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مجلہ طب العیون پاکستان

PAKISTAN JOURNAL OF OPHTHALMOLOGY

THE OFFICIAL JOURNAL OF THE OPTHALMOLOGICAL SOCIETY OF PAKISTAN

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JULY, 1992 Volume 8, Number. 3

BISMILLAHIR-RAHMANIR-RAHEEM

مجلہ طب العیون پاکستان

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Editorial

Say: Are the blind and the seeing man equal, or are the darkness and the light equal?
-Holy Qur'an 13:16

Role and Needs of a Society's Official Publication

Bismillahir Ruhmaanir-Raheem. Nuhmodohoo wa Noosulle ala Rasoolaihil Kareem.

"Whoever sees a wrong being done, he must stop it by the power of his hand;
And if that is beyond him, then with his tongue;
And if even that is not possible for him, then (he must condemn it) in his heart;
And this is the weakest degree of Faith."[1]

-Al-Hadith
by Abu Saeed Khudri *Radhe Allaho Unho*

If the teachings of the Holy Prophet *Sullullaho Alaihe Wasullum* form the foundation of our codes of conduct, then it is obvious from the above *Hadith* that an active participation is demanded of us in every situation of which we become a part. This participation must also be conscientious and constructive. Frustration and failure are the unhappy destiny of those who drag their feet in following the principles of the philosophy of life they espouse. Neither avoiding the issues that confront one will avert such undesirable consequences.

A disconcerting situation recently placed the *Journal's* Editor in a difficult position of almost scrapping the publication of a report of some merit. The manuscript contained a histopathological report by the pathology dapartment head of the medical college from which the article originated, but no photomicrographs were included. The authors later clarified that the facilities for photomicrography were not available in the pathology unit. When the reviewer's request for an original glass slide was sent to the author, no reply came. After a costly overseas telephone communication with one of the authors, the Editor learned that the pathologist who examined the specimen had no idea where the slides were. This incident, though an extreme example, is not an isolated occurrence of such nonchalance, and efforts to enlist the leaders of the Ophthalmological Society of Pakistan (OSP) in finding its solution have been futile. There seems only one reason for this nonproductive attitude: Apathy.

Apathy clearly is a sin. Whatever its reason, apathy among participants is the bane of success of any organization or its projects, no matter how meticulous their planning. May be that mere procedural unawareness, or an attitude of depending too heavily on the editorial redactions, and not apathy, is the underlying cause of this poverty of concern and cooperation.

The official journal of a learned society serves as the most important channel for professional communication and exchange of ideas among its own members and between them and the other scholars and societies. Without enthusiastic cooperation from a society's leaders and regular contributions by its members, the intended purpose and goals of its official publication cannot be realized. No doubt several of the members of Society and even a few of its leaders have actively participated in the continued publication of the *Journal*. Nevertheless, without participation of more members and officeholders, and prompt cooperation from those who do participate, the scope of this official publication of the OSP is bound to become drastically diminished. It's time for a serious soul-searching for both the leaders and the members of the Society.

Over two centuries ago, the renowned German poet Goethe wrote a poem in which he likened Prophet Mohammad *Sullullaho Alaihe Wasullum* to a stream which moves onward, always increasing, carrying his brothers with him to the eternal Father.[2] Shouldn't our leaders in all spheres of life strive to imbue themselves with suchlike spirit? And the followers, they should heed the *Hadith* that commands: "You should hold no malice against each other, be not jealous of each other, do not turn away from each other, and bond to each other as brothers under God."[3]

The limitations of our country to supply highly sophisticated settings and today's advanced technology for scholarly pursuits are not hidden from anyone. Despite this background, the Pakistani physicians have achieved extraordinary accomplishments at home and wherever they have gone in the world. This speaks for their having been blessed with highly intelligent minds and a great adaptability. Therefore, neither ability nor degree of inclination to change, but the amount of interest and enthusiasm our ophthalmologists display will determine whether the publication of their premier organization flourishes or fails.

This editorial is intended to serve as a reminder, a nudge, a stimulus, and if there is no such luck, as an alchemic incantation that would turn more OSP members into writers, induce them to submit their articles for publication in the *Journal* , and make them prompt in extending cooperation to its editors.

To paraphrase Jean-Paul Sartre,[4] the French man of letters: An editor can do little; he can only say what he perceives. This editorialist does not suppose that his editorial is of great importance or will right away change anything or even bring him many friends. No matter: he is doing his duty as the editor . The OSP leaders and members know what theirs is. *-KJA*

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2. Goethe, J W : Cited in Smith, H: The Religions of Man, New York, Harper & Row, Publisher, 1986, p 342.
3. Nadwi, S S: *Seerat-ul-Nabi*, vol 6, Lahore, Deeni Kootub Khana, 1975, p 298.
4. Sartre, J: Sartre on Theater (translated by Jellinek, F), New York, Pantheon Books, 1976, p 205.

Camera Clinicals

In this section of THE JOURNAL, *photographic documentation of interesting and challenging observations are persented to the readers. They should make their diagnosis from the given information, and compare their conclusions with the expositions given on page 73 -74* -Editor.

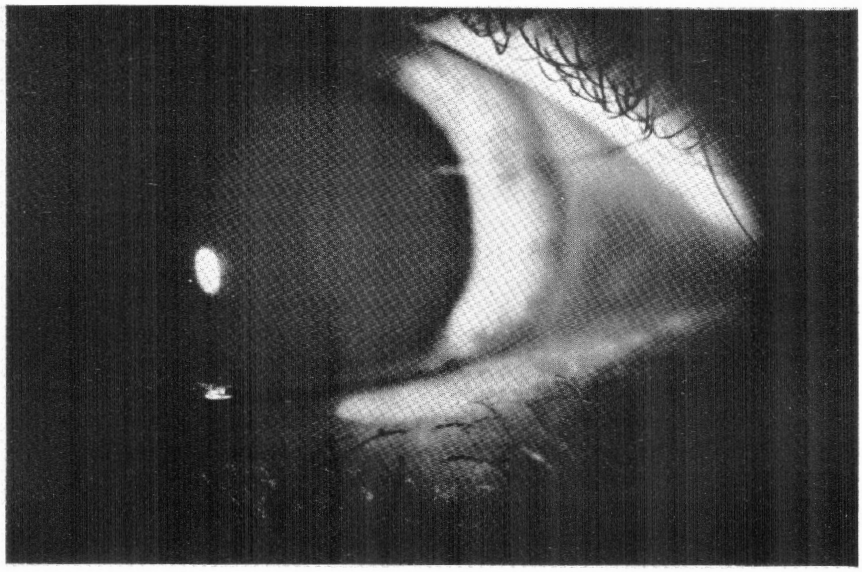

Figure 1

Figure 1: A 58-year-old woman complained of pain, redness, and watering of her left eye for many days. The symptoms began after she had used make-up on her eyelashes nearly a week ago. She had rubbed her eye repeatedly, but instead of relief the symptoms became worse and there also developed a foriegn body sensation in the eye. Antibiotic drops prescribed by her doctor did not improve her condition.

On eye examination her visual acuity was 20/20 (6/6) in each eye with glasses. The right eye was normal in all respects. The left eye was red and watery. On slit lamp examination cornea appeared involved. However, of greater interest were the biomicroscopic findings as shown in Figure 1. The indicated measures were applied, and the patient was advised to continue the use of antibiotic drops for another week, after which the condition resolved permanently.

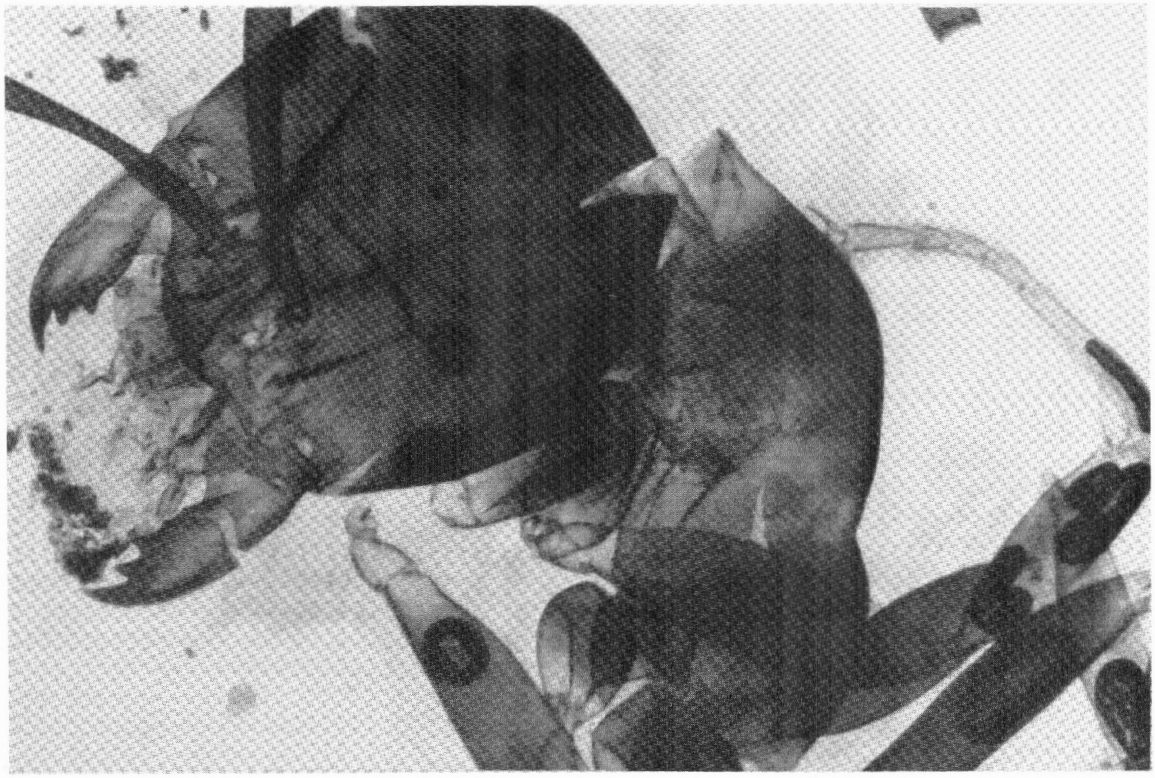

Figure 2

Figure 2: A 7-year-old girl started complaining of hurting of the right eye about a month before her visit. The eye would start stinging and watering profusely all of a sudden and then would spontaneously recover after sometime. However, the episode occurred with such repitition that parents sought medical advice.

On her first visit, the eye examination uncovered nothing unusual in either of the eyes. There were no signs of any ocular inflammation or trauma, and her visual acuity was not at all affected. The parents were advised that if the condition recurred bring the girl back for examination during the acute episode. A few days later, the patient was in ophthalmologist's office with profuse watering and blepharospasm of the right eye. To examine the eye topical anesthetic drops had to be instilled. On separation of the lids, the right eye was markedly red and flooded with tears. The cornea and the anterior chamber were normal, and nothing appeared wrong with the conjunctiva as to cause such reaction in it. Anticipating that there might be a foriegn body in one of the fornices, the ophthalmologist examined these biomicroscopically. The slit lamp examination of the inferior fornix uncovered a tiny black speck under the conjunctiva. Within a few seconds, this black speck was found to be floating in the pool of tears and was lost with outpouring of the tears. Soon another identical black speck was noticed in the same location in the conjunctiva. It was grasped with a fine forceps and teased out of the conjunctival epithelium. To examiner's surprise, several similar black specks made their appearance in the inferior fornix. One of the black specks was subjected to a low-magnification microscopic examination; its findings are shown in Figure 2.

After the removal of all the foreign bodies under the slit lamp, the patient was placed on antibiotic-steroid combination eyedrops. Although the present episode resolved in a few days, the patient returned with recurrent attacks on more than one occasion. Finally she disappeared, leaving her ultimate disposition undetermined.

16th Annual Congress

Ophthalmological Society of Pakistan

(In combination with "KAROPHTH" '92)

Pearl Continental Hotel, Karachi

November 24 (Tuesday) - 26 (Thursday), 1992

The theme of the 16th Congress has been chosen to be "OCULAR INFECTIONS". It is hoped that this meetng will provide an excellent opportunity to both the practising as well as the trainee ophthalmologists to exchange and share their views and experiences about this and other topics of current interest in ophthalmology.

Besides titled guest lectures, there will be panel discussions and free papers on topics related to the theme.

Karachi is a cosmopolitan, port city of Pakistan, with diverse cultures and people. There are things to see and places to visit. Glittering shopping arcades and tall plazas add to its beautiful skyline. Lovely and popular beaches are an added attraction. The weather in November is usually warm and dry in the day and pleasant at night, with temperature ranging between 15°C to 25°C. Karachi is served by an international airport with frequent flights to upcountry and to all the destinations around the world. *-K. Sharif-ul-Hasan (Chairman) & Ziauddin A. Shaikh (Secretary)*

Registration Fee (Including Banquet charges):	**To October 31,92**	**On Site**
Practising Ophthalmologists (All SAARC countries)	Rs. 1,500.00	Rs. 2,000.00
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❒ ABSTRACT FORM:

Variable Presentation of Acute Posterior Multifocal Placoid Pigment Epitheliopathy in Pakistan

M. Idrees Adhi, F.R.C.S., Sajid Mirza, M.B.,B.S.,
Ziauddin A. Shaikh, F.R.C.S., and Khwaja Sharif-ul-Hasan, F.C.P.S.

ABSTRACT: Seven acute posterior multifocal placoid pigment epitheliopathy (APMPPE) patients from Pakistan had widely variable presentation and outcome. These patients, ranging in age from 16 to 50, were seen during the period from March 1990 to September 1991 at the Department of Ophthalmology, Dow Medical College, Karachi. Four cases were bilateral and three unilateral. Only one patient presented with associated headache and systemic symptoms, but other six gave a history of preceding flu-like illness. Outcome varied from near full recovery to a marked reduction in vision with persistent paracentral scotomas. One 24-year-old woman also had bilateral deep macular hemorrhage. (Pakistan Journal of Ophthalmology 8:61-66, July, 1992.)

Acute posterior multifocal placoid pigment epitheliopathy (APMPPE), first described by Gass[1] in 1968, is a chorioretinal inflammatory disease of unknown cause, occurring in healthy young adults in about one third of whom a flu-like syndrome may precede its appearance.[2] The most typical ocular lesions are characterized by multiple, yellow-white, placoid areas at the level of retinal pigment epithelium. They usually resolve quickly. On fluorescein angiography, these lesions hypofluoresce during the early phase and hyperfluoresce during the late phases.[1] The disease begins with a rapid loss of sight in one eye, but the other eye usualy becomes also invloved after a few days. Fortunately, spontaneous but slow recovery of vision to the level of 6/9 or better visual acuity follows the resolution of fundus lesions.

We report seven Pakistani cases of this entity in whom the presentation and the outcome of disease were variable.

Materials and Methods

A review of records of 220 patients who had ocular fundus fluorescein angiography at the Department of Ophthalmology, Dow Medical College and Civil Hospital, Karachi, Pakistan during the period from March 1, 1990 to September 30, 1991 uncovered seven patients with acute posterior multifocal placoid pigment epitheliopathy.

From the Department of Ophthalmology, Dow Medical College, Civil Hospital, Karachi, Pakistan.

Reprint requests and correspondence to Dr. M. Idrees Adhi, F.R.C.S., Assistant Professor, Department of Ophthalmology, Dow Medical College, Civil Hospital, Karachi, Pakistan.

These seven patients had full ophthalmological and medical evaluation, including fundus photography and fluorescein angiograpy. Laboratory testing included full blood count, sedimentation rate, random blood sugar and chest X-ray. Those patients who returned for follow up had perimetry with Humphrey's field analizer after it became available.

All patients received oral prednisolone 45 mg per day in divided doses for a period which depended on clinical response. The minimum period for continued use of prednisolone was two weeks and the maximum period was four weeks.

Results

The compliance of patients in keeping appointment for follow up evaluation has been, as is the usual situation in Pakistan, disappointing. Four out of seven patients never returned after initial evaluation. Four cases were bilateral. Six patients had history of a flu-like illness preceding the visual symptoms. One patient complained of headache at the time of presentation. None of the patients reported taking of any antibiotics. The commonest presenting symptom was sudden painless deterioration of vision. One patient also complained of metamorphopsia. No other systemic or ocular abnormalities were present in any of the patients. The youngest patient was 16 and the oldest 50.

All of the patients had typical ophthalmoscopic findings and fluorescein angiographic features to support the diagnosis of acute posterior multifocal placoid pigment epitheliopathy. Two other patients

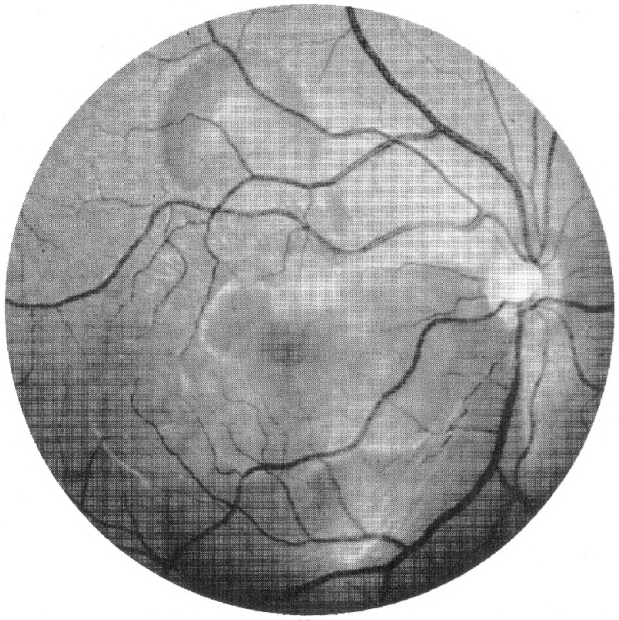

Figure 1 (Adhi, Mirza, Shaikh, Hasan): Case 1. Right eye. Typical APMPPE lesions on ophthalmoscopy.

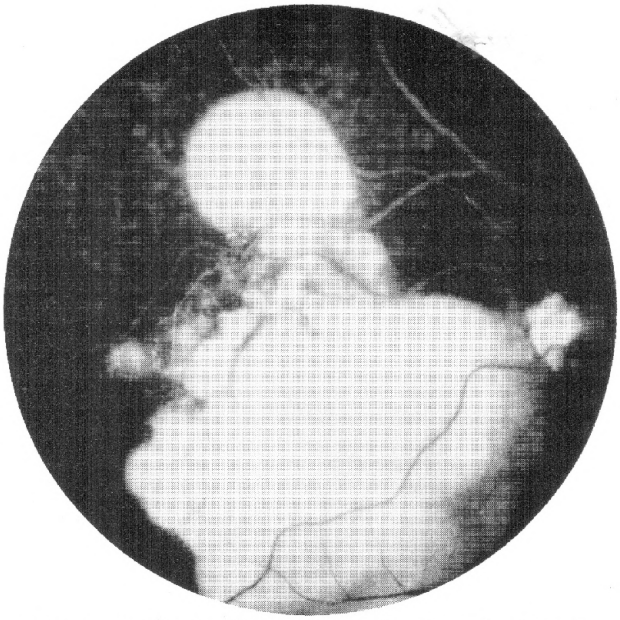

Figure 3 (Adhi, Mirza, Shaikh, Hasan): Case 1. Right eye. Fluorecein angiograph in acute stage.

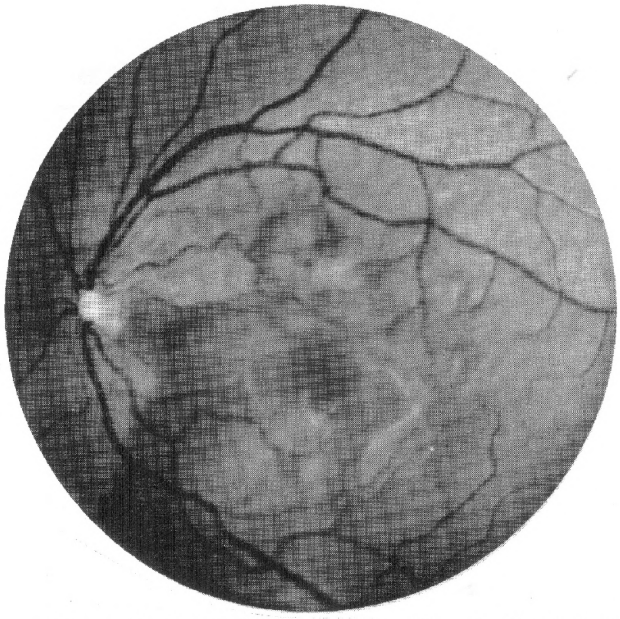

Figure 2 (Adhi, Mirza, Shaikh, Hasan): Case1. Left eye. Same as in Figure 1.

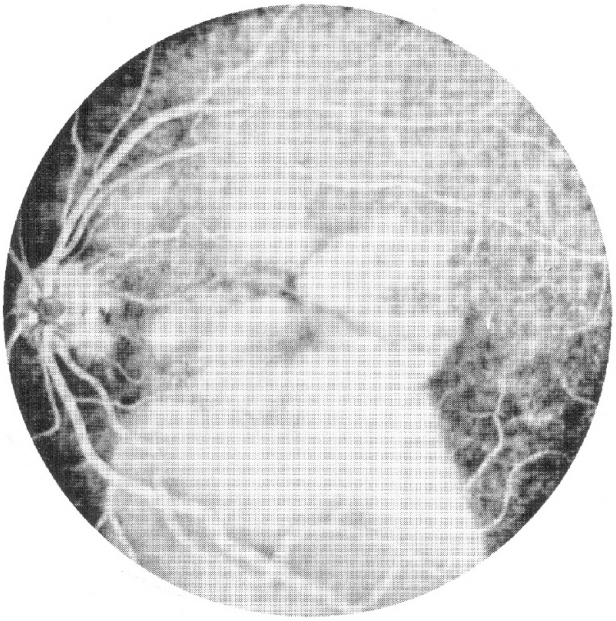

Figure 4 (Adhi, Mirza, Shaikh, Hasan): Case 1. Left eye. Fluorescein angiograph in acute stage.

had additional evidence of serous retinal detachment. One patient, a 24-year-old woman, also had the very uncommon associated subretinal macular hemorrhage in both eyes. Two patients developed extensive chorioretinal scarring with corresponding scotomas on perimetery. Despite extensive chorioretinal scarring, one of these two patients showed functional improvement from a visual acuity of hand movement (HM) to 6/24 (20/80) in his right eye.

Following are brief case histories of these patients:

CASE 1: A 16-year-old girl presented with a sudden painless deterioration of vision in her both eyes. Shealso had history of a preceding viral type illness. On eye examination her visual acuity was 6/60 (20/200) in right eye and 6/36 (20/120) in left eye. Ophthalmoscopic examination showed typical fundus changes of APMPPE in both eyes (Figures 1 and 2). On fluorescein angiography, in addition to the characteristic APMPPE changes, inferior serous retinal detachment was present in each eye (Figures 3 and 4).

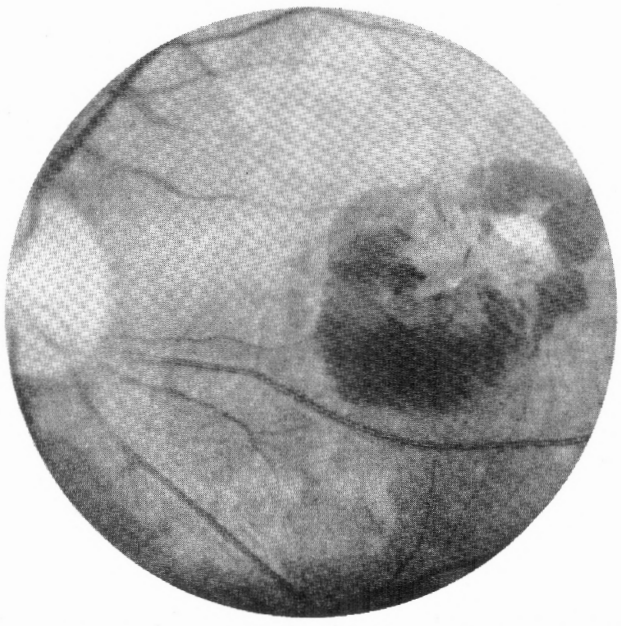

Figure 5 (Adhi, Mirza, Shaikh and Hasan): Case 2. Left eye. Unusual macular hemorrhage (bilateral) with APMPPE.

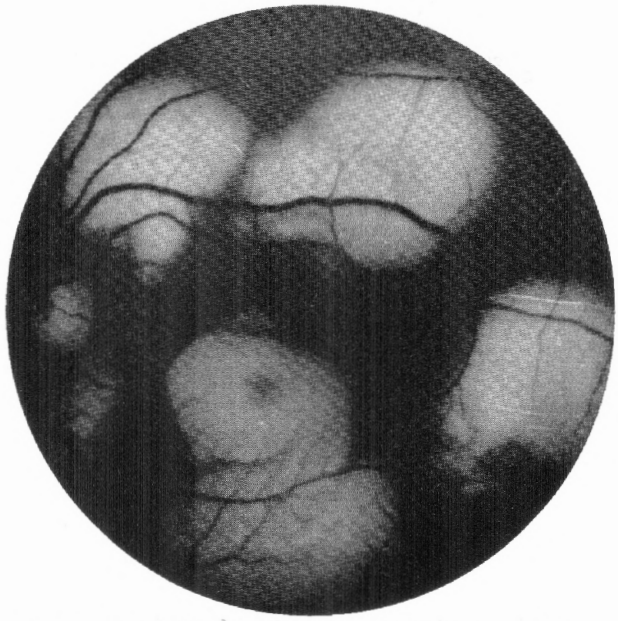

Figure 7 (Adhi, et. al): Case 3. Left eye. Color fluorescein angiograph with typical APMPPE changes.

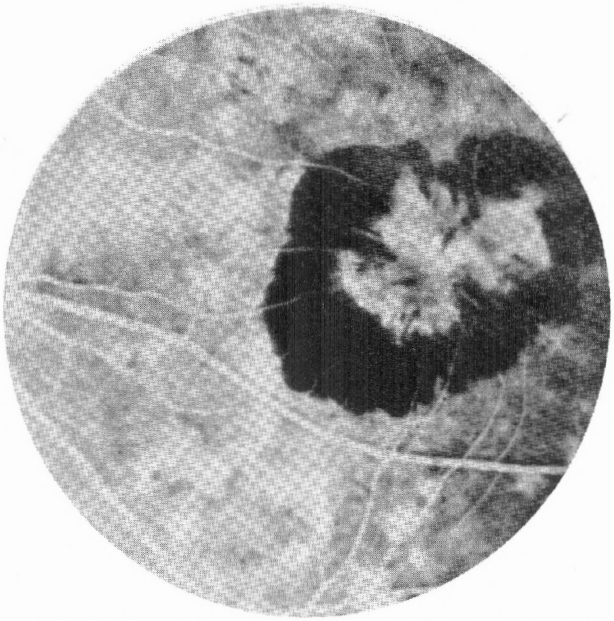

Figure 6 (Adhi, *et. al*): Case 2. Left eye. Fluorescein angiograph. Multiple hyperfluorescent areas and hemorrhage.

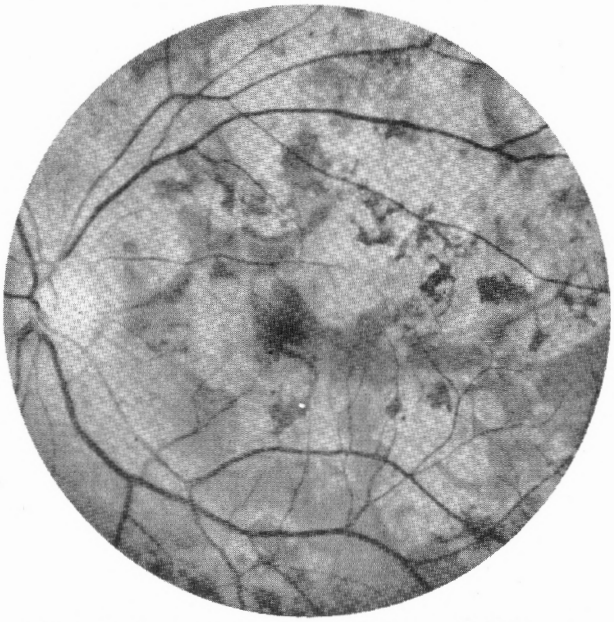

Figure 8 (Adhi, et. al): Case 5. Left eye. Multiple areas of pigmentary derangement in healed APMPPE.

She received systemic oral corticosteroids. The patient showed remarkable recovery over two weeks period, with return of visual acuity to 6/6 (20/20) in each eye. However, on the follow up visit after this functional recovery, more than normal staining at the optic nerve head in the late phases of fluorescein angiography was noted in both eyes.

CASE 2: A 24-year-old woman had a flu-like syndrome, and soon afterward she developed sudden loss of sight in both eyes. One eye examination the visual acuity was reduced to 6/24 (20/80) in the right eye and to HM in the left eye. On ophthalmoscopy both ocular fundi showed placoid lesions of APMPPE. However, the most interesting was the bilateral presence of deep macular hemorrhage (Figure 5). Fundus fluorescein angiography confirmed both these findings (Figure 6). The patient was diagnosed to have APMPPE and received oral systemic corticosteroids. Unfortunately, she did not report for follow up.

CASE 3: A 25-year-old woman previously in good health developed malaise and headache. Because of a non-specific diagnosis, doctor prescribed analgesics for

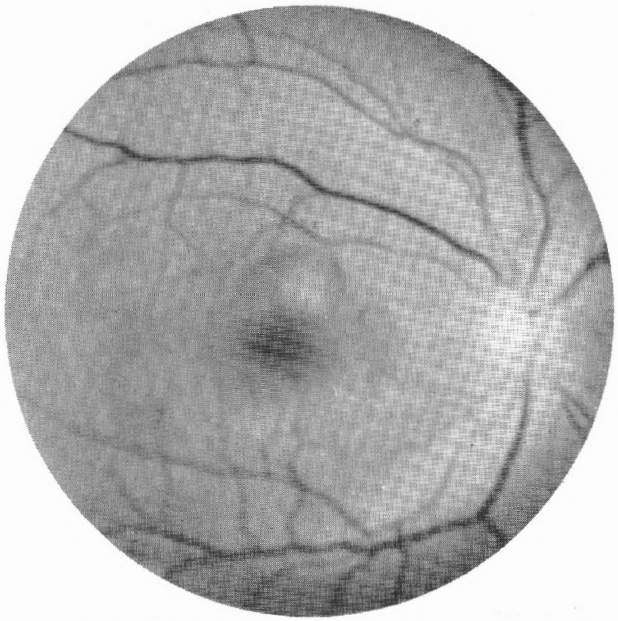

Figure 9 (Adhi, et. al): Case 6. Right healthy eye. The left eye with healed APMPPE had changes similar to Figure 8.

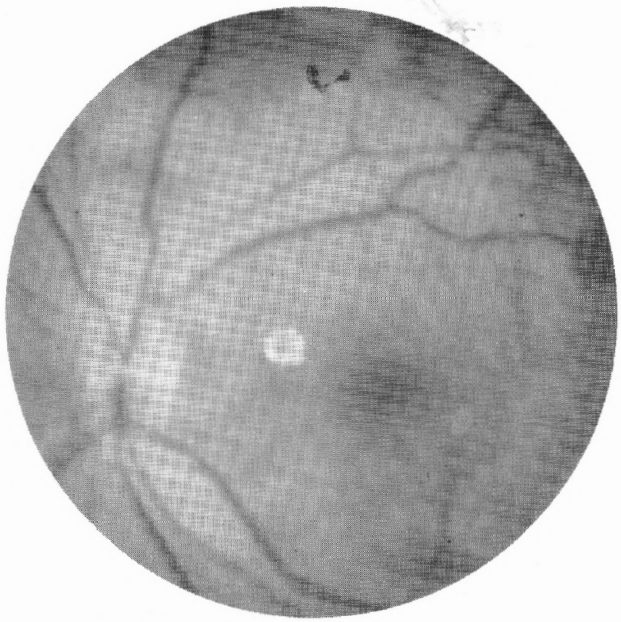

Figure 10 (Adhi, et. al): Case 7. Left eye. Monocular APMPPE in acute stage in a man of 50.

the malady. Three days afterward, the patient noted blurred vision in both eyes. Her visual acuity was 6/24 (20/80) in th right eye and 6/60 (20/200) in the left eye. Ophthalmoscopy showed placoid lesions of APMPPE, which color fundus flourescein angiography confirmed (Figure 7). The left eye also showed evidence of serous retinal detachment. The patient received systemic steroids. She unfortunately did not return for follow up.

CASE 4: A 25-year-old man complained of seeing wavy lines through his left eye for about one week. His visual acuity was 6/6 (20/20) in each eye. However, evaluation with ophthalmoscopy uncovered fundus changes suggestive of APMPPE in the left eye. The fluorescein angiography confirmed this diagnosis. The patient was placed on systemic corticosteroids. Unfortunately, he too was lost to follow up.

CASE 5: A physician referred a 30-year-old man who had suffered deterioration of sight in the right eye following an episode of fever. The referral note indicated that the referring physician had made the diagnosis of chorioretinitis in both eyes. Eye examination showed his visual acuity to be counting fingers (CF) at three feet in right eye and 6/9 (20/30) in left eye. Multiple yellowish lesions were present in the postequatorial region of the retina in both eyes. Assuming the diagnosis of APMPPE, the patient was placed on systemic steroids. This patient went on to develop extensive chorioretinal scarring in both eyes (Figure 8) with corresponding visual field defects. At the time of his last visit the visual acuity had improved to 6/24 (20/80) in the right eye and 6/9+ (20/30+) in the left eye.

CASE 6: A 35-year-old woman developed sudden painless deterioration of vision in her left eye. On eye examination her visual acuity in the involved eye was HM and in the non-involved right eye it was 6/6 (20/20). Ophthalmoscopy uncovered multiple dirty white lesions in the left ocular fundus. Fluorescein angiography confirmed the diagnosis of APMPPE. The patient was put of systemic steroids. Eventually, the left eye went on to develop extensive chorioretinal scarring (Figure 9). No improvement occurred in vision of left eye even after complete resolution.

CASE 7: A 50-year-old diabetic man developed sudden painless decrease in vision in his left eye about one week after a viral illness. On eye examination, visual acuity was 6/6 (20/20) in right eye and CF at three feet in left eye. Ophthalmoscopy showed changes of early background diabetic retinopathy in the right fundus, while the left fundus had classical features of APMPPE (Figure 10). Fluorescein angiography confirmed these findings. As his diabetes was under good control, the patient was put on systemic steroids under supervision of an internist. This patient has also failed to report for follow up.

Discussion

In 1968, Gass[1] first introduced the term acute posterior multifocal placoid pigment epitheliopathy (APMPPE) to describe clinical and fluorescein angiographic findings in the ocular fundi of three young women who had developed rapid bilateral visual loss. He concluded that the loss of sight in these patients was secondary to "multifocal, yellow-white, placoid lesions at the level of the retinal pigment epithelium and choriod." The acute subretinal lesions, which resemble areas of photocoagulation application,

resolve rapidly without treatment, and despite noticeable residual pigment epithelial derangement, the sight improvement is marked. Although inflammatory cells may be present in vitreous in 50% of the patients, the overlying retina usually appears normal.[2] Retinal perivenous exudation, dilatation and increased tortuosity of retinal veins, optic disc edema or inflammation, and iridocyclitis may be other uncommon ocular findings. The disease is bilateral, but infrequently may be, as in Case 6, unilateral. APMPPE has also been reported to occur in both sexes in blacks as well as in whites.[3]

The disease may infrequently be chronic and recurrent. Usually it is not accompanied by retinal detachment.[2] However, exudative retinal detachment following the course of Harada's disease has been reported.[4] Two of our patients (Case 1 and Case 3) had serous retinal detachment which resolved completely in a few weeks.

APMPPE is a polymorphic disorder, as is obvious by the occurrence of a variety of associated ocular and systemic manifestations, and as well as by the wide range in severity and extent of fundus involvement. This polymorphism may make distinction between APMPPE and other clinical entities difficult.[3] Bird, Wright, and Hamilton[5] described a continuous spectrum of disease from APMPPE to Harada's disease.

Central retinal vein occlusion, posterior vitreous detachment, episcleritis, and Gunn's pupillary reaction have been reported in some patients with APMPPE.[5] Our Case 2 had subretinal macular hemorrhage in both eyes. No known cause of this was discovered in this patient. Hemorrhage of this nature is highly unusual in association with APMPPE.

Systemic changes that have been recorded in patients with APMPPE include erythema nodosum, headaches, meningism and focal neurological signs, cerebral vasculitis, cerebrospinal fluid abnormalities, subclinical nephritis, thyroiditis, sarcoidosis, transient hearing loss and homonymous hemianopia. There is also report of death of a patient with APMPPE.[6]

Etiology of APMPPE is unknown. Possibility of infectious cause is supported by frequent occurrence of antecedent viral illness.[7] Six of our patients had antecedent flu-like symptoms. Adenovirus type 5[8] and HLA-B7 and HLA-DR2 antigens have been associated with APMPPE.[9]

Microbial toxins and antibiotics may elicit hypersensitivity reaction associated with choroidal vasculitis. This may explain recurrence in chronic cases.[10,11] None of our patients gave any history of taking any antibiotics prior to the onset of symptoms.

There exists a controversy about the retinal pigment epithelium or the choriocapillaris as being the primary site of involvement. Several authors have documented abnormal choroidal perfusion in APMPPE.[12,13]

Pathophysiological mechanism ofAPMPPE is now thought to be the choroidal ischemia leading to a disturbance of retinal pigment epithelial barrier.[14]

Fluorescein angiography is very helpful in making the diagnosis of APMPPE. Characteristically, the acute lesions block out the choriodal fluorescence in early phase. In mid and late phases the lesions become evenly stained and demonstrate hyperfluorescence in late phase.[14]. The resolved lesions show extensive alterations in choroidal fluorescence with little evidence of occlusion of choriocapillaris. pattern and demonstrate The central non fluorescent spot can be explained by masking affect of retinal edema, pigment alteration in the retinal pigment epithelium and absent or poor filling of choriocapillaris. Later on filling occurs form adjacent areas causing hyperfluorescence.[15]

Differential diagnosis of APMPPE includes geographic choroiditis (serpiginous choroiditis or helicoid peripapillary choroidapathy), acute pigment epitheliitis, acute macular neuroretinopathy, multiple evanescent white dot syndrome, bird shot retinochoroidopathy and recurrent multifocal choroiditis.[16]

Visual prognosis is relatively good, and there is a delayed remarkable recovery of sight to the levels of nearly 6/9 (20/30) or better.[2] In four out of our seven patients the visual improvement also was impressive. Despite a good long term prognosis for visual acuity, most patients have residual symptoms of blurred vision and paracentral scotomas.[17]

A series of patients with APMPPE are reported to have developed marked visual loss and extensive chorioretinal atrophy.[18,19] Two of our patients, one bilateral (Case 5) and the other unilateral (Case 6) developed extensive chorioretinal atrophy with attendant corresponding field defects. Presumably the eyes with extensive atrophy suffer more severe choroidal ischemia than eyes with no or only mild atrophy. Whether eyes that suffer severe visual loss or extensive atrophy and scarring should be considered to have APMPPE as defined by Gass[1] is not clear.[3] The concept of spectrum of diseases with a common underlying pathogenesis of varying severity may avoid the uncertainties inherent in rigid definitions.

Our series shows a variable presentation of APMPPE. Despite treatment with oral corticosteroids, two patients (Cases 5 and 6) went on to develop extensive chorioretinal scarring, indicating that choroidal ischemia rather than inflammation is the probable pathophysiological mechanism in the disease process.

Long term follow up is a big problem in our set up. Hence, it is difficult to comment on the role of systemic steroids in visual outcome of our patients with APMPPE.

Acknowledgment

Thanks are due to Dr. Akhtar J. Khan and Mr. Ibrahim Ismail for their help.

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Ophthalmic "Pastpourri"

For I's in Pakistan

Nearly 75 years ago, an editorial titled "Artificial Eyes Vs. Patriotism" in the *American Journal of Ophthalmology* read in part:

"Medical men have depended upon Germany for certain drugs, dyes, appliances, etc. Inasmuch as such articles could be purchased from Germany and were of superior quality and cheap, Americans have purchased them and have used them with satisfaction. But there is really no reason why all these things cannot be produced at home, and as a matter of fact they *will* be produced at home, and all we need to do is to realize that they *must* be manufactured in this country; and before long this object will be attained. It is up to us, therefore, to learn to be independent and to make what we need here in the United States and then to protect our own industries. Let all chemical and other manufacturers, therefore, realize that they are facing this problem and must conquer it. Until this condition of affairs is reached, however, let us cheerfully go *without* those articles we have previously imported from Germany, but which we have not yet learned how to produce."

[Italics author's-Editor]

-Am J Ophthalmol 1:803, 1918

A Rare Occurrence of Malignant Melanoma of the Choroid in a Pakistani Woman

Samina Jahangir, F.C.P.S. and Wasif M. Kadri, F.C.P.S.

ABSTRACT: We unexpectedly found malignant melanoma of the choroid in the left eye of a 45-year-old Pakistani woman who was referred to us for the treatment of a retinal detachment. The rarity of uveal malignant melanoma in Pakistanis makes this case interesting and worthy of reporting. Histologically, the tumor was composed of spindle B type cells. No local or systemic metastases were present at the time of enucleation or the last postoperative (21 months) follow-up. (Pakistan Journal of Ophthalmology 8:67-70, July, 1992)

Malignant melanoma of the choroid is the most common primary intraocular tumor in adults in white races, but it is rare in Asians and extremely rare in blacks and children. Shields and Shields[1] found only 10 cases in blacks and two in Asians on review of 3,000 patients with posterior uveal melanoma in the Unitedd States. It equally affects patients of both sexes, typically during the fifth and sixth decades of life.[2] Seventy percent of the cases present between the ages of 40 and 70, and a first presentation before the age of 25 and after the age of 80 is rare.[2]

We report an unusual and rare case of malignant melanoma of the choroid in a 45-year-old Pakistani woman who was referred to us for the repair of retinal detachment in her left eye.

Case Report

On June 6, 1990, a 45-year-old woman came with complaint of trouble with sight in her left for about seven months. Her own ophthalmologist detected a retinal detachment in the left eye, and referred her for retinal surgery. The patient gave no history of ocular trauma, intraocular surgery, or any associated systemic symptoms. Her general health was good, and also her family history was noncontributory.

On eye examination visual acuity was 6/6 (20/20) in the right eye and perception of hand movements (HM) in the left eye. Right eye appeared normal in all respects. Externally, the left eye also was normal, but on ophthalmoscopic examination revealed a retinal detachment that involved macula and inferior retina. Of greater interest was the discovery of a relatively unpigmented mass occupying upper temporal part of fundus with its nasal edge lying within one disc diameter of the fovea (Figure 1). The size of the mass was 3.5 x 2.5 disc diameter (5.25 mm horizontally and 3.75 mm vertically, and about 3 mm in elevation.) The detached retina in the macular area was relatively opaque and its vessels were more tortuous than usual. A closer inspection of the surface of the mass showed the presence of small foci of orange pigmentation.

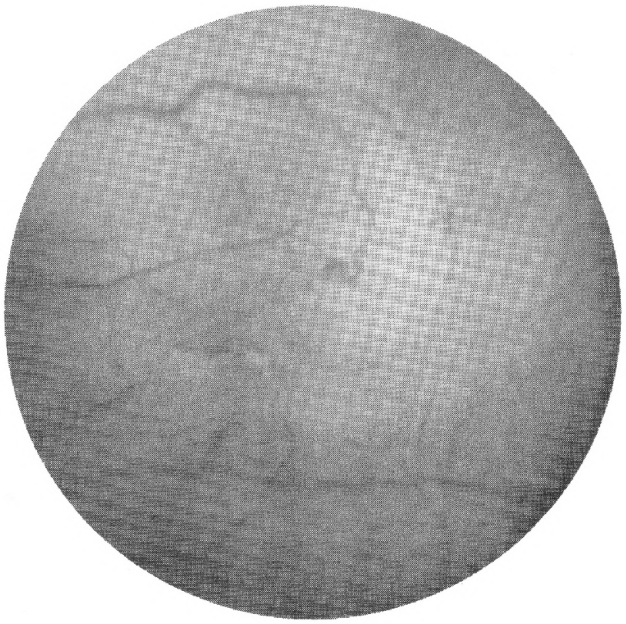

Figure 1 (Jahangir and Kadri): Left ocular fundus. Note superotemporal to the macula a circular non-pigmented mass under the detached retina. A couple of irregular dilated vessels of the tumor are clearly lying deeper to the retina.

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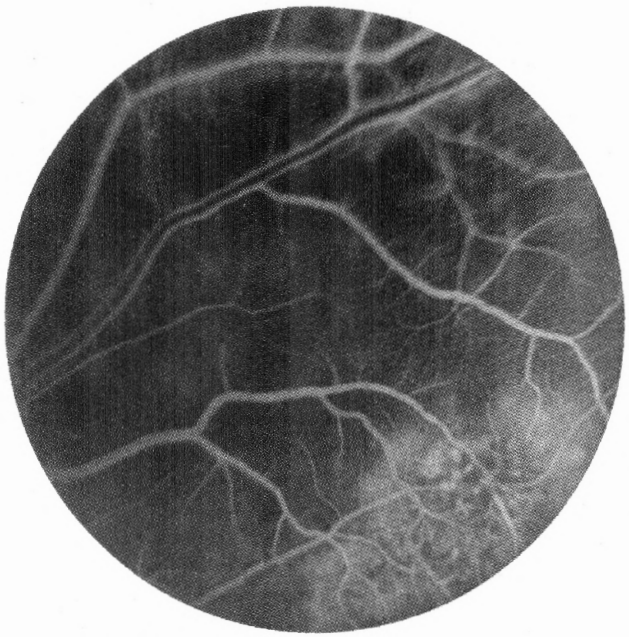

Figure 2 (Jahangir and Kadri): Left eye fluorescein angiograph. Note the hyperfluorescence of the lesion in the arteriovenous phase. Internal network-like pattern is obvious.

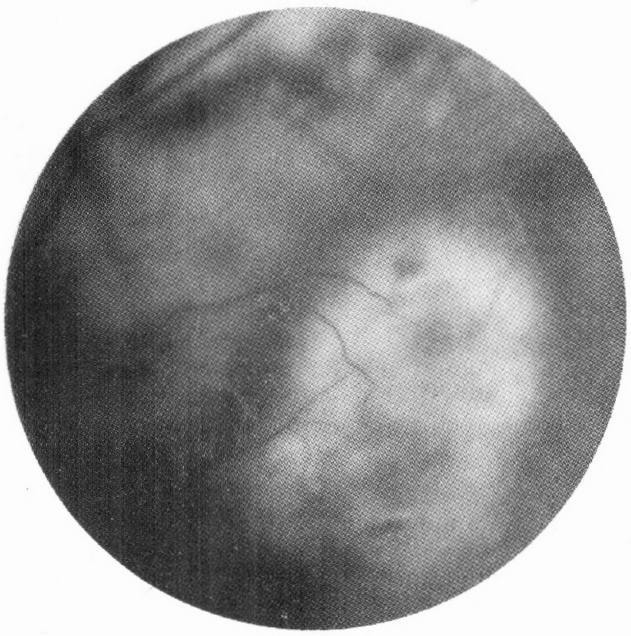

Figure 3 (Jahangir and Kadri): Left eye fluorescein angiograph. Leakage of dye inside the tumor and into the surrounding subretinal fluid is present.

The inferior retina was transparent with normal vascular structure. The upper retina was attached and had no abnormality. No breaks were detected anywhere in thedetached portion of the retina. The intraocular pressure was normal in both eyes.

A-scan ultrasonography revealed high initial spike, and low to medium internal reflectivity peaks. Transillumination test was negative. Fundus photographs in black and white and in color were obtained. Fluorescein angiography exhibited hyper-fluorescence in the lesion during arteriovenous phase. This was more marked at the periphery of ther tumor. Inner part of the lesion showed a vascular pattern that was suggestive of a vascular network which appeared distinctly separate from the overlying retinal vessels (Figure 2). Late fluorescence due to diffuse leakage from tumor vessels was evident two minutes after the deep staining of the mass. There was also present the staining of the surrounding subretinal fluid (Figure 3).

We made a diagnosis of choroidal malignant melanoma, and enucleated the left eyeball on June 18, 1990. Histopathological studies were performed by the Department of Pathology, Allama Iqbal Medical College, Lahore. Their report contained following comments: Gross examination of a sagital section of the eye showed a whitish cheesy mass underlying the neurosensory retina. The height of the mass was about 5 mm, and its appearance suggested a mushroom growth pattern (Figure 4). Histological section stained with hematoxylin and eosin stain showed cells with large round and oval nuclei with prominent nucleoli.

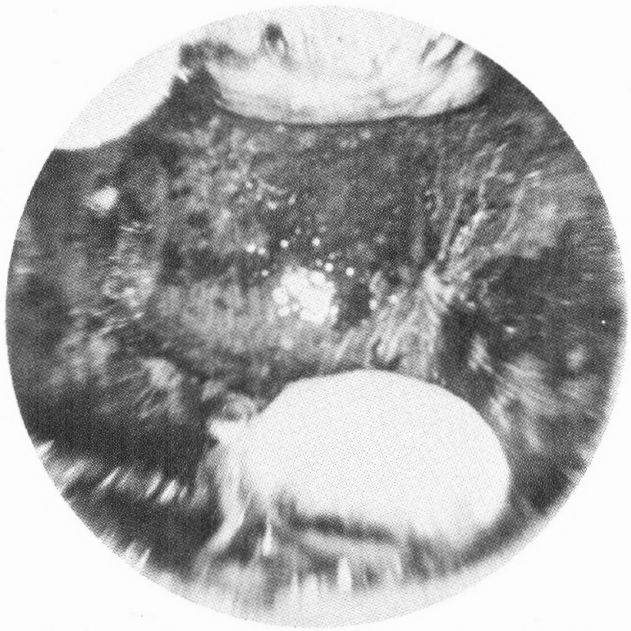

Figure 4 (Jahangir and Kadri): Left eye. Sagital section of the globe. Note the mushroom shaped tumor at the posterior pole.

The cells did not show clear cut boundaries and merged as a syncitium. They were classified as spindle B type cells of a uveal malignant melanoma. No local spread was present. A lack of necessary facilities did not permit photomicrography.

No systemic metastases could be detected.

Discussion

The reports of choroidal malignant melanoma in Pakistanis are very difficult to find. However, a recent report on 1,400 orbital tumors by Munirulhaq[3] showed that 4.1% of these were pigmented tumors, 55% of which were malignant melanomas and 45% benign melanotic lesions. Also, no pigment tissue tumor was found in 198 pediatric malignancies at the INMOL (Institute of Nuclear Medicine and Oncology, Lahore).[4]

Uveal malignant melanoma may arise *de novo* from the embryologic derivative cells of the neural crest or as a malignant transformation in a preexisting nevus.[5]

Clinical presentation of a malignant melanoma is variable.[6] It may present as a mass of variable size shape and color, a serous detachment of the retina,[7] the choroidal folds, a subretinal, intraretinal or vitreous hemorrhage,[8,9] a hard yellow exudation, secondary glaucoma, a cataract, an ocular inflammation such as iridocyclitis or uveitis, an extrascleral spread, or a chance detection of an asymptomatic tumor.[10] Also, unsuspected malignant melanomas are found in about 4% of blind eyes enucleated for other reasons.

Frequently, malignant melanomas of the ciliary body or peripheral choroid attain a large size before their clinical diagnosis. Because they produce visual symptoms early, choroidal melanomas in the macular region are usually diagnosed when still small in size.

Although a typical choridal malignant melanoma has a characteristic appearance, several other mass forming lesions may outwardly resemble it, making the differential diagnosis a difficult challenge.[11,12,13] Nevus, melanocytoma, choroidal hemangioma, lymphoid hyperplasia, leukemic infiltrates, metastatic tumor, neuroepithehial tumors, pigment epithelial hyperplasia, hamartomas,[14] etc. are examples of proliferative, hyperplastic, or neoplastic processes that need to be considered in the differential diagnosis of malignant melanoma. Some other non-neoplastic processes such as intraocular hemorrhage, disciform macular degeneration with serous and hemorrhagic detachment of pigment epithelium and retina, choroidal detachment, retinal detachment, retinal cyst, and chorioretinal infammatory processes also come in differential diagnosis of this tumor.

A systematic diagnostic approach generally helps to arrive at a correct diagnosis. A careful history helps exclude trauma, intraocular surgery. Systemic symptoms suggestive of tumor elsewhere and medical evaluation for metastases to and from the eye provide useful clues. Examination of the affected and opposite eye with indirect ophthalmoscope and contact lens helps in arriving at a conclusion in a vast majority of cases. Transillumination helps to differentiate solid lesions form those which permit the transmission of light. Serial fundus photography is the most accurate method for documenting any increase in size of the lesion. Fluorescein angiography, ultrasonography, and ^{32}P uptake test also very helpful.[15,16,17,18]

The features that led us to arrive at a diagnosis of malignant melanoma in our patient were absence of ocular trauma or surgery , negative medical evaluation, contralateral normal eye, stereoscopic fundus view showing a mass greater than 3 mm in elevation, serous detachment of the adjacent retina, foci of orange pigmentation on the surface of mass,[19,20] and the charateristic fluorescein angiographic features.

Enucleation, radiation, local resection and photocoagulation have been advocated in the management of malignant melanoma of choroid.[6,21,22,23,24] Currently, the experts advise enucleation for (1) a tumor that is too large to be managed by radiotherapy or local resection, (2) a tumor that has produced total retinal detachment or servere secondary glaucoma, and (3) a tumor that shows properly documented growth.

In our patient we opted for enucleation because of her relatively younger age, good general health, loss of useful vision in the involved eye, size and location of the tumor, pigment (lipofuscin) over the surface of the tumor, and the presence of retinal detachment.

We did not employ pre-enucleation radiotherapy (PERT),[25] because some recent publications have suggested it to be of little or no value. Microscopic identification of the cell type in a malignant melanoma greatly assist in assigning a prognosis to a given patient. Tumors with Spindle B cells have the second best prognosis. It is estimated that 75% of the affected patients are considered cured, that is to say that they survive at least 15 years following enucleation.[26]

The role of enucleation in the management of patients with posterior uveal melanoma remains controversial.

Although many authorities still strongly favor enucleation as the treatment of choice for choroidal and ciliary body melanomas, [27] others have raised serious questions about it, and have even suggested that it worsens the prognosis by promoting metastatic spread through blood vessels.[28,29] Other reasons that led to the re-evaluation of the role of enucleation are the finding of histopathologically benign lesions in eyes that had been enucleated for a preop diagnosis of malignant melanoma,[13] opinion that some lesions (spindle A cell variety) that were considered cancerous according to Callender's classification are in fact benign,[30] the view held by some that enucleation of eyes with uveal melanoma may not improve the prognosis for life,[31] and the concept that at the time of initial diagnosis of melanoma there may exist occult subclinical liver metastases, which may be kept dormant for many years by the host defense mechanism.[29] Despite the fact that there is no convincing evidence of malignant cell dissemination on manipulation of the eye during enucleation, some authorities advise that this procedure "on melanoma containing eyes should be performed as gently as possible.[2] Some authors have devised "no-touch technique"[32] and "normal intraocular pressure

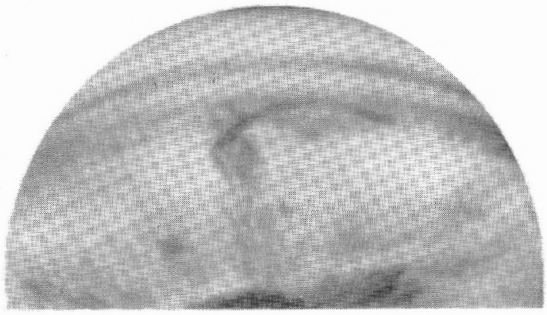

Figure 1 (Awan): Case 1. Goniophotograph of the right eye. Note that after perforating the iris the loop is lying in the anterior chamber angle.

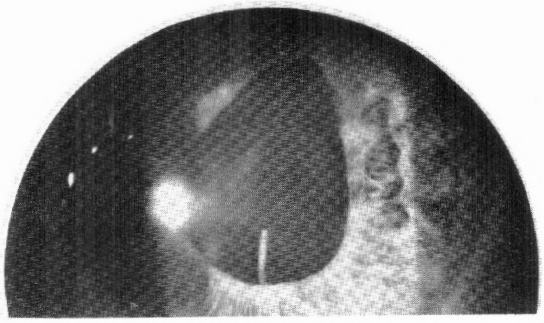

Figure 2 (Awan): Case 2. Biomicrograph of the right eye. Notice the encroaching inferior haptic loop into the pupillary area.

patient did not stop squeezing the lids of the right eye. The patient was called in for eye examination.

Her eye examination showed a red right eye with only a mild reaction in the anterior chamber. However, what was more interesting was an unusual smooth rounded spot behind the 8 o'clock limbus seen during biomicroscopy. For further elucidating the nature of this spot gonioscopy was performed. The spot actually was the ring at the end of the IOL blue haptic which had perforated through the iris and was lying in the anterior chamber angle (Figure 1). Treatment with topical antibiotic and steroids drops cleared the eye in a couple of weeks. During a two-year observation, the haptic has neither changed its position nor caused any additional problems.

CASE 2: A 71-year-old woman underwent an uneventful extracapsular cataract extraction with posterior chamber IOL implantation in the right eye. The IOL was implanted "in-the-bag." No complication developed postoperatively, and IOL positioning appeared very satisfactory even through a dilated pupil. Postoperatively, the visual acuity with glasses improved to 20/40 (6/12) from the preoperative vision of only counting fingers at three feet. There was no other preoperative ocular abnormality.

Five months after the surgery, the patient returned to have her eye checked for a slight "irritation in the outer angle" of the operated eye. Eye examination showed slight redness in the outer canthal area. However, surprisingly the tip of the inferior IOL loop was projecting into the pupillary area and lying on the anterior surface of the optic. No adhesions were present between the IOL haptic and the iris. It appeared, however, as if there might be some adhesion formation at a few points between the lens capsule and the peripheral iris.

At the time of her six-month postoperative visit, the loop of the IOL had further encroached into the pupillary zone (Figure 2). It has not given rise to any complaints even after a two-year follow-up.

Comment

Both of the complications mentioned here are rare. Olson and Brodstein[5] reported the encroachment of IOL loops into the pupil in one patient, and Pearce[6] mentioned a patient of Alpar in whom, like in Case 1, a loop of a posterior chamber IOL had perforated through the iris. Both of these patients also remained symptom free, suggesting that these complications are usually not of serious consequence. However, future publications may prove their benignity to be short-lived.

It appears that the responsible mechanism in Case 1 was the persistent strong squeezing of the eyelids, and in Case 2 it was the excessive capsular fibrosis that caused more than usual compression of the haptics.

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Figure 1

Corneal Ulceration from a Normal Eyelash

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

ABSTRACT: A 58-year-old woman developed red and painful left eye. Examination showed that a normal cilium of the upper eyelid had become bent at a sharp angle in such a way that its end jabbed onto the cornea with every blink. On slit lamp examination, a small area of epithelial loss and superficial stromal infiltration was present where the tip of the eyelash touched the cornea. Simple epilation of the offending cilium cured the condition; whereas, the treatment with topical antibiotic drops given by her physician for nearly a week had for obvious reason failed to do so. (Pakistan Journal of Ophthalmology 8:58, 73, July 1992)

Figure 1 clearly shows a normallly growing cilium sharply bent backward and touching the cornea. A rounded nebular opacity is also visible where the tip of eyelash is touching the cornea.

The mechanical trauma caused by the repeated stabs of the bent eyelash had led to formation of an epithelial defect, under which there also was some superficial stromal infiltration. Fortunately, antibiotic drops prescribed by the patient's physician prevented the development of infection. Nevertheless, this treatment did nothing for the continued mechanical trauma to the cornea; hence, the persistence of pain and irritation of the eye.

A simple epilation of the offending eyelash gave immediate relief from the symptoms. Corneal reepithelialization took place by the next morning, and stroma became clear within two days after that without further treatment.

Comments

The corneal complications of entropion of the eyelid and from rubbing of the abnormally growing eyelashes, such as trichiasis, distichiais, etc., are well-recorded. In the initial stages of development of entropion, watering and irritation of th eye are the only symptoms. However, if the condition persists, corneal epithelial defects, sometimes leading to ulcers due to secondary infection, may threaten the sight.[1,2]

In some cases, the skin of the lid may be so redundant that it may push the cilia against the cornea.[2] However, in this situation of inepiblepharon, it is the curved center of the cilium and not its sharptip that lies againast the cornea. If congenital, inepiblepharon usually disappears with time as the bony structure of the face grows.[2]

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In the case of trichiasis, it is abnormal cilia that grow facing directly inward that cause the problem. In distichiasis, additional one or more rows of abnormal eyelashes are congenitally present on eyelid margin.

The treatment of our case was simple epilation. However, this may not be, and usually is not, a satisfactory treatment for trichiasis. Persistent trichiasis is a difficult problem to handle in the past. Some authors advocate cryotherapy for more severe cases of trichiasis.[3] However, this method is not without some serious complications. The advent of laser has made it less complex and more successful in cases where the number of eyelashes is less than half a dozen. Awan[4] popularized the laser photoablation of follicles of the abnormal cilia with argon laser in the mid-80's. Recently, several authors have reported successful and better results with this technique.[5,6,7]

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Figure 2

Ant Infestation of the Human Orbit (Ocular Myrmecosis)

Akhtar J. Khan, F.C.Ophth.

ABSTRACT: A 7-year-old girl suffered from recurrent episodes of pain, redness, and watering of her right eye. During one of the acute episodes, a tiny black object was seen floating in the pool of tears. On microscopic examination it turned out to be a callow of ant. During a careful slit lamp examination, the examiner made and videotaped the most astonishing observation of the newly hatched ants digging their way out from under the conjunctiva of the inferior fornix. The infestation of the human orbit with ants, the ocular "myrmecosis," is most unusual and at present a difficult to explain phenomenon. (Pakistan Journal of Ophthalmology 8:59,74, July, 1992)

Figure 2 shows a newly hatched young or a callow of ant under magnification. This particular specimen was recovered from the tears of the patient reported here. The first thought was that this ant might have entered the conjunctival sac and caused symptoms by producing irritation. However, this view had to be discarded when to the utter amazement of the examining ophthalmologist, other newly hatched young ants were seen actually digging their way out from under the conjunctiva of the inferior fornix during a slit lamp examination . On one occasion the gradual emergence of the ant callows from under the conjunctiva of the inferior fornix was also recorded on video. Fortunately, this ant infestation of the orbit did not affect the globe and the eyesight, at least during the period the patient remained under observation.

Several insects are known to affect the eye and paraocular structures. Most of these cause damage to the structures by bites or stings with venom, and only rarely does an insect directly invade the tissues. However, direct mechanical trauma from a detached stinger that gradually buries its way into the deeper tissues is also possible, bee sting keratitis is one example of this.[1] The other stinging arthropods include wasps, hornets, scorpions, and some ants. One type of South American ant's sting can cause a swelling 15 cm. across.[2]

Many ants bite rather than sting. The usual weapon is their strong mandibles, the strong grip by which is sometimes accompanied by deposit of venom from poison glands into the wound. Similarly, tiny ants of various varieties found in Indo-Pakistan are quite vicious in inflicting such bites on the skin during sleep. Because of their very small size, these ants may become totally hidden in the folds of swollen skin and not be found. Ruata, according to Duke-Elder,[2] reported that bites of this type are a commonplace on the lids of sleeping infants in the West Indies. Bites may also be inflicted by mosquito, spider, tick, bed-bug, sand-flea, mite, centipede, beetle, leech, etc. with troublesome consequences.

From minor to serious reaction may arise in the ocular tissues when parts of insects, such as a broken wing, hair, etc., fly into the eye. [3,4] Awan and Wolter[4] recently published an excellent report on clinical and histopathological changes in conjunctivitis nodosa caused by the caterpillar hair. The external and internal ophthalmomyiasis, infestation with larvae of fly, has been reported on many occasions.[5,6]

The infestation of the human orbit by ant larvae is most unusual. By what mechanism this occurred in our patient is very difficult to say. Ordinarily, eggs (usually less than 0.5 mm in length) laid by the queen ant pass through the usual stages of metamorphosis in hatching. However, in some species of ant larvae do not produce a cocoon. It is possible that an ant carrying a pile of eggs, which is what they sometimes do in warmer regions, deposited them in the cul de sac of our patient's eye.

Reprint requests and inquiries to Dr. Akhtar J. Khan, FRCS, FCOphth, Akhtar's Eye Hospital, Gulshan-e-Iqbal, P.O. Box 11177, Rashid Minhas Road, Karachi, Pakistan.

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Book Reviews

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

A Colour Atlas of CORNEAL DYSTROPHIES & DEGENERATIONS, 1991. By Thomas A. Casey and Khaled W. Sharif. Wolfe Publishing Ltd., 2-16 Torrington Place, London WC1E 7LT, England. Hardcover, 126 full-sized pages, 202 color illustrations, 2-page index. Price, US$80.00.

Modern state of the art printing has made it possible to produce textbooks and atlases with an astoundingly superior quality of color illustrations. Therefore today's reviewers accord more attention to the material and scope of a book in their critiques than to its production values. There have in the recent past appeared several ophthalmic publications that have earned high marks on both counts, and this monograph comfortably falls into this category.

A Colour Atlas of Corneal Dystrophies & Degenerations boasts of the highly experienced and internationally renowned cornea experts as its authors. Because almost "all the cases that (they) have presented were patients examined and followed up in (their) corneal and external diseases clinics," the *Atlas* enhances their well-deserved reputation even more. It seems that their "hope that this Atlas will resolve some of the diagnostic difficulties" which "a bewildering range of features" of corneal dystrophies and degenerations present may be realized to a significant extent.

The authors present the material in 15 chapters, which contain either several related disorders grouped together in a single chapter, such as Chapter 1 on the anterior corneal dystrophies, Chapter 2 on stromal dystrophies, Chapter 3 on endothelial dystrophies, Chapter 5 on age-related corneal degenerations, Chapter 6 on calcific corneal degenerations, and Chapter 7 on pigmentary degenerations; or, a single disorder per chapter, such as Chapter 4 on keratoconus, Chapter 8 on lipid degeneration, Chapter 9 on pterygium, Chapter 10 on Salzmann's nodular degeneration, Chapter 11 spheroidal degeneration (climatic droplet keratopathy), Chapter 12 on Terrien's marginal degeneration, Chapter 13 on pellucid marginal degeneration, Chapter 14 on corneal amyloidosis, and Chapter 15 on the superficial reticular degeneration of Koby. The last page of the text contains "Selected Reading," a list of important references which unfortunately are not cited in the body of the text.

Topics and conditions are presented with from one to several color illustrations of almost unparalleled beauty and crispness, and with equally meritable reproduction. Of even greater beauty is the writing which is concise, yet wide in scope and easily readable, containing even mention of rarer occurrences where appropriate, for instance, the case of a fairly advanced Reis-Bucklers' dystrophy in a 14-year-old boy, etc. To make the text more clear and compatible with the corresponding illustrations the authors have suitably employed the arrows and markers. Some of the biomicrographs, for instance Figures 12, 25, 26, 36, 34, 60, 89, 156, 168, and 190, are of such amazing clarity that this reviewer does not recollect of having ever set eyes upon before, which says something about both the originals and their reproduction. Many of the ophthalmologists probably will never come across some of the conditions that are included in the *Atlas*, but their inclusion has made the book a truly great differential diagnostic tool. Also very useful is the presentation of the spectrum of different entities in a disorder, and the serial photographs of a disease at different stages. The latter will help the reader in detecting a disorder at the earliest of stages, before its full-blown and "classic" picture emerges.

This generally impressive and expertly drawn face of the *Atlas* is, however, not without a few blotches. A few, and only a few (5 out of 202) illustrations (Figures 9, 139, 200, 201, and 202) are not original and have been reproduced from other sources, and, hence, do not belong in the same league as the others. If the actual photographs were unavailable, the authors should have employed the artwork as they have so impressively in many other places. At least three original photographs (Figures 80, 84, and 104) have lost some critical detail in reproduction. Some experts might disagree with authors' suggestion of penetrating keratoplasty for the management of posterior polymorphous dystrophy. Also, in this reviewer's experience, this entity is not typically bilateral, as the authors state. Nonetheless, these objections are of minor consequence, and have little bearing on the overall, and undoubtedly great, usefulness of this remarkable publication. *A Colour Atlas of Corneal Dystrophies & Degenerations* brings credit both to its authors and the publisher, and is a must for trainees, experts, and the shelves of medical libraries. -❐

Grayson's DISEASES OF THE CORNEA, Third Edition, 1991. By Robert C. Arffa. Mosby-Year Book, Inc., 11830 Westline Industrial Drive, St. Louis, Missouri 63146. Hardcover, 725 pages, 584 illustrations including 210 in color, one page of contents and 31-page index. Price, US$169.00.

Over two decades ago, Merrill Grayson wrote, together with Richard Keats, a monograph titled *Manual of Diseases of the Cornea* for the benefit of ophthalmology residents. This much appreciated publication dealt with clinical and diagnostic aspects of a large number of corneal diseases without discussing their treatment, for which the authors had planned another monograph. Ten years later, in 1979, the first

edition of the present *Diseases of Cornea* made its appearance under the sole authorship of Merrill. However, the author was generous in giving credit to his associate, Fred M. Wilson. Although intended primarily for the ophthalmic trainees and residents, this book gained much popularity among the practicing ophthalmologists at all levels. This very enthusiastic reception made it necessary to bring out the second edition just after four years, in 1983, instead of the ten-year gap between the author's previous two publications. This second edition was an improvement over its prdecessor in that most of the correctable errors had been eliminated. It attained the position of a valuable practical and reference book for ophthalmologists who understood English.

The task of preparing this third edition was handed over to Robert C. Arffa, who is an experienced and respected authority on corncal diseases in his own right. He has maintained the original style established by Merrill, including easy readability, clearcut clinical orientation, a generous number of quality color and black and white illustrations, and helpful tables. Very wisely, however, he has expanded the section on conjunctivitis. He has also, like Merrill before him, received help from Fred Wilson, who has contributed very practical and highly useful Chapter 28 on "Toxic and Allergic Reactions to Topical Ophthalmic Medications."

The full scope of the book can be measured by the titles of 30 chapters into which the author has divided the book's contents. They are: Anatomy; Physiology; History and Examination; Laboratory Evaluation; Congenital Anomalies; Conjunctivitis I: Follicular, Neonatal, and Bacterial; Conjunctivitis II: Noninfectious Causes; Chlamydial Infections; Infectious Ulcerative Keratitis: Bacterial; Infectious Keratitis: Fungal and Parasitic; Interstitial Keratitis; Viral Diseases; Blepharitis; Tear Film Abnormalities; Epithelial Diseases; Degenerations; Dystrophies of the Epithelium, Bowman's Layer and Stroma; Disorders of the Endothelium; Immunologic Disorders; Endocrine Disorders; Disorders of Lipid Metabolism; Disorders of Carbohydrate Metabolism; Disorders of Combined Carbohydrate and Lipid Metabolism; Other Disorders of Metabolism; Diseases of the Skin; Other Systemic Disorders; Drugs and Metals; Toxic and Allergic Reactions to Topical Ophthalmic Medications; Chemical Injuries; and Limbal Tumors. Although all chapters are well-written, the chapters on examination, laboratory evaluation, noninfectious conjunctivitis, infectious keratitis, viral infections, degenerations, and dystrophies particularly stand out.

Grayson's Diseases of the Cornea, third edition, is beautifully produced on a very high quality paper. The price might be prohibitive in acquiring the book in developing countries like Pakistan; otherwise, it is highly recommended for all ophthalmologists, especially those in training. -❐

OPHTHALMIC DESK REFERENCE, 1991. By James F. Collins (editor), Eric D. Donnenfeld, Henry D. Perry, and John R. Wittpenn Jr. Raven Press, Ltd., 1185 Avenue of the Americas, New York, NY 10036. Hardcover, 686 full-sized pages, 24-page index. Price US$95.00

The Editor says in the preface of this unconventional and unusual publication that a "gap exists between the extensive and definitive source work of ophthalmology an one end and of the spectrum and introductory manuals and synopses on the other end. All too often, one needs a 'slice' of ophthalmic acumen somewhere in the middle." His expectation is that *Ophthalmic Desk Reference* will be accepted as that "slice." The idea of these authors from the younger generation of American ophthalmologists is to make available to the busy ophthalmologist a single volume in which brief descriptions of eye disorders, possible diagnoses, and current therapeutic options are given in tabulated and cross-referenced format. The contents of the book are divided into 3 parts: Part I, Synopsis of Clinical Ophthalmology; Part II, Differential Diagnosis, and Part III, Appendices, on several practical topics.

The basic idea is indeed very good, but in the present edition the material seems to have been put together rather in a hurry. Like the writing, the quality of contents is variable in substance and clarity from excellent to mediocre from section to section. In a few places writing is ambiguous. A majority of the figures have been reproduced from other sources, and quite poorly in many instances. The part on differential diagnosis looks like an inadequate and paltry extract of Roy's popular *Ocular Differential Diagnosis.* Duplication of many topics, toxoplasmosis, for instance, and inadequate or missing cross-references in many places points to a need for more careful editing. The listed references should also be cited in the text.

Despite these shortcomings, the book has a definite potential for gaining popularity among the residents and trainees. Therefore, the authors will render a great service to ophthalmic teaching by producing a more carefully edited and better-written second edition. -❐

SAUNDERS OPHTHALMOLOGY WORD BOOK, 1991. By Joyce Adams. W.B. Saunders Company, The Curtis Center, Independence Square West, Philadelphia, PA 19106. Softbound, pocket-size, 362 pages. Price US$23.95

This spelling-guide is chiefly for the ophthalmic and medical records personnel. Its contents are presented in four sections of "Abbreviations," containing abbreviations and definitions; "Pharmacological," on medications and solutions; "Medical Terminology," listing general medical terms; and "Surgical Equipment and Materials," giving names of instruments, lenses, imp-lants, laser terms, dressings, sutures, and tests.

Although not comprehensive, its intended readers will find this book very useful.-❐ -KJA

Abstracts from Elsewhere

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

American Journal of Ophthalmology

CYSTOID MACULAR EDEMA, RETINAL DETACHMENT, AND GLAUCOMA AFTER Nd:YAG LASER POSTERIOR CAPSULOTOMY, RF Steinert, CA Puliafito, SR Kumar, SD Dudak, and S Patel. The authors reviewed a series of 897 Nd:YAG laser posterior capsulotomies for the complications of cystoid macular edema, retinal detachment, new onset of glaucoma, and worsened preexisting glaucoma. After Nd:YAG capsulotomy, 11 patients (1.23%; 95% confidence interval, 0.51% to 1.95%) developed cystoid macular edema and eight patients (0.89%; 95% confidence interval, 0.28% to 1.5%) developed a retinal detachment. The new onset of glaucoma was observed in seven patients (0.78%; 95% confidence interval, 0.20% to 1.36%). Five patients (0.56%; 95% confidence interval, 0.07% to 1.05%) with preexisting glaucoma had persistent worsening of their glaucoma. Most patients with a complication had no identifiable risk factors in common. The numbers of laser pulses and energy delivered were not risk factors. Retinal detachment and cystoid macular edema developed most often many months after capsulotomy and many months to years after the cataract surgery. Patients undergoing Nd:YAG laser capsulotomy therefore require ongoing medical observation to detect and treat these serious complications. *(Am J Ophthalmol. 1991; 112:373-380) Reprint requests to Roger F. Steinert, M.D., Ophthalmic Consultants of Boston, 50 Staniford St., Boston, MA 02114.*

TREATMENT OF UNILATERAL ACUTE SIXTH-NERVE PALSY WITH BOTULINUM TOXIN, HS Metz, and CF Dickey. The authors studied 29 consecutive patients with acute unilateral sixth-nerve palsy, who received botulinum toxin injection to the antagonist medial rectus muscle. The average interval between onset of palsy and treatment was 40 days and the mean follow-up from the last injection was 14 months. Before treatment, esotropia in the primary position ranged from 12 to 45 prism diopters and limitation to abduction in the affected eye ranged from -2 (approximately 15 degrees lateral to midline) to -6 (15 degrees nasal to midline). After treatment, 22 of 29 patients (76%) had complete recovery of motility as determined by version testing. Of the seven patients with a residual abduction deficit, two had fusion in the primary position, three had fusion with prismatic correction, and two patients required subsequent surgery. Botulinum toxin injection seems to be an effective treatment option in cases of acute unilateral sixth-nerve palsy. *(Am J Ophthalmol. 1991; 112:381-384) Reprint requests to Henry S. Metz, M.D., Department of Ophthalmology, University of Rochester Medical Center, 601 Elmwood Ave., Box 659, Rochester, NY 14642.*

RETINAL PIGMENT EPITHELIAL TEARS ASSOCIATED WITH TRAUMA, LA Levin, JM Seddon, and T Topping. The authors stated that two previously healthy patients, a 66-year-old man had blunt trauma from a motorcycle accident, were observed to have parafoveal retinal pigment epithelial tears after injury. In both patients, fluorescein angiography demonstrated mottled window defects in the areas of the tears, and blocked fluorescence in the areas of the rolled-up pigment epithelium. Neither eye had evidence of pigment epithelial detachments. We hypothesize that this unusual phenomenon is caused by an acute tractional force oriented tangentially to the macular plane, the result of a rapid spherically expansile deformation of the globe during trauma. *(Am J Ophthalmol. 1991; 112:396-400) Reprint requests to Leonard A. Levin, M.D., Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston, MA 02114.*

EPSTEIN-BARR VIRUS ANTIBODIES IN MULTIFOCAL CHOROIDITIS AND PANUVEITIS, RF Spaide, S Sugin, LA Yannuzzi, and JT DeRosa. The authors note that although it has been reported that patients with multifocal choroiditis and panuveitis have serologic evidence of a chronic or persistent Epstein-Barr virus infection, our patients did not seem to have other stigmata of Epstein-Barr virus infection. To reappraise the serologic evidence of chronic Epstein-Barr virus infection, the Epstein-Barr antibody levels in 11 patients with multifocal choroiditis and panuveitis and 11 sex- and age-matched control patients were measured. Neither the antiviral capsid antigen IgG (P=.15) nor the antinuclear antigen (P=.2) antibody titers of the patients with multifocal choroiditis and

panuveitis were significantly different than those of the control patients. Neither the patients with multifocal choroiditis and panuveitis nor the control patients had increased antiviral capsid antigen IgM titers. One patient with multifocal choroiditis and panuveitis and three control patients had positive anti-early antigen antibody titers (P=.59). The results of this study do not support the hypothesis that patients with multifocal choroiditis and panuveitis have serologic evidence of chronic or persistent Epstein-Barr virus infection as a characteristic finding. *(Am J Ophthalmol. 1991; 112:410-413) Reprint requests to Richard F. Spaide, M.D., Retina Service, Manhattan Eye, Ear, and Throat Hospital, 210 E. 64th St., New York, NY 10021.*

DEMONSTRATION OF HERPES SIMPLEX VIRUS DNA IN IDIOPATHIC CORNEAL ENDOTHELIOPATHY, Y Ohashi, S Yamamoto, K Nishida, S Okamoto, S Kinoshita, K Hayashi, and R Manabe. The authors stated that a 56-year-old man developed idiopathic corneal endotheliopathy. The lesion consisted of severe stromal edema at the lower half of the cornea along with a number of associated keratic precipitates and steadily progressed to the upper half of the cornea. By polymerase chain reaction, herpes simplex virus DNA was demonstrated in the aqueous humor of this patient. Corneal stromal edema was resolved in response to treatment with topically applied and systemic acyclovir. Herpes simplex virus DNA was repeatedly demonstrated in the aqueous humor when the endothelial lesion recurred later. This evidence strongly indicates that this unique endothelial disorder is of viral origin. *(Am J Ophthalmol. 1991; 112:419-423) Reprint requests to Yuichi Ohashi, M.D., Department of Ophthalmology, Osaka University Medical School, 1-1-50 Fukushima, Fukushima-ku, Osaka 553, Japan.*

EVALUATION OF DACRYOCYSTORHINOSTOMY FAILURE WITH COMPUTED TOMOGRAPHY AND COMPUTED TOMOGRAPHIC DACRYOCYSTOGRAPHY, HJ Glatt, AC Chan, and L Barrett. The authors studied five patients with dacryocystorhinostomy failures were examined with computed tomography or computed tomographic dacryocystography. In computed tomographic dacryocystography, radiopaque dye was instilled into the lacrimal sac before computed tomography to show its shape, location, and relation to surrounding structures. Problems with the bony ostium were detected in all five patients. Recurrent nasal polyposis, a retained metallic clip, and an unresected ethmoid air cell were also identified. Computed tomography and computed tomographic dacryocystography provided important information that facilitated reoperation after dacryocystorhinostomy failure. *(Am J Ophthalmol. 1991; 112:431-436) Reprint requests to Herbert J. Glatt, M.D., University Eye Surgeons, Ste. 324, 1928 Alcoa Hwy., Knoxville, TN 37920.*

PROBLEMS ASSOCIATED WITH CONJUNCTIVODACRYOCYSTORHINOSTOMY, GC Sekhar, RK Dortzbach, RS Gonnering, and BN Lemke. The authors reported that 58 patients (69 eyes) underwent conjunctivodacryocystorhinostomy for lacrimal canalicular obstruction. The cause of lacrimal obstruction and the results and complications of the operation were analyzed. Trauma and idiopathic disease were the most common causes of lacrimal canalicular obstruction in 24 of 69 (34.8%) eyes each. Relief of epiphora was achieved in 68 of the 69 eyes (98.5%). The complications included tube displacement in 40 of the 69 eyes (57.9%), tube obstruction in 19 of the 69 eyes (27.5%), and infection of the lacrimal sac in four of the 69 eyes (5.8%). Despite frequent complications, most Jones tubes can be made to function satisfactorily. Conjunctivodacryocystorhinostomy remains the best surgical treatment at this time for permanent loss of canalicular function. *(Am J Ophthalmol. 1991; 112:502-506) Reprint requests to Richard K. Dortzbach, M.D., Department of Ophthalmology, Clinical Science Center 600 Highland Ave., Madison, WI 53792.*

SECONDARY HEMORRHAGE IN TRAUMATIC HYPHEMA, NJ Volpe, WI Larrison, PS Hersh, T Kim, and BJ Shingleton. The authors analyzed the records of 132 patients hospitalized between July 1986 and February 1989 for management of traumatic hyphema. The incidence of secondary hemorrhage was compared between patients treated with or without systemic administration of aminocaproic acid in addition to an otherwise identical protocol. Results among patients who were examined within one day of injury disclosed a 4.8% secondary hemorrhage rate in aminocaproic acid-treated patients (three of 63 patients) compared with a 5.4% rate in the patients not treated with aminocaproic acid (three of 56 patients, P=.31). All six patients sustaining secondary hemorrhage recovered visual acuities of 20/40 or better, with five of six patients achieving 20/20 visual acuities. A separate group of 13 patients who were examined more than one day after injury were found to have a secondary hemorrhage rate of 38.5% (five of 13 patients). Macular injury, not secondary hemorrhage, was most often responsible among those patients suffering permanent visual loss. In this study of a predominantly white population, patients had a relatively low incidence of secondary hemorrhage and did not demonstrate detectable benefit from aminocaproic acid administration. Because of the recognized side effects and cost of treatment, further analysis to determine which patients will benefit from treatment with aminocaproic acid is indicated. *(Am J Ophthalmol.*

1991; 112:507-513) Reprint requests to Bradford J. Shingleton, M.D., 50 Staniford St., Boston, MA 02114.

PATHOLOGIC FINDINGS OF PHOTIC RETINOPATHY IN THE HUMAN EYE, WR Green, and DM Robertson. The authors stated that the macular retina of a patient whose eye was scheduled for enucleation because of progressive growth of a malignant melanoma that had invaded the iris and filtration angle was exposed to unfiltered light from the operating-room microscope for 60 minutes. Photic maculopathy was documented with fundus photography and fluorescein angiography 67 hours after light exposure. Seventy-two hours after light exposure, the eye was enucleated, fixed in Trumpe's solution, and studied with light microscopy and electron microscopy. Findings included localized necrosis of the retinal pigment epithelium; loss of the apical villi, plasma membranes, and cytoplasmic organelles; extrusion of pigment granules; and extensive disruption of the outer lamellae of the photoreceptors. The inner segments of the photoreceptors were edematous and contained swollen mitochondria. Near the margins of the photic retinopathy, thinned retinal pigment epithelial cells appeared to have migrated under injured retinal pigment epithelial cell, suggesting early attempts at repair. Additional findings included Mullercell swelling. *(Am J Ophthalmol. 1991; 112:520-527) Reprint requests to W. Richard Green, M.D., Johns Hopkins Eye Pathology Laboratory, 600 N. Wolfe St., Baltimore, MD 21205.*

RECURRENT IDIOPATHIC LATERAL RECTUS MUSCLE PALSY IN ADULTS, SR Hamilton, and S Lessell. The authors noted that recurrent, unilateral, isolated, idiopathic lateral rectus muscle palsy is an uncommon but well-recognized disorder in children that has not been recognized as well in other age groups. We studied five cases of this uncommon entity that we encountered in adults and adolescents. Ages at onset ranged from 15 to 72 years and there were three to eight episodes per patient. Most of the patients shared the following features with the previously reported pediatric cases: ipsilateral recurrence, lack of pain, spontaneous recovery within six months, and no clear cause. Unlike the children, females or left-eye involvement was not preponderant in adults. *(Am J Ophthalmol. 1991; 112:540-542) Reprint requests to Simmons Lessell, M.D., Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston, MA 02114.*

TREATMENT OF INFECTIOUS SCLERITIS AND KERATOSCLERITIS, MG Reynolds, and E Alfonso. The authors reviewed 28 cases of culture-proven infectious scleritis and keratoscleritis to clarify the role of an operation in this disorder. Surgical management in 11 patients with keratoscleritis included cryotherapy, five; penetrating corneal-scleral graft, two; lamellar corneoscleral graft, two; and tectonic penetrating keratoplasty, two; in addition to intensive fortified antibiotic eyedrops. Eight patients with keratoscleritis were treated medically only with intensive fortified frequent antibiotic eyedrops, one; intensive instilled plus intravenous antibiotics, three; and instilled, intravenous, and subconjunctival antibiotics, four. Seven of eight patients treated with antibiotics alone and two of 11 patients who received surgical intervention in addition to antibiotics eventually required evisceration or enucleation of the eye. These results suggest that cryotherapy, lamellar or penetrating corneoscleral graft, in addition to intensive antibiotic therapy, may improve the outcome of patients with infectious keratoscleritis. Five eyes with isolated scleritis without corneal involvement were treated with conjunctival recession and cryotherapy in addition to aggressive antibiotics, and four were treated with antibiotics alone. The infections of these nine patients resolved. *(Am J Ophthalmol. 1991; 112:543-547) Reprint requests to Eduardo Alfonso, M.D., Bascom Palmer Eye Institute, 900 N.W. 17th Ave., Miami, FL 33101.*

COLD-INDUCED CORNEAL EDEMA IN PATIENTS WITH TRIGEMINAL NERVE DYSFUNCTION, KH Baratz, SD Trocme, and WM Bourne. The authors describe two previous cases of cold-induced corneal edema that were reported in patients with corneal anesthesia secondary to a trigeminal nerve disorder. They studied six patients with complete unilateral corneal anesthesia after trigeminal ablation. Subjects' eyes were exposed to 4 C air from a fan for one hour. We measured corneal thickness, corneal surface temperature, and endothelial permeability to fluorescein. During cold exposure, two of the six study eyes exhibited reversible corneal swelling (11% and 26% over baseline value). All anesthetic corneas were consistently colder (13.8 ± 0.7 C) than the contralateral corneas (21.0 ± 1.7 C, P=.001). Baseline endothelial permeability and aqueous humor flow rates were similar in both the study and control groups. After cold exposure, the study eyes had a significant transient increase in permeability compared to the controls ($7.5 \pm 2.4 \times 10^{-4}$ cm/min vs $2.9 \pm 1.4 \times 10^{-4}$ cm/min, P=.007). Baseline endothelial photomicrographs also showed increased pleomorphism (fewer hexagonal cells) in the anesthetic corneas. These data suggest that sensory denervation of the eye influences ocular temperature regulation and corneal endothelial cell morphologic characteristics. Some anesthetic corneas are prone to cold-induced edema, which may result from excessive cooling. *(Am J Ophthalmol. 1991; 112:548-556) Reprint requests to William M. Bourne, M.D>, Department of Ophthalmology, Mayo Clinic, 200 First St. S.W., Rochester, MN 55905.*

RESULTS AND COMPLICATIONS IN TREATED RETINAL BREAKS, WE

Smiddy, HW Flynn, DH Nicholson, JG Clarkson, JDM Gass, KR Olsen, and W Feuer. The authors researched 164 patients (171 eyes) that were treated for retinal breaks and the treatment outcomes were studied. One hundred two eyes were acutely symptomatic, 22 eyes were chronically symptomatic, and 47 eyes were asymptomatic. The reasons for further treatment in 38 of 171 eyes (22%) included the following: (1) inadequate closure of the original break without detachment in eight eyes (5%), (2) new breaks without detachment in 15 eyes (9%), (3) an operation for retinal detachment caused by the original break in seven eyes (4%), or (4) retinal detachment caused by a new break in eight eyes (5%)). Failure rates of treatment among acutely symptomatic, chronically symptomatic, and asymptomatic subgroups were not statistically significant. The risk of treatment failure was higher for aphakic and pseudophakic eyes, and in eyes with peripheral retinal abnormalities in the fellow eye. Among 38 patients with failed treatments, 20 (52%) returned for further examination within one month of initial treatment, whereas eight of the 38 patients with failed treatments (21%) returned six months or more after initial treatment. Peripheral retinal abnormalities were recognized initially in 65 of the 171 fellow eyes (38%) and subsequently developed in nine of the fellow eyes (5%) during the follow-up interval. Further treatment is often necessary after initial treatment of peripheral retinal breaks, emphasizing the need for careful long-term follow-up care. *(Am J Ophthalmol. 1991; 112:623-631) Reprint requests to William E. Smiddy, M.D., P.O. Box 016880, Miami, FL 33101.*

NEOVASCULARIZATION OF THE IRIS IN RHEGMATOGENOUS RETINAL DETACHMENT, S Tanaka, H Ideta, J Yonemoto, K Sasaki, A Hirose, and C Oka. The authors note that to identify conditions associated with neovascularization of the iris in rhegmatogenous retinal detachment, they examined 36 eyes with this disorder seen at our hospital between 1979 and 1990. Clinical courses of disease were divided into the following three groups: (1) neovascularization of the iris without a history of a vitreoretinal operation (four eyes), (2) neovascularization of the iris after an unsuccessful vitreoretinal operation (26 eyes), and (3) neovascularization of the iris after surgical complications (six eyes). In all eyes of Groups 1 and 2, retinal detachment persisted at the onset of iris neovascularization; however, in six eyes, iris neovascularization subsided after retinal reattachment. Characteristic features of Groups 2 and 3 were patient age of 50 years or more, severe myopia, a history of increased intraocular pressure, a history of choroidal detachment, and a large scleral buckle. *(Am J Ophthalmol. 1991; 112:632-634) Reprint requests to Sumiyoshi Tanka, M.D., Ideta Eye Hospital, 1-35, Gofuku-Machi, Kumamoto City, 860, Japan.*

BONE MARROW TRANSPLANT RETINOPATHY, PF Lopez, P Sternberg, CK Dabbs, WR Vogler, I Crocker, and NS Kalin. The authors discovered that five of eight patients (62%) who survived at least six months after autologous or allogeneic bone marrow transplantation for acute leukemia developed occlusive microvascular retinopathy. Treatable retinal microangiopathy included a high incidence (80%) of clinically significant macular edema and one case of proliferative retinopathy with subhyaloid hemorrhage. The bone marrow transplant protocol required high-dose cytarabine hydrochloride and 1,200 cGy of total body irradiation. The development of radiation retinopathy after such low doses of teletherapy suggests that high-dose chemotherapy may increase the susceptibility for the development of retinopathy at otherwise safe radiation doses. *(Am J Ophthalmol. 1991; 112:635,646) Reprint requests to Paul Sternberg, Jr., M.D., Emory Eye Center, Department of Ophthalmology, 1327 Clifton Rd. N.E., Atlanta, GA 30322.*

PATHOLOGIC FEATURES OF SURGICALLY EXCISED SUBRETINAL NEOVASCULAR MEMBRANES IN AGE-RELATED MACULAR DEGENERATION, PF Lopez, HE Grossniklaus, HM Lambert, TM Aaberg, A Capone, Jr., P Sternberg, Jr., and N L'Hernault. The authors discussed the histopathologic features of ten consecutive surgically excised subfoveal neovascular membranes from patients with age-related macular degeneration were examined. Ultrastructureal features included the following in decreasing order of frequency: endothelium-lined vascular channels, new collagen, fibrocytes, retinal pigment epithelium, erythrocytes, and myofibroblasts. Chronic inflammatory cells were frequently evident and included macrophages, lymphocytes, and plasma cells. Basal laminar deposit or diffuse drusen were observed in six of the membranes. Photoreceptors and Bruch's membrane were each observed in three of the specimens, but were not associated with decreased postoperative visual acuity. Fibrin was observed in eight membranes, either within the stroma of the membrane or in association with subretinal hemorrhage. *(Am J Ophthalmol. 1991; 112:647-656) Reprint requests to Hans E. Grossniklaus, M.D., L.F. Montgomery Ophthalmic Pathology Laboratory, Rm. 1603, Emory Eye Center, 1327 Clifton Rd. N.E., Atlanta, GA 30322.*

TRANSSCLERAL ND:YAG LASER CYCLOPHOTOCOAGULATION WITH A CONTACT LENS, RB Simmons, MB Shields, M Blasini, M Wilkerson, and RA Stern. The authors show that transscleral Nd:YAG laser cyclophotocoagulation was performed on 100 consecutive patients. A contact lens designed specifically for this operation was used, and the results were compared to those of a previously reported series

of 100 patients in which the same procedure was performed without the lens. The lens provided intraoperative advantages of eyelid separation, compression and blanching of the conjunctiva at the treatment site, and precise measurements for placement of the laser applications. Early postoperative advantages were reduced conjunctival burns and less hyperemia. However, the long-term results were comparable between the two series, with the exception of a higher incidence of phthisis when the lens was used. The thinning and blanching of the conjunctiva may increase the percentage of laser energy reaching the ciliary processes, which suggests a need for reduced energy levels when using the lens. *(Am J Ophthalmol. 1991; 112:671-677) Reprint requests to M. Bruce Shields, M.D., Duke University Eye Center, Box 3802, Durham, NC 27710.*

MANAGEMENT OF ENDOPHTHALMITIS WHILE PRESERVING THE UNINVOLVED CRYSTALLINE LENS, SS Huang, RD Brod, and HW Flynn, Jr. The authors report that 12 phakic eyes (11 patients) with culture-positive endophthalmitis were treated without removal of the uninvolved crystalline lens. Eight eyes treated by pars plana vitrectomy and intraocular injection of antibiotics. Four eyes were treated with intraocular antibiotic injection alone. The clinical infection was successfully eradicated in all patients, including one patient treated with reinjection of antibiotics. During follow-up after successful treatment, eight eyes had progression of a preexisting lens opacification, two eyes had stable lens opacification, and two eyes maintained clear lenses. Six of 12 eyes achieved 20/80 or better visual acuity with an average follow-up time of 13 months. Six of eight eyes treated with pars plana vitrectomy and intraocular antibiotic injection achieved this level of visual acuity in contrast to none of four eyes treated with only intraocular antibiotic injection. These results indicated that endophthalmitis in phakic eyes can be successfully treated while preserving a clear, uninvolved crystalline lens by the use of pars plana vitrectomy and intraocular administration of appropriate antibiotics. *(Am J Ophthalmol. 1991; 112:695-701) Reprint requests to Harry W. Flynn, Jr., M.D., Bascom Palmer Eye Institute, 900 N.W. 17th St., Miami, FL 33101.*

MEDIAL RECTUS MUSCLE MARGINAL MYOTOMIES FOR PERSISTENT ESOTROPIA, JTHN de Faber, and GK von Noorden. The authors reviewed the records of 18 patients with persistent esotropia after maximal recession of each medial rectus muscle on whom marginal myotomy of both medial recti muscles was subsequently performed. We compared the results in patients with essential infantile esotropia, acquired esotropia, nonaccommodative convergence excess, and nystagmus compensation syndrome. After a follow-up of three years, the mean improvement of esotropia at distance fixation was 9 prism diopters (range, -20 to +41 prism diopters) and was 21 prism diopters at near fixation (range, +4 to +50 prism diopters). The effect of marginal myotomy of previously maximally recessed medial recti muscles is unpredictable. However, we believe it to be an acceptable secondary surgical procedure in selected cases of persistent esotropia. The best results were obtained in essential infantile esotropia. *(Am J Ophthalmol. 1991; 112:702-705) Reprint requests to Jan-Tjeerd H.N. de Faber, M.D., Eye Hospital Rotterdam, Schiedamse Vest 180, 3011 BH Rotterdam, The Netherlands.*

RETINAL TOXICITY IN HUMAN IMMUNODEFICIENCY VIRUS-INFECTED CHILDREN TREATED WITH 2',3'-DIDEOXYINOSINE, SM Whitcup, KM Butler, R Caruso, MD de Smet, B Rubin, RN Husson, JS Lopez, R Belfort, Jr., PA Pizzo, and RB Nussenblatt. The authors state that to assess the safety and antiretroviral activity of 2',3'-dideoxyinosine, we enrolled 43 children with symptomatic (Centers for Disease Control class P-2) human immunodeficiency virus infection in a Phase I-II study and monitored them prospectively for the development of ocular complications secondary to HIV infection or drug toxicity. Follow-up ranged from 12 to 103 weeks with a median follow-up of 71 weeks. Three of 43 children (7.0%) developed peripheral atrophy of the retinal pigment epithelium during treatment with 2',3'-dideoxyinosine. The two children with the most severe retinal atrophy were enrolled in the study at the highest dosage studied (540 mg/m^2/day). In contrast to findings in children, no retinal atrophy in HIV-infected adults treated with 2',3'-dideoxyinosine has been evident to date. *(Am J Ophthalmol. 1992; 113:1-7) Reprint requests to Scott M. Whitcup, M.D., Laboratory of Immunology, National Eye Institute, National Institutes of Health, Bldg. 10, Rm. 10N202, Bethesda, MD 20892.*

VISUAL DYSFUNCTION WITHOUT RETINITIS IN PATIENTS WITH ACQUIRED IMMUNODEFICIENCY SYNDROME, JI Quiceno, E Capparelli, AA Sadun, D Munguia, I Grant, A Listhaus, J Crapotta, B Lambert, and WR Freeman. The authors detected that patients with human immunodeficiency virus infection may have noninfectious and infectious retinopathies, as well as clinical symptoms consistent with optic nerve dysfunction. Noninfectious acquired immunodeficiency syndrome-related retinopathy is seen in most patients with AIDS. Morphologic studies have shown that the number of retrobulbar optic nerve fibers in patients with AIDS is decreased compared to the number of optic nerve fibers in normal control eyes. To determine whether these patients had a visual dysfunction consistent with damage to the macula and optic nerve, 78 subjects (156 eyes) were studied using color-vision

and contrast-sensitivity testing. The Farnsworth-Munsell 100-Hue color-vision test was performed on all subjects and age-corrected color-vision scores for all groups were compared. A significant decrease in color discrimination was found in the patients with AIDS (P<.001). Contrast-sensitivity testing disclosed a deficit of contrast threshold in patients with AIDS at four of five spatial frequencies and in patients with AIDS-related complex at three of the five spatial frequencies examined. This study demonstrated a functional visual deficit in eyes without retinitis consistent with dysfunction of the macula or optic nerve in patients with AIDS. *(Am J Ophthalmol. 1992; 113:8-13) Reprint requests to William R. Freeman, M.D., Shiley Eye Center, 0946, University of California San Diago, La Jolla, CA 92093.*

REPAIR OF RETINITIS-RELATED DETACHMENTS WITH SILICONE OIL IN PATIENTS WITH ACQUIRED IMMUNO-DEFICIENCY SYNDROME, CD Regillo, JF Vander, JS Duker, DH Fischer, JB Belmont, and R Kleiner. The authors discuss that to provide prompt visual rehabilitation and to reduce the need for repeated operations, they performed vitrectomy with silicone oil tamponade in 16 consecutive eyes with retinal detachments related to cytomegalovirus retinitis and acute retinal necrosis in 13 patients with acquired immunodeficiency syndrome. In all 16 eyes (100%), retinas were reattached with one operation. Preservation of ambulatory vision was achieved in six of eight eyes (75%; mean follow-up, 14.6 weeks). No patient with hand motion visual acuity or worse preoperatively recovered ambulatory vision. Visual acuity recovery was limited by optic nerve disease in five eyes (31%). Silicone oil-related side effects did not adversely affect visual outcome in any eye. Six patients (46%) have since died (mean, 4.4 months postoperatively). These data indicated that successful surgical repair of these detachments can be consistently achieved with this approach. The prognosis for ambulatory vision is strongly related to preoperative visual acuity. *(Am J Ophthalmol. 1992; 113:21-27) Reprint requests to James F. Vander, M.D., 501 Cooper Landing Rd., Cherry Hill, NJ 08002.*

IMMUNE DEPOSITS IN IRIS BIOPSY SPECIMENS FROM PATIENTS WITH FUCHS' HETEROCHROMIC IRIDO-CYCLITIS, E La Hey, CM Mooy, GS Baarsma, J de Vries, PTVM de Jong, and A Kijistra. The authors show that in order to investigate whether Fuchs' heterochromic iridocyclitis may be an immune complex vasculitis, we used an immunofluorescence technique to detect immunoglobulins and complement in iris biopsy specimens from nine patients with Fuchs' heterechromic iridocyclitis, 12 patients with other types of uveitis, and nine patients with glaucoma but without uveitis. No specific immune deposits were observed in their irioes of the patients with Fuchs' heterochromic iridocyclitis. Immunoglobulin G, IgA, IgM, and complement were detected in patients with Fuchs' heterochromic iridocyclitis and patients with uveitis, and these results differed significantly (P<.05) from the group without uveitis. The immune deposits were found only in th iris vessel walls. No light-microscopic evidence of an inflammatory vascular process could be detected. Further studies are necessary to investigate whether the immune reactants originate from the circulation or result from local formation. *(Am J Ophthalmol. 1992; 113:75-80) Reprint requests to E. La Hey, M.D., Department of Ophthalmo-Immunology, The Netherlands Ophthalmic Research Institute, P.O. Box 12141, 1100 AC, Amsterdam, The Netherlands.*

CLINICAL CHARACTERISTICS ASSO-CIATED WITH ORBITAL INVASION OF CUTANEOUS BASAL CELL AND SQUAMOUS CELL TUMORS OF THE EYELID, GR Howard, JA Nerad, KD Carter, and DC Whitaker. The authors found that over a six-year period, between 1984 and 1990, 622 patients with basal cell and squamous cell carcinoma of the eyelids were examined at their institution. Thirteen patients had orbital invasion at initial examination. The average age of patients at orbital invasion was 75.8 years. Ten patients were men, eight of whom had basal cell carcinoma and two of whom had squamous cell carcinoma. Most patients had an orbital mass an incomitant strabismus at initial examination. Invasive basal cell carcinoma developed in 11 patients, and squamous cell carcinoma developed in two patients. Ten patients were treated for cutaneous carcinoma at the site of invasion before examination at their institution. The average duration between onset of a cutaneous lesion and examination for orbital invasion was 9.8 years for basal cell carcinoma and one year for squamous cell carcinoma. Radiologic and histopathologic features were reviewed. The clinical characteristics of these patients were reviewed and orbital exenteration was recommended to all 13 patients. Nine patients underwent exenteration and four refused the operation. *(Am J Ophthalmol. 1992; 113:123-133) Reprint requests to Jeffrey A. Nerad, M.D., Department of Ophthalmology, University of Iowa Hospitals and Clinics, Iowa City, IA 52242.*

THE PROGNOSTIC VALUE OF PRE-OPERATIVE DACRYOCYSTOGRAPHY IN ENDOSCOPIC INTRANASAL DACRYO-CYSTORHINOSTOMY, GE Mannor, and AL Millman. The authors conclude that endoscopic intranasal dacryocystorhinostomy has been used as a primary treatment of lacrimal obstruction and for revision of conventional dacryocystorhinostomy. This study correlates dacryocystographic anatomy with the success of the endoscopic surgical technique. Eighteen

patients with epiphora and nasolacrimal obstruction underwent operations. Preoperative dacryocystography identified 11 patients with either normal or enlarged lacrimal sacs, and seven patients with cicatrized lacrimal sacs. Patients with lacrimal sac stones and tumors were excluded. Endoscopic intranasal dacryocystorhinostomy was successful in nine of 11 (82%) patients with normal or enlarged lacrimal sacs, and in two of seven (29%) patients with cicatrized lacrimal sacs. The endoscopic technique was much more successful with normal or enlarged lacrimal sacs than with cictrized lacrimal sacs (P = .049). Lacrimal sac anatomy as determined by preoperative dacryocystography is an important prognostic factor in technically achieving surgical success. *(Am J Ophthalmol. 1992; 113:134-137) Reprint requests to Arthur L. Millman, M.D., 345 E. 37th St., New York, NY 10016.*

TRABECULECTOMY WITHOUT CONJUNCTIVAL INCISION, EM Van Buskirk. The author talks of a trabeculectomy technique with conventional instruments, but without conjunctival incision or intracameral manipulation, was completed in 12 eye-bank eyes, two cat eyes, and in five patients with glaucoma. A partial-thickness limbal corneal flap provided access to an intrastromal limbal pocket through which the subconjunctival space was entered with an irrigating cystotome. The anterior chamber was entered at the surgical corneoscleral limbus beneath the corneal flap and the peripheral iridectomy was completed without difficulty. Full-thickness guarded limbal fistulas could be created. Guarded limbal fistulas were completed in five of five patients with glaucoma. The technique produced low-lying, diffuse filtration blebs that persisted throughout the three-month postoperative period and reduced mean intraocular pressure from 33 to 12 mmHg. Corneal trabeculectomy holds promise as a method for a filtration operation that does not require conjunctival incision, intracameral manipulation, or costly technology. *(Am J Ophthalmol. 1992; 113:145-153) Reprint requests to E. Michael Van Buskirk, M.D., 1040 N.W. 22nd Ave., N320, Portland, OR 97210.*

PRESERVED PARA-ARTERIOLAR RETINAL PIGMENT EPITHELIUM RETINITIS PIGMENTOSA, A Porta, C Pierrottet, M Aschero, and N Orzalesi. The studied in two patients, retinitis pigmentosa with preservation of the retinal pigment epithelium adjacent to and under the retinal arterioles (despite panretinal degeneration). Both patients with preserved para-arteriolar retinal pigment epithelium also exhibited a peculiarly strong hyperopia. In addition to previously reported features, these patients also had sheathing of the major vascular arcades, which suggested a vascular involvement in this uncommon form of retinitis pigmentosa. *(Am J Ophthalmol. 1992; 113:161-164) Reprint requests to A. Porta, M.D., Clinica Oculistica dell-Universita di Milano, Ospedale San Paolo, Via di Rudini 8, 20142 Milano, Italy.*

TRACTIONAL ELEVATIONS OF THE RETINA IN PATIENTS WITH DIABETES, H Lincoff, Y Serag, S Chang, R Silverman, B Bondok, and M El-Aswad. The authors note that two of the common complications of proliferative diabetic retinopathy are tractional retinoschisis and tractional retinal detachment. They content that they are not similar in diagnostic features, and determined the respective incidence of tractional retinoschisis and tractional retinal detachment in 200 eyes with tractional elevations of the retina in patients with diabetes. In 39 eyes, the diagnosis was unequivocally tractional retinoschisis because the retinal elevation maintained its concave contour despite the development of retinal holes. In 65 eyes, tractional retinal detachment was diagnosed with equal certainty, either because pigment lines were present or because the elevation, after a retinal hole developed, rapidly became convex and extended to the ora serrata. The remaining 96 eyes, in which retinal holes or pigment lines were absent, were classified by other features that had been tested for significance in the already diagnosed eyes. On that basis, the diagnosis was retinoschisis in 46 eyes and retinal detachment in 50 eyes. *(Am J Ophthalmol. 1992; 113:235-242) Reprint requests to Harvey Lincoff, M.D., New York Hospital-Cornell Medical Center, 525 E. 68th St., New York, NY 10021.*

EXAMINATION OF MACULAR VITREORETINAL INTERFACE DISORDERS WITH MONOCHROMATIC PHOTOGRAPHY, RG Ortiz, PF Lopez, HM Lambert, P Sternberg, Jr., and TM Aaberg. The authors discuss monochromatic light accentuates details of different retinal layers because of its variable absorption and reflectance by structures both within and above these layers. Monochromatic photography was used to examine macular vitreoretinal interface abnormalities in 19 patients. Short wavelength photographs (490 nm) provided the best detail of inner retinal abnormalities, including epiretinal membranes, vitreoretinal traction, and the internal surface of confluent macular edema (pseudocyst). Although 540-nm red-free photography provided acceptable photographs, it did not provide optimal detail of inner or deep retinal abnormalities. Longer wavelengths, 585 and 610 nm, best disclosed the extent of deep retinal abnormalities, including the extent of confluent macular edema (pseudocysts) and retinal detachment that surrounded macular holes. The addition of short- and long-wavelength photography may provide better localization, understanding, and documentation of the three-dimensional relationships in macular vitreoretinal interface disorders. *(Am J Ophthalmol. 1992; 113:243-247) Reprint requests to Pedro F. Lopez, M.D., Emory Eye Center, 1327 Clifton Rd. N.E., Atlanta, GA 30322.*

HERPESVIRUS ANTIBODY LEVELS IN THE ETIOLOGIC DIAGNOSIS OF THE ACUTE RETINAL NECROSIS SYNDROME, JS Pepose, B Flowers, JA Stewart, C Grose, DS Levy, WW Culbertson, and AE Kreiger. The authors note quantitiative antibody levels to three herpesviruses in acute and chronic sera from six patients with clinical signs of the acute retinal necrosis syndrome were consistent with a specific etiologic diagnosis only in the two cases associated with cutaneous herpes zoster. Available data on acute and convalescent antibody titers to herpes group viruses from these six patients in addition to data from 27 acute retinal necrosis cases from the literature disclosed that only 13 of the 33 patients (39%) had a diagnostic increase or decrease in herpes group viral antibody levels on serial sampling. Three patients had nondiagnostic changes in viral antibody levels despite positive vitreous cultures for herpesviruses. In contrast, a review of 25 cases from the literature with paired antiviral serum and intraocular fluid antibody levels suggested a more promising approach to the etiologic diagnosis of the acute retinal necrosis syndrome. By calculating the ratio of antiviral antibodies in intraocular fluid and serum, an etiologic diagnosis could be made in 12 of 14 (86%) of subacute and convalescent samples. The sensitivity of this method decreased to 72% (13 of 18) when fluids were obtained earlier in the course of the disease. *(Am J Ophthalmol. 1992; 113:248-256) Reprint requests to Jay S. Pepose, M.D., Department of Ophthalmology and Visual Sciences, Box 8096, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, MO 63110.*

POSTERIOR SCLERITIS IN CHILDREN, KJ Wald, R Spaide, VJ Patalano, S Sugin, and LA Yannuzzi. The authors diagnosed posterior scleritis diagnosed in four adolescent boys. These patients represented a distinct subgroup of patients with posterior scleritis that differed from the adult variant by gender, lack of systemic disease, and absence of the associated ocular findings often seen in the adult variant of the disorder. The four patients had diminished visual acuity, ocular pain, and exudative retinal detachments at initial examination. Fluorescein angiography demonstrated multiple pinpoint leaks at the level of the retinal pigment epithelium in three patients with late-phase patchy staining of a mass-like lesion in one patient. B-scan ultrasonography demonstrated choroidal and scleral thickening with increased acoustic density of the choroid in all patients. Systemic evaluation of these patients disclosed no underlying disease. Clinical signs and symptoms resolved in three of the patients after treatment with low-dose, orally administered corticosteroid or noncorticosteroid anti-inflammatory medication. High systemic doses of corticosteroid in combination with noncorticosteroid anti-inflammatory medication and local corticosteroid therapy was required to induce remission in one patient. All patients recovered good visual acuity. *(Am J Ophthalmol. 1992; 113:281-286) Reprint requests to Kenneth J. Wald, M.D., Retina Associates, 100 Charles River Plaza, Cambridge Street, Boston, MA 02114.*

TORSIONAL DIPLOPIA AFTER TRANSANTRAL ORBITAL DECOMPRESSION AND EXTRAOCULAR MUSCLE SURGERY ASSOCIATED WITH GRAVES' ORBITOPATHY, JA Garrity, DD Saggau, CA Gorman, GB Bartley, V Fatourechi, PW Hardwig, and JA Dyer. The authors report that out of a total of 428 patients with Graves' orbitopathy, 21 had incycloduction of 5 to 20 degrees and five had excycloduction of similar extent. All of them had undergone medial or inferior rectus recession for horizontal or vertical diplopia respectively prior to the appearance of torsional diplopia. Incycloduction was treated with superior oblique tenectomy and excycloduction with inferior oblique myectomy. Fifteen patients with incycloduction and two with excycloduction were relieved of diplopia. *(Am J Ophthalmol. 1992; 113:363-373) Reprint requests to James A. Garrity, M.D., Mayo Clinic, 200 First Street, S.W., Rochester, MN 55905.)*

SUPERVOLTAGE ORBITAL RADIOTHERAPY IN 36 CASES OF GRAVES' DISEASE, WC Lloyd III, and CR Leone, Jr. The authors discussed 36 patients who had clinically progressive Graves' dysthyroid orbitopathy were treated with supervoltage orbital radiotherapy. Twenty-three of the patients had discontinued the use of orally administered prednisone after developing intolerable side effects. Medical contraindications prevented seven patients from receiving systemic corticosteroid treatment. Six additional patients declined to take prednisone and chose orbital radiotherapy as their primary treatment. All patients were treated with one radiotherapy protocol wherein a 6 MV linear accelerator delivered 2,000 cGy to the midplane of both orbits in ten fractions. None of the 36 patients was treated with corticosteroids during the orbital radiotherapy treatment interval. They encountered three patients who failed to respond to orbital radiotherapy and required supplemental immunosuppression to arrest progression of Graves' disease. The remaining 33 patients experienced stabilization or clinical improvement of their condition. None of the patients experienced complications from orbital irradiation. They believe supervoltage orbital radiotherapy is an effective means of treating Graves' dysthyroid orbitopathy. *(Am J Ophthalmol. 1992; 113:374-380) Reprint requests to Charles R. Leone, Jr., M.D., Medical Center Tower I, Suite 505, 7950 Floyd Curl Dr., San Antonio, TX 78229.*

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Whoever therefore sees,
Does so for himself;
And whoever remains blind,
Does so to his own loss.
-Holy Qur'an 6:105

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2. Khan, MD, Islam, Z, Nawaz, K, Islam, Z, and Khan, MA: Perforating eye injuries caused by disposable syringes. Pak J Ophthalmol 6:97-99, 1990. *(Give names of all the authors, and do not use "et. al," etc.)*

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