctum. Then, with a 23 gauge lacrimal cannula on a syringe, the passages were irrigated with saline to wash out any debris from them. A larimal probe size 0 or I (depending on the age of the patient) lubricated with antibiotic ointment was then passed initially vertically, then horizontally, and finally downwards and slightly posteriorly. The obstruction was usually felt when 3/4 of the probe was in. It was then taken out and syringing repeated. Antibiotics drops were instilled and the parents were advised to continue treatment for another two weeks. At the end of this period, the patients ere reexamined to evaluate the results of the surgical treatment.

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Results

Of a total of 53 patients with congenital nasolacrimal duct obstruction, 41 (77.3%) had unilteral obstruction, while 12 patients (22.6%) had both nasolacrimal ducts blocked. Thirty patients (56.6%) were 0-6 months of age and three patients (5.6%) above one year of age.

Table 1
Age and sex distribution of patients who responded to conservative therapy
(33 Cases)

Age	Male	Female	Total	Percentage
0-6 months	10	15	25	47.11%
7-12 months	5	2	7	13.20%
Over 1 year	0	1	1	1.80%

Table 2
Patients requiring probing
(20 Cases)

Age	Patients	Results
0-6 months	4	All cured
7-12 months	14	All cured (4 after second probing)
Over 1 year	2	One cured, one unsuccessful

Thirty-three patients (62.2%) had spontaneous relief from tearing and discharge with medical treatment and massage. These included 25 patients (47.2%) among the 0-6 months age group, seven patients (13.2%) among the 7-12 months age group and one patient (1.8%) among the above one year age group (Table I).

Twenty patients (37.7%) required probing. No patient was probed before 6 months of age. Probing cured tearing and discharge in 15 patients (75%), while five patients (25%) required repeat probing. Second probing relieved four patients (20%) of epiphora and discharge. One patient who was older than one year remained symptomatic even after the third repeat probing and irrigation. (Table II).

Discussion

Impatency of the nasolacrimal duct is a common congenital anomaly even in full term infants and is due to delay in the normal development of the system. It is present in 2% to 4% of all infants at birth, and usually results from an obstruction at the valve of Hasner in the lower nasolacrimal duct.[1]

Congenital obstruction may be explained by several mechanisms. Anomalous canalization or failure of fusion between the ocular and nasal cords is the most common explanation. Other suggested mechanisms are abnormal folds in the mucosa and the abnormal cartilaginous or bony development.[5]

In most instances the problem resolves spontaneously or with medical treatment and massage. Surgical intervention in the form of probing and irrigation of nasolacrmal passages is required only in 1% or 2% cases. Lacrimal sac distention is not a common feature but it can develop during the neonatal period, resulting in congenital dacryocystitis and congenital mucocele, which is probably the only indication for immediate lacrimal duct probing in the neonatal period.[6]

Probing of the nasolacrimal duct is a highly effective method for relieving congenital nasolacrimal stenosis in patients in whom the obstruction fails to clear spontaneously. There is, however, a controversy concerning the age at which probing should be performed. Some authors advocate probing as early as four months of age after a trial of topical antibiotics and massage have failed.[7] Others recommend waiting to see if there is spontaneous clearance of the obstruction.[4] If the blockage does not clear the age of by 12-14 months, probing is performed on an outpatient basis under general anesthesia.

Our therapeutic philosophy is to probe and irrigate anytime after six months, but preferably before one year of age. The reasons for this are:

1. The rate of spontaneous resolution is high before six months of age (Table I).
2. Continued tearing and discharge is unpleasant for the patient and a source of constant anxiety for the parents.
3. Early probing reduces the likelihood of secondary cellulitis, which occasionally can occur from a chronically obstructed nasolacrimal duct, and which may contribute to the failure of subsequent probing.

In our series of 53 patients, 30 (62.2%) patients had spontaneous recovery with antibiotics and massage. The spontaneous recovery was high in the 0-6 months age group (47.2%) and dropped to 1.8% in the age group above one year.

Twenty of our patients (37.7%) required probing and irrigation. Initial probing cleared the epiphora and discharge in 15 (75%) of these patients. Five of these patients (25%) required repeat probing. Second probing relieved epiphora and discharge in four patient (20%), while one patient out of these (5%) did not respond even after third repeat probing (Table II).

Robb[4] and other workers have achieved 90% cure rate on initial probing, raising to 96% on repeat probing while Mittelman[8] achieved an overall success rate of 87%. Our findings thus substantiate the results of the above mentioned workers.

According to Robb,[4] the success is not related to the patient's age at the time of probing. He attributes failures to some unspecified nasolacrimal duct anatomy, and believes that the first procedure to be tried for persistent nasolacrimal duct obstruction in the first five years of life should be simple probing.

Mittelman,[8] however recommends probing for nasolacrimal duct obstruction before 11 months of age. According to him the success rate is higher in those below one year of age (95%) as compared to those above one year of age (73%). He argues that without the constant flow of tears in the nasopharynx which keeps the lacrimal pathways open, the walls of the bony canal may narrow, so that even after the offending membrane is surgically ruptured, the ostium may remain effectively blocked by unchecked bony overgrowth.

Our clinical impression is that age at the time of probing is an important factor in determining the final outcome. In our single patient who could not be relieved of epiphora, the age was above two years. It may be that the persistent infection in the nasolacrimal duct consequent to untreated obstruction results in fibrosis that leads to worsening of the obstruction.

Conclusion

We agree with the general recommendation that all infants with congenital nasolacrimal duct obstruction be conservatively treated with antibiotics and hydrostatic massage till the age of six months. If not relieved, careful probing be performed before the infant is one year of age to achieve excellent results.

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■■■

OPHTHALMIC "PAST-POURRI"

A Clear Discission, Myopic, or a Good Decision for Myopics

These days many ophthalmologists around the world are showing a heightened enthusiasm toward clear lens extraction for treating high myopia. (Last year, a patient of mine, 12-year-old boy and his parents were delighted with results of a clear lens extraction for his myopia of nearly 20 diopters. -Editor)

A little over a hundred years ago, F. Fukala, a famed Czech ophthalmologist of last century from Karlsbad (now called Karlovy Vary) promoted discission or extraction of the lens for management of high myopia with some degree of success. He presented following opinions about this operation at the 8th International Ophthalmological Congress, held at Edinburgh on August 7 to 11, **1894:**

1. "Discission with subsequent paracentesis is the best method of operating."
2. "Any age up to forty is suitable for the operation."
3. "Cases with marked atrophic choroiditis and detachment of the retina are to be excluded."
4. "Immediate extraction of the transparent lens is a procedure to be rejected on account of the danger of causing a detachment of the retina."

(123-94-466)

Initial Experience with Intraocular Lens Implantation at the Civil Hospital, Faisalabad

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ABSTRACT: The first extracapsular cataract extraction with intraocular lens (IOL) implantation at the Civil Hospital, Faisalabad took place in January 1987. By the end of 1993, a total of 296 IOL implantation procedures had been performed. The ratio of posterior chamber versus anterior chamber IOL implantation was 5:1 (151 cases to 31 cases). The surgery was performed by the professor on 116 patients, by the associate professor on 108, and by the junior staff and trainees on 72 patients. In the overwhelming majority of cases (238) surgery was performed under local anesthesia, and only about one-fifth of the patients (58) required general anesthesia. The final postoperative visual acuity was 6/12 (20/40) or better in 241 (81.5%) patients. The leading postoperative complications were uveitis and/or glaucoma in 19 (6.5%) patients. The incidence of postoperative infection was 0.68% (two cases). The overall highly satisfactory functional results have sharply increased the popularity of this technique, more IOL implantation were done in the first six months of 1994 than the total number of IOL implantations done in the previous six years, and it is now a routine procedure in the teaching hospitals as well as in the private clinics of Faisalabad. (Pakistan Journal of Ophthalmology 10:85-87, October, 1994.)

In January 1987, the Faisalabad Ophthalmological Society arranged the first live demonstration of extracapsular cataract extraction (ECCE) with intraocular lens (IOL) implantation at the Civil Hospital. In 1988, six independent cases were done at Civil Hospital, and only two more in 1989. However, from 1990 onward graph for number of these surgeries sharply went up due to an improvement in technical facilities, surgeon confidence, and general public awareness. Eighteen cases were done in 1990, 62 cases in 1991, 92 cases in 1992, and 116 cases in 1993. Hence, in six years extending from 1987 to 1993, a total of 296 cases were done at the Civil Hospital.

This report presents an analysis of these cases with special emphasis on results and postoperative complications.

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Methods and Materials

All patients who underwent extracapsular cataract extraction (ECCE) with intraocular lens implantation, posterior or anterior chamber, from January 1, 1987 to December 31, 1993 at the Civil Hospital, Faisalabad, were included in this study. The total number of patients came to 296 during these six years. All patients were carefully, even overcautiously, selected for intraocular lens implantation.

Every patient had a complete routine eye examination and careful preoperative systemic evaluation. We employed Sanders,[1] Retzlaff,[2] and Kraff[1] method (SRK formula) to determine the power of the lens implant in all cases. In the beginning, we mostly employed general anesthesia, it was gradually switched over to local block with a mixture of equal amounts of solutions of lidocaine HCl (Xylocaine^{R}) 2% and 0.75% bupivacaine HCl (Marcaine^{R}).

SURGICAL TECHNIQUE: We followed the classical method of ECCE, but with certain modifications and changes due to limitations of the locally available products, such as the use of Ringer's solution instead of BSS or BSS PLUS , methylcellulose of various

brands instead of Healon[R], a different type of irrigation-aspiration (I/A) cannula, intraocular lenses of various types of C-loop, J-loop and slant haptics by different manufacturers, such as Allergan, Alcon, Domilens, Rayner; O.R.C., etc. The usual reasons for these changes were the difficulty in availability of different products, cost, etc. The postoperative regimen was routine and similar in all patients. The follow-up visits and their findings were properly recorded for analysis at the conclusion of the study.

Results

The number of cases went up gradually upto 1989, but rose sharply in 1990, 1991, 1992 and 1993. Ratio of urban to rural patients was 6 to 1 (156/25); male to female, 3 to 1 (133/48); and local to general anesthesia 3 to 1 (139/42). The youngest patient was 5 and the oldest 85. The ratio of posterior chamber versus anterior chamber IOL was 5 to 1 (151/31). Ten of the cases had bilateral IOL implants. Uveitis (8) and glaucoma (9) were the most frequent complications.

Table 1
General data by the year for six years, 296 total cases

Data	6-yr total	1993	1992	1991	1990	1989	1988
Total cases	296	116	92	62	18	2	6
PC/AC IOL	157/39	107/9	75/17	54/8	14/4	2/0	5/1
Surgeons:							
Professor	116	34	35	26	13	2	6
Assoc. Prof.	108	42	42	21	3	0	0
Asst. Prof.	41	18	7	15	1	0	0
Sen. Regt, others	31	22	8	0	1	0	0
Sex:							
Male	211	78	63	47	16	2	5
Female	85	38	29	15	2	0	1
Area:							
Urban	245	89	75	58	16	1	6
Rural	51	27	17	4	2	1	0
Anesthesia:							
Local	238	200	79	43	3	2	4
General	58	16	13	19	8	0	2

Table 2
Age distribution by the year

Age in yrs.	6-year total	93	92	91	90	89	88
10 or less	14	7	3	4	0	0	0
11-20	41	15	11	7	7	1	0
21-30	30	8	11	6	3	1	1
31-40	32	16	10	5	0	0	1
41-50	72	32	25	13	1	0	1
51-60	64	27	25	9	1	0	2
61-70	33	10	6	10	6	0	1
71 and above	10	1	1	8	0	0	0

Table 3
Final visual acuity after six months follow-up

6/9 to 6/6	30	15	10	5	0	0	0
6/12 to 6/9	109	40	36	21	7	1	4
6/36 to 6/12	99	30	31	30	9	0	2
6/60 to 6/36	26	12	8	3	2	1	0
HM to 6/60	10	7	1	2	0	0	0
Did not return	19	12	6	1	0	0	0

Table 4
Postoperative complications

Complication	Total	In 1993	In 1992	In 1991	In 1990	In 1989	In1988
Uveitis	8	3	2	1	1	0	1
H.Ge	3	1	1	1	0	0	1
Glaucoma	9	4	2	3	0	0	1
Infection	2	1	1	0	0	0	1
Wrong calculation	1	0	0	0	0	0	1*

*Explanted because of high postoperative myopia.

Two patients (0.68%) developed postoperative infection. In one patient the miscalculation of IOL power gave very high myopia and the implant had to be removed. The overall functional results were good. In 81.5% (241) of the patients the final visual acuity six months postoperatively was 6/12 (20/40) or better.

Table 1 to Table 4 give the complete analysis.

Discussion

Extracapsular cataract extraction with posterior chamber IOL has become, like in the rest of the world,[3] the most popular surgical procedure in Pakistan, if the patient can afford it. The trend has also followed suit in Faisalabad, at the Civil Hospital as well as in the private sector. It is now a well-known procedure in experienced hands, and some ophthalmologists are reporting highly satisfactory outcomes in situations where any hope of recovering useful vision was not possible.[4]

The most commonly used posterior chamber IOL implants in our study were the C-loop and modified J-loop. To compile and analyze the results we did not have the facilities of computers, and the record keeping and follow-ups were not as ideal as we would want, and, above all it was just the start. We had to learn the new technique, which took quite some time. We had to arrange for some costly pieces of equipment, such as operating microscope, A-scan ultrasound to measure the axial length of the eyeball, and modern keratometers to measure the K readings of the cornea. Additionally, microsurgical operating instruments couldn't be easily arranged. This and other drawbacks were overcome in due time. To convince the patients to undergo a totally new procedure was another difficult chore, because a large majority of our population is still illiterate.

Our results show urban/rural ratio as 6/1, inspite of the fact that more people live in the villages. There are several reasons for it: per-capita income is very low in Pakistan and many patients cannot afford the cost of an IOL and other related items, so the procedure still is beyond the scope of a common poor man, which makes up the 80 to 90 per cent of the population. The IOL and its related items such as methylcellulose, Miostate, etc. are imported items, and their steady availability in the market and no uniformity in prices are huge problems. So we had to use whatever brand was available in the market. From the point of view of family provider, Pakistan is a male dependent society, and therefore the loss of sight in a man is more urgent for a family, and this explains the male/female ratio of 3/1 in our study. Facilities for general anesthesia are limited and costly, and this also was one of the major reasons for our patients to prefer local anesthesia, and, therefore the local to general anesthesia ratio of 3/1.

The use of intraocular lens implants in children is now slowly gaining popularity, and authors are reporting good results.[5] However, the IOL implantation in children still belongs in the realm of a subspecialty, and it is better to leave this procedure to the more experienced colleagues. Three major difficulties in pediatric implantation are different and severer response of the pediatric ocular tissues, the growth of the eye, and the poor cooperation from the patient for postoperative evaluations. Regarding the lowest age, the youngest patient in our series was 5.

Because of our very carefully selected patients, complications in our series had a very acceptable rate. Visual acuity results as well were very satisfactory. These encouraging results are increasing the popularity of IOL implantation at a very high speed in Faisalabad and surrounding area. So much so that the number of implants done in the first six months of 1994 is greater than the total number of IOL implantations done in the previous six years.

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Figure 1

Postsurgical Vertical Hyphema

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ABSTRACT: A 73-year-old woman had an uneventful extracapsular cataract extraction with posterior chamber intraocular lens implantation on her right eye. She was advised not to sleep on her right side. On the first postoperative day, she had hyphema with clotted blood. The clot was attached to the nasal iris but had a sharp vertical pupillary border. This peculiar shape of hyphema was due to the fact that during the exudation of blood from a nasally located pupillary microhemangioma, the patient had slept on her left side. This caused the blood to gravitate in the nasal half of the anterior chamber instead of the usual lower half, imparting the clotted blood a sharp vertical pupillary margin and giving it the appearance of a saucer standing on its edge. A microhemangioma of the pupillary margin became visible on slit lamp examination after the hyphema absorbed in a few days, without any adverse consequences. (Pakistan Journal of Ophthalmology 10:75, 88 October, 1994.)

Figure 1 is a photograph of the right eye of a 73-year-old woman on the first postoperative day following an extracapsular cataract extraction. The dark lesion with a sharp pupillary margin is a hyphema blood clot attached to the nasal half of the iris. The patient had excellent vision without any other symptoms. No treatment was prescribed excepting the routine q.i.d. use of antibiotic-steroid combination drops. In a few days the clot became completely absorbed.

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The peculiar shape of the hyphema clot was on account that patient followed the advice not to sleep on the operated side. The bleeding probably occurred while the patient was sleeping on her left side, with the natural consequence that the blood gravitated into the nasal anterior chamber, and when clot formed the flat surface of hyphema became the sharp vertical pupillary border of the clot.

The source of bleeding was a microhemagioma of the nasal pupillary border, and these lesions are known to rarely cause even sponaneous small hyphemas.[1]

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Figure 2

Spontaneous Intra-Corneal Hemorrhage

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ABSTRACT: A 36-year-old man developed acute conjunctivitis that mostly involved the inferior fornix of the left eye. Afer a few days when he saw the ophthalmologist, multiple blot hemorrhages were seen in the superficial layers of the peripheral inferior clear cornea. Although conjunctivitis resolved in two weeks with antibiotic-corticosteroid drops, the corneal hemorrhages took over three times as long to fully clear. No residual corneal staining was noted on biomicroscopy. (Pakistan Journal of Ophthalmology 10:75,88 October, 1994.)

Figure 2 shows multiple superficial stromal hemorrhages in the inferior cornea of the left eye of a 36-year-old man with acute conjunctivitis. The conjunctivitis cleared up within two weeks, but the corneal hemorrhages took over six weeks to resolve without any residual corneal staining under a slit lamp.

Bleeding into the cornea is rare, and when it does occur, it is seen with subconjunctival hemorrhage, or in interstitial keratitis with active blood vessels.[1]

Reference

1. Duke-Elder, S and Leigh, AG: Diseases of the Outer Eye. In Duke-Elder, S (ed): System of Ophthalmology, vol 8, part 2. St. Louis, The C.V. Mosby Company, 1965, p 982.

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For reprint information see the above article.

Book Reviews

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

ATLAS OF CLINICAL AND SURGICAL ORBITAL ANATOMY. By Jonathan J. Dutton, **1994.** Illustrations by Thomas G. Waldrop, MSMI. W.B. Saunders Company, The Curtis Center, Independence Square West, Philadelphia, PA 1910, USA. Hardcover, 254 full size pages, 264 illustrations (139 in full color), index. Price: US$150.

The author of *Atlas of Clinical and Surgical Orbital Anatomy* has the most suitable and complete background to teach anatomy. Before becoming an oculoplastic surgeon, he was a zoologist and vertebrate biologist with special interest in vertebrate paleontology and mammalian evolution. His background includes training and teaching at Harvard, Princeton, Washington, and now Duke, where he holds the position of Professor of Ophthalmology. Mr. Waldrop is a noted illustrator with Master of Science in Medical Illustration from the Medical College of Georgia. Add to it Saunders, the legendery name in medical publishing, and one may rest assured that the outcome of their combined efforts couldn't be less than an ideal composition on its subject. The *Atlas* certainly fulfils the highest of expectations.

The material is presented in ten chapters, namely Osteology of the Orbit, The Muscles of Ocular Motility, Orbital Nerves, Arterial Supply to the Orbit, The Venous System of the Orbit, The Connective Tissue System, The Eyelids and Anterior Orbit, The Lacrimal Systems, Histologic Anatomy of the Orbit, and Radiographic Correlations. Authors have adopted the highly effective technique of first giving a comprehensive picture of an individual orbital structure system, such as extraocular muscles, orbital arteries, etc, and then describing through cross sections its intimate and full anatomic interrelationships with the orbital contents. Chapter 9 on histologic anatomy is perhaps the best one is likely to find anywhere in the ophthalmic literature. It utilizes black and white sagittal and coronal sections to give the reader a clear guided tour of the orbit. The color illustrations by Waldrop are so superior that one almost gets the urge to pick a structure and roll it between the fingers.

The book has all the qualities of a complete and effective educational tool: the concise and lucid text, the high quality and excellently reproduced illustrations, the adequate number of references that are cited in the text, the comprehensive index, etc. "The book is intended as a visual atlas." And a visual feast it is. A feast that can nourish every medical mind.

The authors "hope that this volume will enhance the teaching of orbital anatomy for the clinician." They have impressively achieved this aim, and the *Atlas* is a "must have" for ophthalmologists, otolaryngologists, plastic surgeons, and neurosurgeons.■ *–KJA*

ATLAS OF INTRAOCULAR TUMORS. By George E. Sanborn, John R. Gonder, and Jerry A. Shields, **1994.** W.B. Saunders Company, The Curtis Center, Independence Square West, Philadelphia, PA 1910, USA. Hardcover, 297 full size pages, index, color and black and white illustrations. Price: US$160.

This publication is not to be confused with another text of almost identical title, *Intraocular Tumors. A Text and Atlas,* by one of the authors of this atlas, Jerry A. Shields, and his spouse, Carol L. Shields, and which was marketed two years ago by the same publisher. Nontheless, both of these publications are of extraordinary quality and, in fact, complement each other. Whereas Shields and Shields is an exhaustive, authoritative, and perhaps the most comprehensive modern text on intraocular tumors and their management, the *Atlas* strictly is a diagnostic tool of exceptional value.

The contents of *Atlas* are devided into eight chapters: Iris; Ciliary Body; Retina; Choroid; Optic Disc; Retinal Pigment Epithelium; Vitreous; and Sclera. In the chapter on iris, the varieties of tumors involving it and lesions that should be differentiated from them, such as cysts, foreign bodies, granulomas, atrophies, etc. are depicted by excellent color photographs that crisply delineate the clinical features. Goniophotographs and ultrasonographs are combined with direct snaps of the ciliary body tumors to fully clarify the clinical features of these tumors in the second chapter. The chapters on retina and the optic nerve present the clinical features of retinoblastoma, retinocytoma, different hamartomas, various types of hemangioma, arteriovenous malformations, Coats' disease, arterial macroaneurysms, and ocular toxocariasis. Here the authors employ, in addition to the excellent color photographs, fluorescein angiographs, ultrasonographs, and CT scans. The same scheme is followed in the next chapter on choroidal lesions. The color photographs of the choroidal osteoma make one of the most impressive features of this chapter. Four conditions, acute lymphocytic leukemia, reticulum cell sarcoma, asteroid hyalosis, and hyperplastic primary vitreous comprise the chapter on vitreous. The inflammatory conditions of the sclera constitute the concluding chapter of the *Atlas.*

Very lucid and only essential text, which avoids unnecessay wordiness, accompanies the figures. In the established tradition of Saunders, the book is exquisitely printed on a very high quality paper.

The authors' purpose is to provide the clinician with "a source of illustrations that may assist in arriving at the correct diagnosis." They succeed in their aim, and thereby make *Atlas* highly useful for all physicians and surgeons.■■■ *–KJA*

Abstracts from Elsewhere

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

OPHTHALMIC SURGERY

SUBCONJUNCTIVAL THC:YAG LASER SCLEROSTOMY UNDER A PARTIAL-THICKNESS CORNEAL FLAP. Fliegler, RJ, Mastrobattista, J, Luntz, MH. The authors performed 16 subconjunctival sclerostomies under a partial-thickness corneal flap to evaluate the safety and effectiveness of THC:YAG laser sclerostomy in reducing intraocular pressure (IOP). The reported three and six month follow-up results in their patients, all of whom had intractable glaucoma resistant to previous surgical treatment. The mean IOP decreased from a pretreament value of 30 mm Hg to a posttreatment value of 14 mm Hg at three months. Fifty-seven percent of the treated eyes achieved an IOP below 20 mm Hg at six months. A significant reduction in glaucoma medications is also reported among the successes, and complications were minimal. *(Ophthalmic Surgery 25:28-33, 1994) Reprint requests to M.H. Luntz, MD, 121 E 60th St, New York, New York 10022*

HYDROEXPRESSION OF SUBLUXATED LENSES USING A GLIDE. Blumenthal, M, Kurtz, S, Assia, EI. The authors evaluated 15 patients (20 eyes) who underwent a variety of operations during the past eight years to remove a subluxated lens. In six of these eyes, a new technique, featuring an anterior chamber maintainer and a plastic glide, was used for intracapsular cataract extraction (ICCE). The results achieved in these eyes were compared with those in eight eyes in which cryo extraction was used, in one in which pars plana lensectomy was used, in four in which aspiration of lens material and peeling of the capsule was used, and in one in which a viscoelastic material and spatula were used. Using the glide, the lens is extracted through a scleral tunnel incision or a limbal opening. The length of the opening is somewhat smaller than the diameter of the lens and is significantly smaller than that used in traditional ICCE. The visual outcomes achieved with these various techniques were essentially identical. The proposed technique is simple and relatively safe for these complicated cases. *(Ophthalmic Surgery 25:34-37, 1994). Reprint requests to Ehud I. Assia, MD, Goldschleger Eye Institute, Sheba Medical Center Tel-Hashomer 52621, Israel.*

CRYOTHERAPY FOR RETINOPATHY OF PREMATURITY: A HISTOPATHOLOGIC COMPARISON OF A TREATED AND UNTREATED EYE. Vrabec, TR, McNamara, JA, Eagle, RC, Tasman, W. The authors studied the eyes a female infant born at 28 weeks gestational age, weighing 570g, who had developed retinopathy of prematurity (ROP) which progressed to threshold disease in one eye. Transscleral cryotherapy of the avascular peripheral retina resulted in complete clinical regression of the active ROP in that eye. The fellow eye continued to manifest subthreshold ROP. Histopathologic findings included a striking reduction of the cryotreated retina to a thin glial scar, with associated retinal pigment epithelium atrophy, denudation of Bruch's membrane, and extensively atrophy of the underlying choroidal vasculature, predominantly the choriocapillaris. *(Ophthalmic Surgery 25:38-41, 1994). Reprint requests to J Arch McNamara, MD, Retina Service, Wills Eye Hospital, 900 Walnut St, Philadelphia, PA 19107.*

NORMAL EYELID CREASE POSITION IN CHILDREN. Zamora, RL, Becker, WL, Custer, PL. The authors measured the following proportions of upper eyelids in 33 children: lashline-lid crease (LC), lashline-lower brow (LB), vertical fissure, and horizontal fissure. Age-matched mean measurements (mean LC/LB ratio + 0.33) for 26 white vs 7 black children, and for 16 males vs 17 females were not significantly different. However, the mean ratio in 15 preschool and school-age children was significantly greater than that in 18 infants and toddlers (less than 4 years old) ($P<.01$). They concluded that the normal eyelid crease position in infants and toddlers is slightly less than, and, in older preschool and school-age children, slightly greater than this distance up the lashline. Thus age may determine surgical placement of the eyelid crease in children with indistinct creases. *(Ophthalmic Surgery 25:42-47, 1994). Reprint requests to Philip L. Custer, MD, One Barnes Hospital Plaza, W. Pavillion Suite 17305, St. Louis, MO 63110.*

LASER INDIRECT OPHTHALMOSCOPE PHOTOCOAGULATION IN AN INCUBATOR FOR THE TREATMENT OF RETINOPATHY OF PREMATURITY. Tanaka, S. This author reports on argon blue-green or diode laser indirect ophthalmoscopic photocoagulation through the transparent wall of an incubator to treat threshold retinopathy of prematurity in two premature infants who were in poor systemic condition and could not be treated out of the incubator. Despite technical difficulties posed in one or both cases by their lateral position, small pupils, persistent tunica vascuosa lentis, and hazy cornea,

there were no systemic complications, and the retinopathy regressed in both cases. *(Ophthalmic Surgery 25:48-50, 1994) Reprint requests to Sumiyoshi Tanaka, MD, Department of Ophthalmology, University of Tokyo School of Medicine, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.*

POSTERIOR CAPSULE OPACIFICATION IN EXTRACAPSULAR CATARACT EXTRACTION AND THE TRIPLE PROCEDURE: A COMPARATIVE STUDY. Dangel, ME, Kirkham, SM, Phipps, MJ. The authors studied 330 consecutive cases to compare the incidence of posterior capsular opacification after extracapsular cataract extraction or phacoemulsification and posterior chamber intraocular lens insertion (279 cases) with the incidence of posterior capsular opacification following triple procedure, i.e. combined corneal transplantation, cataract extraction and posterior chamber intraocular lens implantation (51 cases).

Opacifications developed less frequently following the triple procedure than after cataract extraction alone (9.8% vs 36.2%, respectively; P<.001). Opacification also developed later following the triple procedure. The mean length of time before capsular opacification after cataract extraction alone was 24.3 months, while a mean of 45.6 months elapsed before opacification developed after the triple procedures (P<.05). Delineation of the mechanisms contributing to these outcome differences may provide a means of reducing the incidence of or preventing posterior capsule opacification after cataract surgery. *(Ophthalmic Surgery 25:82-87, 1994) Reprint requests to Steven M. Kirkham, MD, Ohio State University Hospitals Clinic #5132, 456 W Tenth Ave, Columbus, Ohio 43210.*

LATE ONSET ENDOPHTHALMITIS ASSOCIATED WITH FILTERING BLEBS. Phillips II, WB, Wong, TP, Bergren, RL, Friedberg, MA, Benson, WE. The authors reviewed a series of 71 consecutive cases of late onset endophthalmitis (defined as onset of symptoms at least two weeks after surgery) to determine the association of this entity with glaucoma surgery filtering blebs and to identify any predisposing factors. Sixteen cases were associated with filtering bleb and two with inadvertent blebs following cataract surgery. Onset of endophthalmitis ranged from 24 days to 20 years after surgery (mean, 6.9 years). Possible contributing factors included trauma, vitreous wicks, and bleb leak. Twelve cases were culture-positive, with 5 cases of *Staphylococcus* epidermidis; 2, *Staphylococcus aureus*; 4, *Streptococcus*; and 1, *Pseudomonas*. There were no cases of *Hemophilus*. The more virulent organisms were generally associated with a poor visual outcome. The organisms recovered in this series were similar to those found in postoperative endophthalmitis not associated with filtering blebs. *(Ophthalmic Surgery 25:88-91, 1994). Reprint requests to William E Benson, MD, Retina Service, Wills Eye Hospital, 900 Walnut St, Philadelphia, PA 19107.*

PTERYGIUM SURGERY USING THE PRINCIPLE OF CONTACT INHIBITION AND A LIMBAL TRANSPLANTED PEDICLE CONJUNCTIVAL STRIP. Hara, T, Shoji, E, Hara, T. Obara, Y. The authors describe a new type of pterygium surgery, based on the principle of biological contact inhibition, involving the use of a 0.5-millimeter-wide pedicle auto-conjunctival strip placed at the corneal limbus. Over a period of two years, the procedure has been performed in 56 eyes of 52 patients, 39 to 74 years old (mean, 57 ± nine years), with primary pterygium. After an average follow-up of 34 ± 6 months (range, 20 to 40 months), the pterygium recurred in six (10.7%) of the 56 eyes. There were no other significant postoperative complications. Although their method has the disadvantages of being somewhat complicated and involving a fair amount of suturing, the relatively low rate of recurrence achieved is encouraging. *(Ophthalmic Surgery 25:95-98, 1994). Reprint requests to Tsutomu Hara, MD, Hara Eye Hospital, Nishi 1-1-11, Utsunomiya 320, Japan.*

REMOVAL OF CORNEAL FOREIGN BODIES: AN INSTRUCTIONAL MODEL. Collins, DW, Coroneo, MT. These authors describe and illustrate a simple method of inflicting corneal foreign body injuries on the bovine eyes. The subsequent use of these eyes for teaching corneal and rust-ring removal is demonstrated. This method is suitable for instruction of large numbers of students and could be included in an undergraduate curriculum. *(Ophthalmic Surgery 25:99-101, 1994). Reprint requests to M.T. Coroneo, MS, FRACS, Department of Ophthalmology, University of New South Wales, Prince of Wales Hospital, High Street, Randwick, NSW, 2031, Australia.*

AB-INTERNO SCLEROSTOMY USING A GONIODIATHERMY INSTRUMENT. Brown, SVL, Higginbotham, EJ, Griffin EO, Zou, X, Edward, D. The authors describe the use of a new instrument designed to create a simultaneous goniopuncture with diathermy using an *ab interno* technique. The goniodiathermy ab-interno procedure was first performed on three eyes of three cynomolgus monkeys. Intraocular pressure (IOP) assessment and histologic examination were performed over a 10-day period. A functioning filtration bleb with a patent sclerostomy was achieved in all of the experimental eyes. A pilot study involving four eyes of four glaucoma patients also was performed. Of these four, successful long-term functioning filtration areas with adequate lowering of IOP were achieved in only two. The remaining two

required further surgical intervention. Although combining goniopuncture and diathermy into a one-step ab-interno procedure proved successful in the primates studies, the preliminary use of this new instrument as a method of creating a filter in humans raises questions regarding its clinical usefulness. *(Ophthalmic Surgery 25:112-116, 1994). Reprint requests to Steven V.L. Brown, MD 1800 Sherman Avenue, Suite 511, Evanston, IL 60201.*

USING DONOR SCLERA TO CREATE A FLAP IN GLAUCOMA FILTERING PROCEDURES. Riley, SF, Lima, FL, Smith, TJ, Simmons, RJ. The authors describe a surgical technique in which donor sclera is used to create a flap in glaucoma filtering procedures. This simple technique is helpful when sclera is too thin to sefely and effectively form an adequate sclera flap. The use of donor sclera allows the procedure to continue as a guarded procedure and prevents early postoperative hypotony. *(Ophthalmic Surgery 25:117-121, 1994). Reprint requests to Shawn F. Riley, MD 215 D 76th Ave N, Ocean Terrace, Myrtle Beach, SC 29572.*

PERSISTENT TORULOPSIS MAGNOLIAE ENDOPHTHALMITIS FOLLOWING CATARACT EXTRACTION. Rosenfeld, SI, Jost, BF, Litinsky, SM, Gelender, H, Glatzer, RJ, Flynn, Fr. HW. Postoperative fungal endophthalmitis typically manifests as an indolent uveitis, weeks to months after surgery. In the patient of these authors, endophthalmitis caused by *Torulopsis magnoliae* appeared as an acuite, purulent postoperative endophthalmitis on the third day following extracapsular cataract extraction with implantation of a posterior chamber intraocular lens (IOL). The patient required three separate vitrectomy operations with instillation of intravitreal Amphotericin B; the last operation also included complete removal of the posterior capsule and IOL. This case, which is to their knowledge the first reported case of T. Magnoliae endophthalmitis, is unusual in that it manifested as an acute, fulminant infection in the early postoperative period and was recalcitrant to standard endophthalmitis therapy. *(Ophthalmic Surgery 25:154-156, 1994). Reprint requests to Steven I Rosenfeld, MD, Delray Eye Associates, 16201 South Military Trail, Delray Beach, FL 33484.*

SURGICAL WOUND DEFECTS ASSOCIATED WITH ENDOPHTHALMITIS. Maxwell, Jr, DP, Diamond, JG, May, DR. The authors evaluated 25 consecutive cases of culture-proven postsurgical endophthalmitis. The patients underwent wound revision and pars plana vitrectomy with intravitreal antibiotic and steroid infusion (gentamicin 8 µg/cc) and injection (gentamicin 100 µg plus clindamycin 200 µg (and amphotericin 5 µg in one case) and dexamethasone 800 to 1000 µg). Twenty cases demonstrated wound defect (eg, wound gape/malapposition, abscess/tissue necrosis, suture dehiscence, leak, vitreous wick). Culture-proven isolates included both gram negative and positive bacteria and fungi. Visual acuity improved in 18 of the 20 (90%) gram positive cases. Ten of the 17 (59%) patients in the *Staphylococcus* epidermitis subgroup achieved a visual acuity of 20/50 or better. Surgical wound defects are frequently associated with culture-proven endophthalmitis. When vitrectomy is included as part of the treatment regi-men, the authors recommend meticulous inspection and closure of any defective surgical wounds associated with endophthalmitis. *(Ophthalmic Surgery 25:157-161, 1994). Reprint request to Donald P. Maxwell, Jr., MD, Tulane University School of Medicine, Department of Ophthalmooogy SL69, 1430 Tulane Ave, New Orleans, LA 70112-2699.*

LID CREASE AND CAPSULOPALPEBRAL FASCIA REPAIR IN CONGENITAL ENTROPION AND EPIBLEPHARON. Millman, AL, Mannor, GE, Putterman, AM. The authors performed transcutaneous reconstruction of the eyelid crease and retractor (capsulopalpebral fascia) on 41 eyelids of 21 patients with congenital entropion or epiblepharon underwent. All of the patients demonstrated lack of cutaneous-capsulopalpebral fascia attachment. In contrast with the patients with epiblepharon, those with congenital entropion also had partial or complete absence of tarsal-capsulopalpebral fascia attachment. Surgical treatment included anastomosis of the capsulopalpebral fascia, tarsal border, and eyelid skin crease; no skin or muscle was removed. With a minimum follow-up of one year, malposition recurred in three of the 33 (9%) eyelids with epiblepharon, and in none of the eight eyelids with entropion. *(Ophthalmic Surgery 25:162-165, 1994). Reprint requests to Arthur L. Millman, MD, 345 East 37th St, New York, New York 10016.*

PENETRATING OCULAR TRAUMA IN CHILDREN BY "BROOMSTICK BOW AND ARROWS." Sharma, T, Agarwal, P, Gopal, L, Badrinath, SS, Murugesan, R. The authors describe ocular trauma by "broomstick bows and arrows" as a unique penetrating injury among Indian childern. Hitting the eye with a great velocity, these highly contaminated missiles may cause severe damage. The results of surgical treatment of 100 children who suffered such trauma are presented. Anatomic success, ie, successful reconstruction of the globe with attached retina, was attained in 85, (85%) of these eyes. Functional success, ie, improvement in visual acuity of two Snellen lines in eyes with measurable preoperative acuity, or improvement to at least 2/60 in the eyes with preoperative acuities of light perception or hand movements, was attained in 62 (62%) ofthe eyes. Of the functionally successful

eyes, an acuity of 6/9 or better was achieved in 28 (45.2%). Factors predictive of poor anatomical success were: Injuries involving both anterior and posterior segment (P<.02), endophthalmitis (P<.05), and presence of retinal detachment with or without proliferative vitreoretinopathy (P<.05). Mean follow-up was 4.5 ± 3.59 months (range, 2 to 24 months). *(Ophthalmic Surgery 25:175-179, 1994). Reprint requests to Tarun Sharma, MD, Vision Research Foundation, 18 College Rd, Madras 600 006, India.*

CONTROL OF EYELID RETRACTION ASSOCIATED WITH GRAVES' DISEASE WITH BOTULINUM A TOXIN. Biglan, AW. The author had satisfactory control of eyelid retraction associated with thyroid orbitopathy with repeated treatment of the levator palpebrae superioris muscle with botulinum A toxin. The effect of each injection of the toxin lasted for three to four months. *(Ophthalmic Surgery, 25:l18-188, 1994). Reprint requests to Albert W. Biglan, MD, Pediatric Ophthalmology and Strabismus, 3518 Fifth Ave, Pittsburgh, PA 15213-3387.*

HYPERPLASTIC PUPILLARY MEMBRANE AND LASER THERAPY. Kumar, H, Sakhuja, N, Sachdev, MS. The authors employed a Q-switched Nd:YAG laser to section the pupillary membranes in the superior 270° of the pupil in two cases of extensive hyperplastic pupillary membranes with significant reduction of visual acuity and clarity. The complications, microhemorrhages, pigment dispersal, and elevation of intraocular pressure were insignificant, while the objective and subjective improvement in vision was remarkable. *(Ophthalmic Surgery 25:189-190, 1994.) Reprint requests to Harsh Kumar, MD, Dr. R.P.Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi 110 129, India.*

SCLERAL-FLAP INCISION FOR CATARACT SURGERY. Nikeghbali, A. The author presents a technique of creating a three-stage scleral incision for extracapsular cataract extraction and intraocular lens (IOL) implantation, especially useful for cases in which phacoemulsification is contraindicated or aborted. The incision is 5 to 10 mm wide, and the scleral flap is trapezoidal and requires one to three horizontal sutures for closure. The technique was used in 364 consecutive eyes; follow up was six months. After one week, 80% of these eyes had 1.50 diopters or less of induced keratometic cylinder; at one month, 70% had less than 1.00 D. At six months, 87% had 0.50 D of against-the-rule cylinder. Less than 6% had elevated intraocular pressure (22 to 28 mm Hg); hyphema developed in 7%. Forty-nine percent had 20/40 or better vision in one week; 75% achieved this acuity at one month. Final refractions in 87% of the eyes at six months were -1.00 (±0.75) + (± 1.00) X 180°. This technique provides most of the benefits of small-incision cataract surgery, including rapid, stable visual recovery. IOLs of any optical can be implanted. *(Ophthalmic Surgery 25:222-225, 1994). Reprint requests to A Nikeghbali, MD, Iran Medical Science University, PO Box 15175-349, Tehran, Iran.*

COMBINED PERIBULBAR INJECTION AND BLUNT CANNULA INFILTRATION FOR VITREORETINAL SURGERY. Simcock, PR, Raymond, GL, Lavin, MJ, Whitley, CL. The authors evaluated 76 patients undergoing combined peribulbar and direct intraconal infiltration local anesthesia for vitreoretinal surgery. Forty-six patients had local anesthesia with a combination of lidocaine 25 and bupivacaine 0.%%; in 30 patients, a combination of lidocaine 2% and prilocaine 1% was used. Patient evaluation of discomfort during the administration of the anesthetic and during the operation was assessed on a visual analog scale of 0 to 10. The mean pain score recorded was 2.73. There was no statistically significant difference between the mean pain scores of the two local anesthetic groups (P = .465). *Ophthalmic Surgery 25:232-235. 1994). Reprint requests to Peter R. Simcock, FRCS, FRCOphth, MRCP, Charing Cross Hospital, Fulham Palace Rd, London W6 8RF, UK.*

LASER-AIDED EXTERNAL DRAINAGE OF SUBRETINAL FLUID: PROSPECTIVE RANDOMIZED COMPARISON WITH NEEDLE DRAINAGE. Das, TP, Jalaili, S. The authors did a comparative study of 50 consecutive eyes on the safety and efficacy of draining subretinal fluid transchoroidally in primary scleral buckling for rhegmatogenous retinal detachment using a needle, with the safety and efficacy of the same procedure using an angulated endolaser probe set at 1 W for 0.2 seconds, using an average of 2.4 laser burns. There were no significant complications associated with the laser-aided drainage procedures (25 eyes). In the transchoroidal needle drainage procedures (25 eyes), subretinal hemorrhage occurred in three eyes and retinal incarceration in one. Thus, though their numbers are small, there appears to be some advantage of laser-assisted drainage in terms of a lower incidence of complications. *(Ophthalmic Surgery 25:236-239, 1994). Reprints requests to Taraprasad P. Das, MD, LV Prasad Eye Institute, Rd No 2, Banjara Hills, Hyderabad-500 034, India.*

RELEASABLE "U" SUTURE FOR TRABECULECTOMY SURGERY. Maberley, D, Apel, A, Rootman, DS. The authors report that overfiltration after glaucoma surgery can lead to significant complications. Tight suturing of the trabeculectomy flap reduces this problem but can lead to higher pressure and poor drainage of aqueous. Releasable sutures ofter leave irritating exposed suture ends. They describe a simple two-arm releasable suture technique that leaves no exposed suture ends

until one arm of the suture is removed. Good control of postoperative pressure with few complications was achieved in 28 cases using this technique, which allows manipulation at the slit lamp of the trabeculectomy flap, obviating laser lysis of the sutures. *(Ophthalmic Surgery 25:251-255, 1994). Reprint requests to David S. Rootman, MD, FRCS(C), Toronto Hospital (Western Division), EC7-009, 399 Bathurst St. Toronto, Ontario, M5T 2S8, Canada.*

STRAIGHT NEEDLE CORNEAL SPLINTING FOR ANTERIOR SEGMENT SURGERY. Stevens, JD, Steelell, AD. The authors state that corneal splinting is an old and well established surgical technique, and that the modern straight needles allow for atraumatic and accurate placement, providing an alternative to suture-fixated scleral ring support. They have routinely used two straight, 150-micrometer in diameter and 16mm in length suture needles passed through clear cornea, to act as anterior segment splint supports during anterior segment surgery in which the cornea would otherwise collapse. The needles enter through the clear corneal periphery, pass across the anterior chamber, and exit through clear cornea in a criss-cross configuration. This splint technique is quick and easy to perform and is an alternative or addition to suture-fixation scleral ring support. *(Ophthalmic Surgery 25:259-26l, 1994). Reprint requests to Julian D. Stevens FCOphth, Moorsfields Eye Hospital, City Rd, London ECIV 2PD, England.*

HIGH-RESOLUTION ULTRASOUND BIOMICROSCOPY OF THE ANTERIOR SEGMENT IN PATIENTS WITH DENSE CORNEAL SCARS. Milner, MS, Liebmann, JM, Tello, C, Speaker, MG, Ritch, R. Because of poor visualization of the anterior segment during preoperative evaluation and surgical planning for penetrating keratoplasty in patients with dense corneal scars, the authors performed ultrasound biomicroscopy (50-megahertz frequency, 50-micron resolution) on five eyes of five patients with dense corneal opacities of different etiologies. This evaluation was for the anatomic relationships of the iris, lens, angle, and ciliary body. Corneal thickness, the presence or absence of iridocorneal adhesions, peripheral anterior synechiae, and cyclitic membranes, intraocular lens position, and relationships among intraocular structures could be evaluated *in vivo*. Ultrasound biomicroscopy is the optimal method of obtaining reliable, high-resolution images delineating anatomic relationships and pathology in the anterior segment. *(Ophthalmic Surgery 25:284-287, 1994). Reprint requests to Robert Ritch, MD, Chief, Glaucoma Service, The New York Eye and Ear Infirmary, 310 E 14th St., New York, New York 10003.*

NEODYMIUM:YAG LASER IRIDOLENTICULAR SYNECHIOLYSIS IN UVEITIS. Kumar, H, Ahuja, S, Garg, SP. The authors report 15 patients with "bound down" pupil or ring synechiae associated with chronic granulomatous uveitis in whom dilatation could not be obtained pharmacologically. The patients underwent iris-lens synechiolysis using relatively low energies from a Q-switched Nd:YAG laser. Pupil size increased significantly in all of the treated eyes; visual acuity improved in 40%. Postlaser elevated intraocular pressure developed in a significant number, but there were no serious long-term complications associated with the procedure. Although acuity improved in less than half of the patients, because this laser treatment is relatively safe and offers some possibility of visual improvement, they recommend it for routine use, but only if performed by an experienced laser microsurgeon. *(Ophthalmic Surgery 25:288-29l, 1994). Reprint requests to Harsh Kumar, MD, Dr. R.P. Centre, All India Institute of Medical Sciences, Ansari Nagar, New Delhi, 11029, India.*

INTRAOCULAR LENS REPLACEMENT ADVANTAGES OF A BIMANUAL TECHNIQUE WITH PRESET ENDOILLUMINATION. Roldan-Pallares, M, Manrique, E. These authors state that performing a vitrectomy using a bimanual technique with a preset light inserted into the inferonasal quadrant of the eye leaves both hands free to grasp an intraocular lens (IOL) completely dislocated into the vitreous cavity. Two additional scleral grooves with flaps (surgeon's view) at the 2:30 and 8:30 o'clock positions (right eye) or at the 3:30 and 9:30 o'clock positions (left eye) allow the haptics to be guided to the desired positions in the ciliary sulcus. This technique allowed permanent, controllable relocation of the IOL. The haptics of the IOL finally rests near the horizontal meridian, away from the corneo-scleral wound. *(Ophthalmic Surgery 25:292-297, 1994). Reprint requests to Manuel Roldan-Pallares, MD, Rey Francisco, 11, 28008 Madrid, Spain.*

OCULAR AQUEOUS HUMOR DYNAMICS AFTER PHOTODISRUPTIVE LASER SURGERY PROCEDURES. Wetzel, MW. Since iridotomy and capsulotomy using the Q-switched Nd:YAG laser affect ocular aqueous humor dynamics, causing intraocular pressure (IOP) to temporarily rise following these procedures, the author measured aqueous outflow facility and aqueous secretion flow by oculopression tonometry in 20 eyes before and after YAG laser iridotomy, and in 19 eyes before and after YAG laser posterior capsulotomy. IOP increased after both laser procedures. His measurements showed that this elevation must have been caused by a reduction in outflow facility, since aqueous secretion flow actually decreased. In the iridotomy patients, the preoperative

outfow facility (in most of the cases, already compromised preoperatively by glaucoma), was directly related to the maximum postoperative IOP elevation. In the capsulotomy patients, postoperative outflow facility was correlated with the total laser energy used. No such correlation was observed in the iridotomy patients. Additionally, in the capsulotomy patients, the type of secondary cataract (ie, proliferative or fibrotic) may have influenced the level of reduction of outflow facility. *(Ophthalmic Surgery 25:298-302, 1994). Reprint requests to Dr med Wolfgang Wetzel, University Hospital Clinic for Ophthalmology, Hegewischstr. 2,D-24105, Kiel, Germany.*

MODIFICATIONS OF THE GLAUCOMA DRAINAGE IMPLANT TO PREVENT EARLY POSTOPERATIVE HYPERTENSION AND HYPOTONY; A LABORATORY STUDY. Brooks, SE, Dacey, MP, Lee, MB, Baerveldt, G. Knowing that hypotony or hypertension in the early postoperative period following implantation of a nonvalved seton such as the Molteno tube is a common problem, the authors conducted a laboratory investigation evaluating two modifications of the silicone drainage tube. One involved a longitudinally-oriented, pressure-sensitive slit-valve combined with an absorbable occluding ligature interposed between the valve and the episcleral plate. Experiments examining the relationship between slit length, opening pressure, and flow rate were performed. The second modification involves focally constricting the lumen of the tube with an external ligature in order to reduce flow rates. Their results indicate that a slit-valve length of 20.0 mm appears to provide a reliable opening pressure of around 10 mm Hg, with relatively high flow when pressures exceed opening pressure. Focally constricting the lumen of the tube, however, was shown to be both unpredictable and unsatisfactory for reducing the flow of fluid to a range consistent with steady state aqueous production. *(Ophthalmic Surgery 25:311-316, 1994). Reprint requests to Steven E. Brooks, MD 550 Orchard Park Rd, Suite A101, W Seneca, New York 14227.*

LONG-TERM RESULTS OF TRABECULECTOMY *AB EXTERNO*. Wada, Y, Nakatsu, A, Kondo, T.To evaluate the long-term effects of the trabeculectomy on intraocular pressure (IOP) control, these authors reviewed the records of patients who were followed for over four years after undergoing this procedure to treat primary open-angle glaucoma (POAG). The IOP remained below 15 mm Hg with no need for postoperative medication in seven (13.2%) of 53 eyes. IOP was below 15 mm Hg in an additional eight eyes (15.1%) treated with topical medication. Topical medication was needed to maintain IOP between 16 to 20 mm Hg in 23 eyes (43.4%). Oral acetazolamide or additional surgery was needed in 15 (28.3%). A postoperative IOP below 20 mm Hg with or without topical medication was associated with a survival probability of 71.2%. Their results demonstrated that, although trabeculectomy largely failed to maintain an "ideal" postoperative IOP (below 15 mm Hg), it was not associated with severe operative or postoperative complications such as flat anterior chamber. This, the procedure probably should be the first choice not only in uncomplicated cases of congenital glaucoma and pseudoexfoliation glaucoma (as previously established), but also in cases of POAG in young patients with only slight damage to the optic disc or visual field and cases with forward movement of the iris-lens diaphragm. *(Ophthalmic Surgery 25:317-320, 1994). Reprint requests to Takehisa Kondo, MD, Department of Ophthalmology, Kobe City General Hospital, 4-6, Minatojima-nakamachi, Chuoku, Kobe, 650, Japan.*

THE EFFICACY OF CYCLOSPORIN-A IN THE TREATMENT OF BEHCET'S DISEASE. Atmaca, LS, Batioglu, F. The authors treated 25 eyes of 14 patients with Behcet's disease, characterized by severe retinal vasculitis and active intraocular inflammation, with cyclosporin-A (CA). All of the patients had been treated previously with corticosteroids, colchicine, and immunosuppressives, without satisfactory results. The patients were given an initial oral dose of 5mg/kg/day. All medication was tapered and eventually completely stopped after 12 months. The number and severity of ocular attacks (anterior and/or posterior uveitis with vitreous haze) were signficantly reduced below pretreatment levels during therapy (Kolmogorov Smirnov two-pair test: $P<.05$). Visual acuity improved in 32% and remained unchanged in 44%. No ocular attacks recurred in 11 eyes; they recurred one time in eight eyes; two times in three eyes; and three times in three eyes during CA therapy. There were no significant changes in the therapy. There were no significant changes in the level of retinal vasculitis. In two cases with vaso-obstructive changes, treatment with CA was not effective and laser photocoagulation was performed. Based on their study, they recommend that an initial dose of 5 mg/kg/day CA be used in the systemic medical treatment of ocular Behcet's disease. The CA can be continued at this low dosage for an unspecified time. If intraocular inflammation does not totally resolve at this dosage or the inflammatory process recurs, combining the CA with low doses of a steroid should be considered. *(Ophthalmic Surgery 25:321-327, 1994). Reprint requests to Leyla S. Atmaca, MD, Gazi Mustafa Kemal Bulvari 23/1, Ankara, Turkey.*

TOPICAL GLYCERIN AS AN ADJUNCT TREATMENT FOR FLAT ANTERIOR CHAMBER. Krawitz, PL. The author describes a case of flat anterior chamber following glaucoma filtration surgery in which glycerin was topically

applied in order to reduce the risk of cataract formation and minimize corneal endothelial damage until definite surgical intervention could be performed. *(Ophthalmic Surgery 25:330-331, 1994). Reprint requests to Paul L. Krawitz, MD 181 Main St, Huntington, NY 11743.*

EMBRYONAL RHABDOMYOSARCOMA OF THE ORBIT IN A 35-YEAR-OLD MAN. Mamalis, N, Grey, AM, Good, JS, McLeish, WM, Anderson, RL. The authors report the rare occurrence of embryonal rhabdomyosarcoma in a 35-year-old man, who presented with a rapidly progressive proptosis of the right eye with associated chemosis over a period of several weeks. Computed tomography demonstrated a solid extraconal mass in the inferior anterior right orbit. Pathologic examination revealed the lesion to be a embryonal rhabdomyosarcoma. Consistent with the diagnosis, immunohistochemical assays demonstrated positive staining with myoglobin, desmin, and muscle-specific actin. The lesion grew rapidly and was further surgically excised. Subsequently, treatment with radiation and chemotherapy was initiated. Primary embryonal rhabdomyosarcoma of the orbit is an extremely rare tumor in adults, and, to their knowledge, this parient represents the oldest individual reported to have developed such a tumor, as documented by immunohistochemical analysis. *(Ophthalmic Surgery 25:332-335, 1994). Reprint requests to Nick Mamalis, MD, Department of Ophthalmology, University of Utah Health Sciences Center, 50 N Medical Dr, Salt Lake City, UT 84132.*

***EN BLOC* CAPSULECTOMY IN THE DIAGNOSIS AND TREATMENT OF REFRACTORY, CHRONIC, RECURRENT PSEUDOPAHKIC ENDOPHTHALMITIS. Thach, AB, Das, A, Lopez, PF.** As is already known, the anterior chamber and vitreous aspirations may fail to isolate a microorganism in chronic pseudophakic endophthalmitis. These authors describe a technique by which the entire lens capsule and its internal contents are removed and cultured since in some eyes, obtaining a portion of the central posterior lens capsule may assist in determining the infectious etiology of the endophthalmitis. This surgical method facilitated the isolation and eradication of the causative pathogen in a patient with chronic recurrent pseudophakic endophthalmitis that was diagnostically and therapeutically refractory to previous vitrectomy, posterior capsulectomy, and intravitreal antibiotic injection. *(Ophthalmic Surgery 25:361-364, 1994). Reprint requests to Pedro F. Lopez, MD, Doheny Eye Institute, 1450 San Pablo St, Los Angeles, CA 90033.*

BUBBLES IN THE BLEB-TROUBLES IN THE BLEB? MOLTENO IMPLANT AND INTRAOCULAR TAMPONADE WITH SILICONE OIL IN AN APHAKIC PATIENT. Senn, P, Buchi, ER, Daicker, B, Schipper, I. A 14 year-old aphakic girl who had had previous bilateral glaucoma surgery with a Molteno implant, underwent pars plana vitrectomy and silicone-oil tamponade for proliferative vitreoretinopathic retinal detachment in both eyes. The filtering bleb of the left eye head been functional for five months before becoming available for histologic examination. The authors found numerous foreign-body granulomas coating the inner surface of the bleb, as well as intracellular and extracellular deposits of emulsified silicone oil in the wall of the bleb. In the fellow eye, the filtering bleb remained functional despite repeated vitreous surgery with silicone oil. Filtration in aphakic eyes with previous Molteno surgery and silicone-oil tamponade after vitrectomy may continue normally for a prolonged period of time, although emulsified oil droplets likely will have accumulated in the bleb and become incorporated in its fibrous capsule. *(Ophthalmic Surgery 25:379-385, 1994). Reprint requests to Peter Senn, MD, Department of Ophthalmology, Kantonsspital, CH-6000 Luzern 16, Switzerland.*

PTERYGIUM REMOVAL: KNIFE EXCISION VERSUS MODIFIED EVULSION TECHNIQUE. Bhatti, SM. The author studied 75 knife excised pterygia and 85 by using a modified evulsion technique. Follow up ranged from six months to five years (mean, 14 months). The recurrence rate with modified evulsion technique was 5.88% and with knife excision it was 20.27%. This difference is statistically significant (P = .05). *(Ophthalmic Surgery 25:383-385, 1994). Reprint requests to S.M. Bhatti, MS, DOMS, Department of Ophthalmology, Christian Medical College and Hospital, Ludhiana, 141 008 Punjab, India.*

AN ILLUMINATED FLUTE NEEDLE FOR VITREORETINAL SURGERY. Davison, CN, Rosen, PH. The authors have developed a simple self-illuminated flute needle for internal drainage of subretinal fluid during three-port vitrectomy. This instrument facilitates visualization and drainage through peripheral retinal breaks. *(Ophthalmic Surgery 25:401-402, 1994). Reprint requests to Paul H. Rosen, Oxford Eye Hospital, Radcliffe Infirmary, Woodstock Rd, Oxford, OX2 6HE England.*

ANTERIOR CAPSULECTOMY USING AN ORDINARY PHACOEMULSIFICATION TIP (PHACO-CAPSULECTOMY). Ayaki, M. The author performed anterior capsulectomy in six eyes using an ordinary phacoemulsification tip. The technique, which involves inserting a beveled-down phaco tip directly in the lenses, created smooth and tear-free capsular openings. Although the procedure needs to be refined. He believes a phaco tip can be used effectively and

easily to remove the anterior capsule. *(Ophthalmic Surgery 25:403-405, 1994). Reprint request to Masahiko Ayaki, MD, Department of Ophthalmology, Shizuoka Red Cross Hospital 8-2 Ohtemachi, Shizuoka, Shizuoka-ken 420, Japan.*

NUCLEUS VISCOEXPRESSION COMPARED WITH OTHER TECHNIQUES OF NUCLEUS REMOVAL IN EXTRACAPSULAR CATARACT EXTRACTION WITH CAPSULORHEXIS. Bellucci, R, Morselli, S, Pucci, V, Bonomi, L. The authors compared three nucleus delivery procedures used during extracapsular cataract extraction (ECCE) after capsulorhexis in 142 eyes. In 25 eyes, the nucleus was expressed through a capsulorhexis 7 mm or wider. In 40 eyes, the nucleus was broken into two pieces removed through a capsulorhexis 6 mm or less. In 77 eyes, viscoexpression was used to remove the nucleus from the capsular bag through a capsulorhexis 6 mm or less. Nucleus express after a wide capsulorhexis was successful in 68% of the eyes in which it was attempted. Nucleus fragmentation was successful in 90%. Postoperative inflammation was high in both of these groups. Nucleus viscoexpression was successful in 93%, with low postoperative inflammation. Although it requires a 7- to 8-millimeter corneoscleral incision, based on our study, viscoexpression would appear to be the best neclear delivery technique when ECCE, rather than phacoemulsification, is being performed. *(Ophthalmic Surgery 25:432-436, 1994). Reprint requests to Roberto Bellucci, MD, Clinica Oculistica Borgo Trento, Piazzale Stefani l, Verona 37100, Italy.*

EXTRACAPSULAR CATARACT EXTRACTION AND POSTERIOR-LIP SCLERECTOMY WITH VISCOELASTIC. Merriam, JC, Wahlig, JB, Konrad, H, Zaider, M. These review of 15 cases by these authors suggests that posterior-lip sclerectomy can be performed safely with extracapsular cataract extraction (ECCE) and posterior chamber lens implantation. The anterior chamber was filled with viscoelastic at the end of each procedure; no case required reoperation for shallow chamber or hypotony. The mean intraocular pressure after one year was 12.1 mm Hg. The astigmatism induced by the triple procedure did not differ significantly from that caused by ECCE alone during the initial two postoperative years. A new mathematical model that describes the change over time of postoperative astigmatism associated with these procedures is described. *(Ophthalmic Surgery 25:438-445, 1994). Reprint requests to John C. Merriam, MD. Edward S. Harkness Eye Institute, 635 W 165th St, New York, NY 10032.*

RADIAL SUTURE STABILIZED BY FIBRIN GLUE TO CORRECT PREOPERATIVE AGAINST-THE-RULE ASTIGMATISM DURING CATARACT SURGERY, Grewing, R, Mester, U. The authors evaluated the efficacy of using a modified wound-closure technique in cataract surgery to reduce presurgical against-the-rule (ATR) astigmatism. Seventy-seven eyes received a radial 10-0 nylon suture in the axis of the preexisting ATR cylinder, combined with an application of fibrin glue to stabilize the wound. A control group of 76 patients with comparative preoperative ATR astigmatism was operated on in the same manner, but only fibrin glue and no suture was used for wound closure. The mean induced astigmatism in these two groups differed by 0.42 diopters, a significant difference ($P < .05$). In the cases with preoperative astigmatism greater than 1.00 D, the difference between the two groups, again a significant one, was 0.73 ($P<.05$). *(Ophthalmic Surgery 25:446-448, 1994). Reprint requests to Ralf Grewing, MD, Augenklinik der Bundesknappschaft, 66280 Sulzbach/Saar, Germany.*

BREAKS IN THE PARS PLICATA FOLLOWING SURGERY FOR ATOPIC CATARACT. Katsura, H, Oda, H, Utsumi, Y. The authors present two cases of retinal detachment caused by breaks in the pars plicata of the ciliary body. In both, retinal detachment developed following surgery for atopic cataract. The residual lens capsules contracted with evidence of fibrotic change. Nonpigmented ciliary epithelium appeared to have become detached and torn by traction through the zonules of Zinn. *(Ophthalmic Surgery 25:514-515, 1994). Reprint requests to Hiroshi Katsura, MD, Department of Ophthalmology, Keio University School of Medicine, 35 Shinanomachi, Shinjuku-ku, Tokyo 160, Japan.*

CONTRAST SENSITIVITY IN DIABETIC RETINOPATHY AFTER PANRETINAL PHOTOCOAGULATION. Khosla, PK, Rao, V, Tewari, HK, Kumar, A. The authors evaluated contrast sensitivity changes in 30 eyes of 29 PDR patients after PRP. The patients were divided into two groups. One, group A, received panretinal photocoagulation (PRP) at one sitting, and the other, group B, at two sittings. Before and at regular intervals after PRP, all of the patients underwent a battery of macular function tests for best-corrected visual acuity, color vision, contrast sensitivity, and photostress. Contrast sensitivity was significantly affected ($P<.001$) in both groups immediately after PRP, but stabilized to prelaser levels by the end of three months.Contrast sensitivity appears to provide a more sensitive measurement of visual acuity than the Snellen chart for monitoring foveal integrity in PRP patients. *(Ophthalmic Surgery 25:5l6-520, 1994). Reprint requests to Hem K. Tewari, MD, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi 110 029, India.*

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(Volume 10, 1994)

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PROCEEDINGS

INTERNATIONAL CONGRESS ON CATARACT and REFRACTIVE SURGERY

The International Congress on Cataract and Refractive Surgery was held in Montreal on July 1, 2, 3, 1994 and timed to commemorate the 20th Anniversary of the founding of the Canadian Implant Association. It was the Association's most ambitious meeting with over one thousand ophthalmologists attending from over fifty-three nations. The congress was sponsored by the Canadian Implant Association and the ophthalmology departments of McGill University and the University of Montreal. The Congress attracted the largest attendance of all the Satellite Meetings held in connection with the International Congress of Ophthalmology.

Dr. Miguel Burnier, Chairman of the Department of Ophthalmology, McGill University formally welcomed attendees on the morning of July l. Scientific presentations by ophthalmologists from North and South America, Europe, Asia, Africa and Oceania were heald over the next three days. Subjects discussed included Excimer Laser, Incisional Keratotomy, Vector Analysis, Astigmatism, Automated Lamellar Keratoplasty, New Modalities in Ophthalmology. As in past years, a Francophone symposium on contact lenses was held under the direction of Dr. Jean Paul Demers, Dr. Jacques Gregoire and Dr. Jack Hartstein. New this year was a symposium on management of diseases of the retina under Dr. Alexander Brucker, Dr. John Chen and Dr. Julius Gomolin. Over Association. Dr. Marvin Kwitko, the founding president of the Association was succeeded by Dr. Don Johnson of Vancouver. He announced that the next meeting of the Canadian Implant and Refractive Surgery Association will be held at Whistler, British Columbia, February 16th-20th, 1995. *- Richard Swieca, M.D., Corresponding Secretary*

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