



# NETHRALAYA INSIGHT

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EDITOR MARY ABRAHAM

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V.Mohan Rao  
President

## MESSAGE

A sense of satisfaction prevailed on 6<sup>th</sup> September 1984, when Medical Research Foundation entered its 7<sup>th</sup> year of service to the community at large in the field of Eye-Care.

We never realized the fast passage of the fruitful six years, in the course of which the Institution recorded substantial progress and has diversified. However, we still have a long way to go and are ever-striving to attain the level of perfection.

The dedication and responsibility of our Consultants and Para-medical force, headed by Dr.S.S.Badrinath, is instrumental to the success of MRF and I am confident that this spirit will continue and their mission of service will prosper with the blessings of the Almighty and good wishes of all.

You are already familiar with Vision Research Foundation, a newly formed Society, to give the right prominence and continuity of Research activities already undertaken. The work was initiated actively with the formation of committees consisting of very reputed and knowledgeable stalwarts in the medical field. Many thanks to the Government of India for granting of Income-tax exemption under Section 35(I) (ii) to benefit the donors by giving them 100% exemption from Income-tax. We need to utilize this opportunity for substantial collection before 31/3/1985.

We are fortunate to get a beautiful piece of land of about 3.75 acres in St.Thomas Mount, Madras, on long lease from the Government of India. This has come at the right time, to plan our future expansion programmes, which will be highlighted later. This happened only due to the munificence of Dr.V.G.Appukutty and his family members, who have graciously surrendered their rights to this property in our favour. This is yet another mark of their involvement in our progress.

MRF needs additional space, imported equipment and instruments, recreation facilities, spacious canteen and a lot more. We are aware of the inconvenience caused for want of space, and even though we are continuously expanding. We still feel that shortage of space everyday. However, we have made a start in this direction in the new Reception area and a few adjustments in the seating will make more room.

We are sorry we are not able to cut down the waiting time of the patients who have to bear with us, as our efforts are continuing to reduce the time lag.

“Insight”, the house journal of MRF is being given a new look and there is tremendous encouragement to the technical papers presented with a personal touch of the Editor. Dr.Mary Abraham, which is amazing. My congratulations to her and the Consultants who contribute articles. I wish “Insight”, a purposeful media, to bridge the friendship of like minded ones, far and near.

I am happy to write these few notes on the occasion of MRF entering the 7<sup>th</sup> year of service, with a prayer to have the goodwill and best wishes of one and all.



The New Reception Area at Medical Research Foundation

## EDITORIAL

Sankara Nethralaya celebrated its Sixth Anniversary on 7th September 1984. What started as a small 11 bedded hospital six years ago, has grown over the past and resulted in the present hospital consisting of 37 beds, super specialities like vitreo retinal surgery, fluorescein angiography photocoagulation ultrasonography, electro physiological studies, squint, contact lens and low vision aids, corneal and glaucoma services. Besides this, the C.U. Shah Post Graduates training Centre has trained 23 post graduates in vitreo retinal work thus far. Two new ultra-modern operation theatres have been added to the existing ones and work in the direction of the 'Dharmashala' is going on in full swing. On completion, it would allow facilities to house out-station, post-operative patients, and provide accommodation for nurses and post-graduate trainees as well.

After a long struggle, Medical Research Foundation, has been recognized for Diploma in Ophthalmology. This was granted by the University of Madras on 25.7.84, which has given provisional affiliation for starting the course. Four candidates have been selected this year and are in training at present.

On August 17<sup>th</sup> a get-together was arranged for the local general practitioners in order to propagate the urge for eye donation in our State. A fairly good gathering was present and their enthusiasm and suggestions in this matter was most heartening. Dr. Hande the Hon. Minister of Health, who was the chief guest of the evening and a well wisher of our Foundation has agreed to take it upon himself to arrange a film documentary on eye donation which is estimated to cost about Rs.1,00,000/-. Besides this, he has promised to revise the Madras Corneal Graft Act and base it according to the Delhi Graft Act whereby the definition of the nearest kith and kin have been restricted to parents spouse or children. Dr. Manju Kulkarni spoke on the surgical aspect of the corneal grafting and eye banking. Dr. Saraswathi Sankara high-lighted the sociological aspects of eye donation. It was agreed that the general practitioners are best suited to motivate the family of the deceased since they have a better rapport with the relatives rather than the ophthalmologists themselves. The Sankara Nethralaya Women Auxiliary helped in organizing the meet and also the high tea that followed.

In a recent conference of the Golden Jubilee Celebrations of Joseph Eye Hospital. Trichy, two symposia were conducted on Keratoplasty and Vitreous Surgery. Six lectures were delivered from Sankara Nethralaya. The entire sessions were lively and led to a frank exchange of ideas.

We are eagerly looking forward to the visit of Dr. Charles L. Schepens to India in January 1985. Dr. Schepens and his associate Dr. Pruett will be conducting a course on the Management of Retinal Detachment – Techniques of vitreo retinal surgery at the forth coming X Asia Pacific Academy of Ophthalmology at Delhi on January 31, 1985. We are also looking forward to his visit to our Institution in January 1985.

Sangeetha Kalanidhi Smt. M.S. Subbulakshmi, has released three long playing records consisting of the songs of Poet Bharathi last year. Being a well-wishers of the Foundation who is keen on seeing its progress, she renounced the entire royalty in favour of Nethralaya. Since the royalties are calculated on a ½ yearly basis, we are proud to say that Rs.23,095/- was collected between July and December 1983. We are truly grateful to Mrs. Subbulakshmi for her magnanimous support.

Medical Research Foundation spent a wonderful get-together on 3<sup>rd</sup> August to celebrate the 'Upanayanam' of Seshu and Ananth sons of Dr. Badrinath. A grand dinner organized by Dasaprakash was followed by the screening of the film "Raja Paarvai". The climax of the evening's programme was the actual arrival of Kamala Hasan the renowned film artist of the South and Hero of the film. To all his admirers in the gathering this was a superb treat. He

addressed the audience in his simple and charming way and it was hard to believe that this quiet, unassuming young man is really the versatile and talented here of the silver screen who has taken the entire nation by storm.

On 12<sup>th</sup> September 1984, Dr. Madhivanan Natarajan and his wife Dr. Chalini Madhivanan, who have recently finished their fellowships in Vitreo-retinal Surgery and Strabismology and Contact Lenses respectively, opened their own eye hospital called "M.N. Eye Hospital". This was jointly inaugurated by none other than Dr. T.S. Surendran under whom Chalini trained and Dr. S.S. Badrinath, under whose care Dr. Madhivanan has turned out into a successful vitreo-retinal Surgeon.

By way of entertainment we have decided to hold monthly meetings wherein certain celebrities in various fields would be able to share their thoughts with us. Shri Poornam Viswanathan, a renowned dramatist gave a lecture on 'The Reminiscence of A Great Dramatist'. Followed by a skit on Sunday the 23<sup>rd</sup> September 1984.

Lastly, we are grateful to Mr. Harold R. Cowie, Assistant Director and Mr. Art Jenkins, President of Operation Eye Sight Universal, Canada, who have come forward to meet the expenses of training our bio-medical engineer Mr. Santhosh Kumar with a handsome cheque of \$12,000 (Canadian). This has been largely possible due to the efforts of Dr. John P. David to Sompeta, who is very closely associated with us and is extremely interested in Nethralaya's progress.

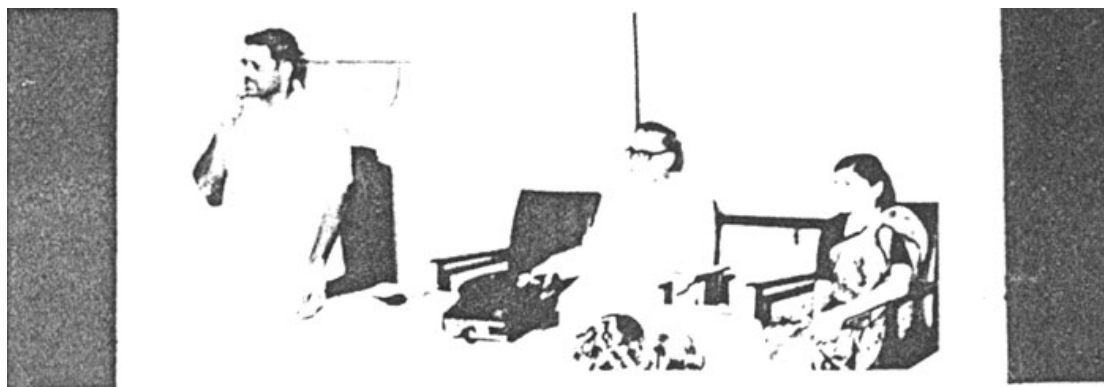
Not only is Dr. David such a strong supporter of Sankara Nethralaya his father Mr. J.S.D. David of the Water Development Authorities, Hyderabad has helped us tremendously in drilling bore-well to overcome the extreme water shortage here.

Finally readers, we deeply appreciate your continued interest in our activities and urge you to keep writing whether they be complimentary or critical.

With every good wish.

*Mary Abraham*

Editor



Dr. S.S. BADRINATH addressing the General Practitioners — looking on are the Honourable Minister of Health Dr. HANDE and Dr. MANJU KULKARNI



## **BILATERAL KERATITIS DUE TO ACANTHAMOEBA**

Dr.Manju Kulkarni

Parasitic Keratitis, although extremely rare, has been reported. There have been about 7 reported cases of ocular infection due to acanthamoeba, following the use of soft contact lenses.

### **Case Report :**

C.S., a 28 year old female, with a myopia of 4.00 D had recently switched over from hard contact lenses to soft ones. She wore the lenses for about a month during which time she was never comfortable. Later she developed redness, photophobia and irritation in both the eyes, and was treated by her ophthalmologist, with antibiotics, steroids and Cycloplegics, Redness and discomfort persisted.

On her first consultation at our hospital her unaided visual acuity was 3/36 in both the eyes. The lids were oedematous. Conjunctival and circumcorneal congestion were also present. Peculiar linear lesions which stained with fluorescein were seen in the superficial stroma of both the eyes. The media were clear and fundi normal. Topical antibiotics, cycloplegics and patching of the eyes did not provide any relief. This was followed with Topical, steroids, 4 times a day while the patching is continued. Within 3-4 days the epithelium broke down over small areas giving rise to defects. Corneal scrapings were taken for bacteria and fungi. The cultures were sterile. Giemsa staining did not reveal any inclusion bodies and Methanamine silver stained scrapings failed to demonstrate fungi.

Tear Analysis revealed.

Right eye : IgA 23.25 mg %  
IgG 22.28 mg %

Left eye : IgA 21.40 mg %  
IgG 10.43 mg %

Our working diagnosis at this time was herpetic keratitis, despite the fact that bilaterality is rare. The patient was put on hourly IDU drops. Vira A Ointment at bed time and topical Tobramycin drops. The condition progressed relentlessly and clinically appeared as deep Disciform Keratitis, involving more than  $\frac{3}{4}$  ths the thickness of the cornea. Vision dropped to HM8" and 6" in right and left eyes respectively. The anterior chamber remained very quiet all the time. The intraocular pressure was normal digitally.

With two days of institution of the antiviral therapy there was further necrosis of the corneal epithelium which broke down over a large area and stained with fluorescein. IDU was replaced by F<sub>3</sub>T.

The infiltrated area now had a cheesy appearance with furrowed edge. The corneal zone around these discoid areas was clear and devoid of vascularization. Anterior chambers remained quiet. All the laboratory tests were repeated, which again proved to be negative for bacteria fungi and virus. Systemically the patient had no evidence of any other disease. Routine blood tests and urine examination were within limits. Topical antivirals, steroids and tobramycin were continued. The infiltrative process seemed to have stabilized for about 10 days after which extension began into the inferior quadrants.



Fig. 1 and 1a



Showing bilateral deep stromal keratitis

At this juncture we referred the patient to Dr. Richard Thoft of Cornea Service, MASS Eye and Ear Infirmary, Boston for further evaluation and treatment in the form of penetrating keratoplasty. Here the corneal scrapings were repeated. Although viral, fungal or bacterial elements could not be identified they revealed presence of large white cells. The patient was investigated for the possibility in auto immune disease. With the failure of medical therapy the only treatment left was penetrating keratoplasty which was performed on both the eyes Post-operatively the patient was put on a number of antifungal and anti-bacterial agents. (Fig 2.2a)



Fig.2 and 2a – showing immediate post penetrating kerato plasty

#### BASIC SCIENCE COURSE IN OPHTHALMOLOGY DECEMBER 1984.

Shri C.U.SHAH Ophthalmic Post Graduate Training Centre and Sankara Nethralaya proudly announce a BASIC SCIENCE COURSE IN OPHTHALMOLOGY IN DECEMBER 1984. The Course would comprise of didactic lectures by eminent Scholars, it would be full time course for a period of 6 weeks from December 3 1984. The topics include Ocular Anatomy Physiology Biochemistry, Bacteriology, Optics Refraction, Ocular motility, Contact lens, Fluorescein Angiography, Ultrasonography, Electro diagnostic Methods Neuro Ophthalmology, Laser Photocoagulation etc. It is open to all Residents and Post Graduates. The Registration fee will be Rs.100/=

Contact:  
 THE SECRETARY  
 Academic Council,  
 C.U.Shah Ophthalmic  
 Post Graduate Training Centre  
 18, College Road, Madras 600 006  
 REGISTRATION WILL BE LIMITED

Tissue culture in the mean time grew acanthamoeba, undertermined. The serum and tissue immunofluorescein titres were positive. The organism was found sensitive to ketoconazole and micanazole at levels of 25 micro grames/ml and 50 micrograms/ml. Two other agents, Neomycin and Brolene (dibromo – propamidine isethionate) were also found to have amoebicidal action.

The patient however had a recurrence of the keratitis in both the grafts within 4-5 weeks (Fig 3 .3a)

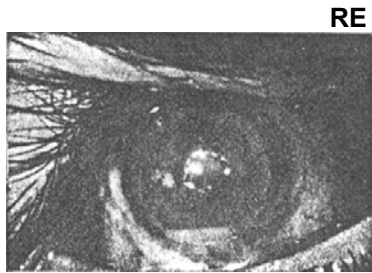
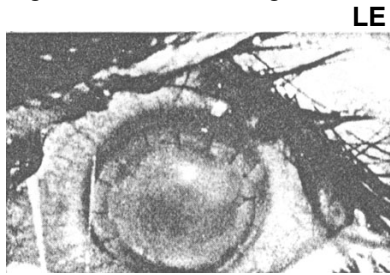


Fig 3 and 3a – showing recurrence of keratitis in both the grafts.



The left eye being affected first. Amoeba was isolated from the anterior chamber this time. Both eyes were regrafted and a fair amount of stability was achieved. (Fig4.4a)

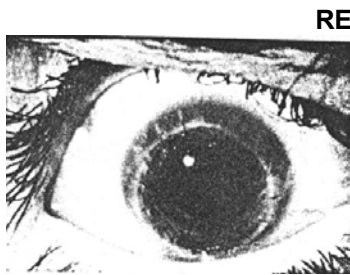
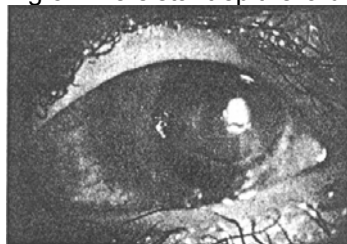


Fig 4 and 4a – Regraft both eyes – clear and stable



The patient returned to India with stable clear grafts, PAS in both the eyes and secondary glaucoma and minimal cataract in the left eye. The secondary glaucoma in left eye was effectively controlled with 0.5% timoptic drops twice a day.

Fig 5 – Persistant epithelia defect in left eye which led to stromal cyst and perforation.



This persisted despite prolonged patching and ocular lubricants. A Bandage Contact Lens was not fitted as the patient was apprehensive of the same. The defect persisted for over a month.

A tarsorrhaphy was then performed after making sure that the defect showed no infiltration. However it did little to heal the defect. This cataract increased in density. Stromal lysis led to perforation and total cataract formation. The patient underwent a graft with stored corneal button which was later replaced with a fresh donor tissue. The cataract extraction was combined with anterior vitrectomy. The graft holds 2/12 post operatively although with a certain degree of haze. The vitreous is quiet and clear. The corneal button sent for histopathological examination showed heavy infiltration with amoeba. This probably supports the observation of Case – more that ‘the organisms are remarkably resistant to drugs and that once encysted the drugs have no cidal effect on them’

Discussion: Very little literature is available on acanthamoebic infection. Encephalitis, meningitis and brain abscess has been reported. Ocular infection has been reported in 7 cases so far. The outcome of treatment in these cases has not been very encouraging.

The right eye of our patient remains stable with a corrected visual acuity of 6/18<sup>+2</sup>. What is very puzzling is the presence of a large number of amoeba in the tissue specimen. Clinically such a large number of organisms should have brought about all the clinical features described earlier. Also the epithelial defect was devoid of any infiltration which could have otherwise explained the process of recurrence. The presence of amoeba makes us presume that neither ketoconazole nor topical neomycin or Brolene had any cidal effect on the amoeba. This probably means that the amoebae were encysted and thus protected. Yet again, the question about their increased number remains unanswered. If they were encysted, how have parasites multiplied? We have no logical explanation at the moment.

According to a report by S.N. Key Et al the acanthamoeba is found in water, moist soil sewage and can be airborne. It has been cultured from the nasopharynx of healthy young children. When introduced into the brain it was found to have necrotizing effect. The ocular infection exhibits as a necrotizing corneal abscess mimicking fungal keratitis. All the previously reported cases appear to have gone through the same disappointing therapy of a series of antivirals, antifungals and steroids before a diagnosis was made. Laboratory investigations are elaborate and require special tissue culture media and staining techniques which are not available, to us yet in India.

Nonetheless, our clinical experience with this case and the other clinical reports, have made us aware of this new clinical entity which should be borne in mind while treating a non responding necrotizing keratitis.

**Note:**

1. Dr. Ann Sullivan Baker, Consultant infectious disease Mass Eye and Ear Infirmary Boston and Dr. Visveswara Protozoal Division of the CDC, Georgia were solely responsible (or the histopathological diagnosis and culturing the organisms).

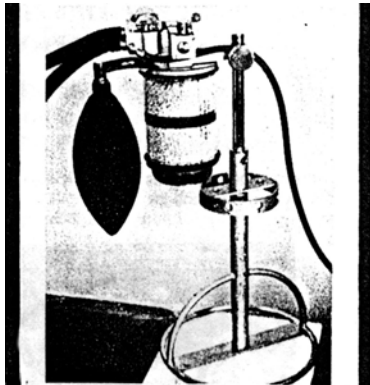
2. The credit of successful penetrating grafts goes to Dr. Richard Thoft Associate Chief of Ophthalmology Mass Eye & Infirmary, Boston.

Reference :

1. Key S.N. et al Keratitis due to Acanthamoeba Castaliani, Arch Ophthal, 1980:95,475

2. Meml Grayson : Disease of the Cornea C.V. Mosby & Co. 2<sup>nd</sup> Edition, Chapter 8: page 165





Cannister Stand

## IS SPACE YOUR PROBLEM

Dr. Ian Sundararaj

Vitreo-retinal surgery requires considerable space for the operating microscope vitrectomy machine suction apparatus. IV infusion stand cryo machine and the technicians who assist in handling the machines besides the staff nurse with her instrument table.

When the case is done under general anaesthesia, the anaesthesia apparatus makes the room considerably crowded and does not allow the anaesthetist easy access to the patient.

In the standard anaesthesia apparatus the breathing tubes are connected to the sodalime canister which is fixed to the Boyle's apparatus. Increasing the length of the breathing tubes and thus moving the anaesthesia apparatus out of the way was found unsafe in our experience and resulted in cerebral anoxia in once case. The sodalime canister is supplied with fresh gases from the apparatus by a tube the length of which can be increased without producing any ill idea of designing a canister stand for the sodalime allowing the Boyle's apparatus to be moved further away. The canister stand has been found especially useful in surgery for Giant Retina Tears where after turning the patient the canister can be kept in the same position close to the table using the same length of breathing tube and not necessitating the movement of the Boyle's apparatus to the opposite side.

## FRAGMATOME 8300 / 820

K.Santhosh Kumar  
Bio – Medical Engineer

Medical Research Foundation has two Frigmatome units namely Model 820 and Model 8300. Both the units have basically similar characteristics and specifications of output, the only difference being in the 820 series unit. This is achieved by a Banana plug/socket connection from the handly to unit in order to provide ground safety against the high Voltages that appear in the handle. The 8300 series deffers in that the ground safety is provided in the 4 pin connector/socket of the handpiece in the unit.

In order to use the 8300 series handpiece on the 820 series unit, an extra ground safety has to be provided for the 8300 handpiece and the ground safety on 820 unit has to be utilized as well to keep the unit on. Our attempt to utilize the 8300 handpiece on the 820 unit is explained by way of the following circuit diagrams.

Fig. 1 represents the J3 and J4 sockets on 820 unit with the 820 connector connected to both J3 and J4 sockets. J3 is the 4 pin Amphenol circular socket and J4 is the Banana socket.

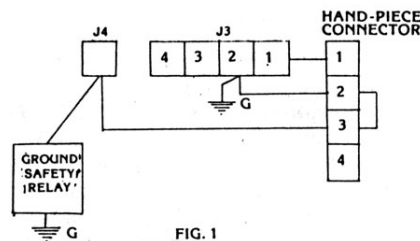


FIG. 1

Fig. II shows the construction of J3 socket and the handpiece of 8300 series. It is evident from the figure that the ground is returned from the handpiece pin 3 to the pin 3 of J3 socket and to the ground safety.

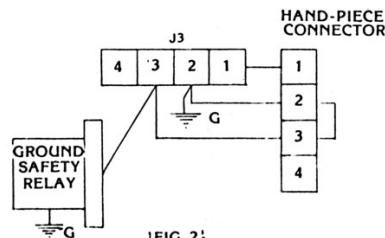


FIG. 2

Fig III explains the overriding of ground safety relay in 820 unit by connecting a cable between J4 socket and the units chassis. As long as this cable is connected the unit is on, and the 8300 handpiece can be operated. The return ground from pin 3 of handpiece is left open.

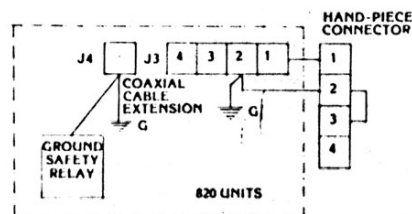


FIG. 3

To achieve safety and optimum results the combination of a connector socket is designed as in Fig.IV

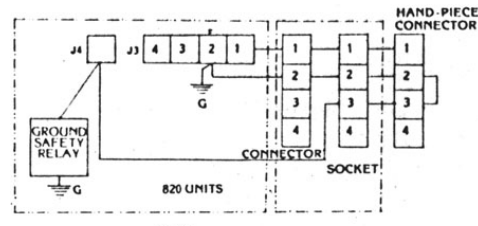


Fig. 4

While the 8300 handpiece connector goes into the socket of this combination, the connector goes into the J3 socket of 820 unit Pins 1 and 2 of the socket are connector to pins 1 and 2 of the connector respectively. A shielded connection is taken from pin 3 of socket and connected to a Banana plug. When this banana plug is connected to J4 socket of 920 unit the ground return from pin 3 of handpiece is completed. While the ultrasound power is provided by pins 1 and 2 of J3 the ground safety is provided by J4 of 820 unit of 8300 handpiece. This is simple connector socket combination permits the usage of the latest 8300 handpieces on both 820 and 8300 series units without any major changes.



## ACUTE PROPTOSIS IN THE NEW BORN

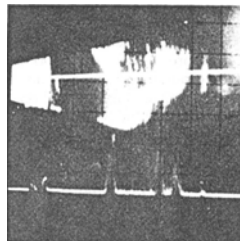
Dr. (Mrs) Nirmala Subramaniam  
Dr. R. Shanmugasundaram  
Dr. S. Natarajan

An eighteen day old male child was brought to Nethralaya with a history of protrusion of the right eye of four days duration. It was a full-term forceps delivery. There was no history of birth trauma. About two weeks after birth a small swelling was noticed on the right side of the nose along with purulent discharge from the right nostril. The child was seen by an Otorhinolaryngologist who started him on systemic antibiotics. He developed sudden painless proptosis associated with mild oedema eye lids 3 days later and was referred here.

At the time of examination the child was found to have marked axial proptosis of the right eye. The pupil was dilated and reacting sluggishly to light. The fundus showed a normal optic disc. The ocular movements were normal. There was evidence of minimal mucopurulent discharge from the right nostril. Exophthalmometry revealed multiple cystic cavities with good sound transmission within the muscle cone probably denoting multiple abscesses. The optic nerve appeared to be normal (Fig. 1).

The child was started on Inj. Garamycin 10 mg two times a day and Inj. Cloxacillin 75 mg two times a day. Based on the ultrasonographic location an orbital aspiration was done under general anaesthesia from which nearly 2 cc of thick yellow pus was drawn. Bacteriological study revealed *Staphylococcus pyogenes*. Coagulase positive strains. The antibiotics were continued but the proptosis persisted. Four days later it was decided to drain again and an incision was made in the medial side of the lower lid. More pus was drained this time from the medial and lower quadrants of the orbit. However, no pus could be aspirated from the lateral side. A rubber drain was left in situ. The proptosis did not regress even after this. Hence, a C.T. Scan (Fig. 2) was done which showed collection of pus on the inferior, medial, lateral and superior quadrants of the orbit. It also showed an extension into ethmoid sinuses and into the right maxilla. Hence an exploration was done under general anaesthesia by a 3 cm incision made along the lateral wall of the orbit. About 2 cc of pus was drained from the lateral side of the orbit. The medial incision was reexplored and one cc of pus was evacuated. Pus could not be drained from the maxillary antrum. A polythene drain was left in the orbit and connected to a syringe for negative pressure drainage. The proptosis reduced considerably during the next week. The wound healed well and the baby had an uneventful post-operative recovery.

FIG.1



A post operative C.T. Scan showed a good resolution of the abscess cavities (Fig. 3). The general condition was constantly monitored. The E.S.R. which was 75 mm at one hour to start with came down to 25mm at one hour after discharge. Pupillary reaction was brisk. Detailed fundus examination showed a normal fundus.

## DISCUSSION

Orbital cellulites presenting in the form of acute multiple abscesses in neonate is a rarity. The entry of infection is difficult to assess and was in all probability following infection of

ethmoidal sinus<sup>3</sup>. What is interesting is that right through the acute period of staphylococcal infection the child was afebrile, non toxic, taking normal feeds and showing satisfactory weight gain. This fact has been reported by Spence and Cass (1940)<sup>2</sup>

This case is being presented because of rarity of orbital abscess in a child with practically no systemic signs. Prompt recognition and treatment in the form of massive antibiotic therapy and surgical drainage of the pus helped in saving the eye and the child.

**FIG. 2**



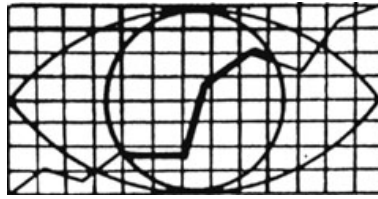
**FIG. 3**



Post Operative CT Scan showing resolution of Abscess Cavities

**Reference:**

1. E.D.Bumard Proptosis as the first sight of orbital sepsis in the new born  
Brit.J.Ophthal;1959,43:9.12
2. Cass J.Arch.Dis Childh 1940;15:15.85
3. Gholam A Peyman Et.al, (1980), Principles and practice of Ophthalmology. W.B.Saunders Company, Philadelphia Vol. III pp 2169.



# RETINA

## PUPILLARY DILATION FOR OUTPATIENT INDIRECT OPHTHALMOSCOPY

Dr. Bharat Shah,  
Dr.L.Gopal  
Dr.Prema Padmanabhan

This study was conducted to evaluate the ideal drug or drug combination required for papillary dilatation for outpatient indirect ophthalmoscopy. Indirect ophthalmoscopy involves the use of bright light and the capacity to examine the whole retina upto and even beyond the ora serrata aided by scleral depression. This procedure requires dequate papillary dilatation not only in terms of size of the pupil but the capacity to withstand the constrictor response to bright light.

Keeping the above requirements in mind, we studies theeffect of four drugs viz. Homotropine 2% Phenylephrine 10% Tropicamide 1% and Cyclopentolate 1 % in various combinations. The frequency of instillation was regulated. The various combinations used were evaluated and are given in Table 1.

There was delay in examining some patients after the scheduled time and this was duly recorded. The papillary size was measured in the horizontal meridian with a transparent ruler at the beginning and end of indirect ophthalmoscopy. Any difficulty in examining the extreme periphery was noted. Patients with poor dilatation, that interfered with adequate examination were redilated. Patients using local mydriatics or opotics and eyes with anterior segment problems like anterior or posterior ynechia that interfered with dilatation were excluded from the study. Patients were allotted to each group in a random fashion, and the papillary dilatation was evaluated by a person who was not aware of the mode of dilatation.

In general 7mm or more of papillary diameter was required for comfortable indirect ophthalmoscopy. With 6 or 6.5 mm dilatation, the fundus could still be examined but not comfortably. Anything below 6 mm required redilatation. A total of 176 eyes of 93 patients were studied (Table 1).

Table II gives the result in terms of the maximum and minimum papillary dilatation achieved in that group the number of eyes that achieved 7 mm or more dilatation and the number of eyes requiring redilatation.

As can be seen, best dilatation was achieved with Homotropine and Phylephrine used 5 times or 10 times at 10 minutes intervals. Patients who had the same medication instilled only twice at 10 minute intervals and seen 20 minutes after first instillation required redilatation in 72.4% of cases. But in the same group, patients examined after a delay of 7 to 30 minutes had adequate dilataion in 75%. This indicates that it is not necessary to increase the frequency of installation of drops. This fact is highlighted in the next group where the same medication was used once in 20 minutes for two times only and the patients were ween 40 minutes from the time of first installation. In this group 91.3% had adequate dilatation. Tropicamide alone does not seem to be a satisfactory agent for this procedure since only 57.1% of these patients achieved adequate dilatation and there was no improvement in the condition even after a significant delay. On the other hand a combination of Cyclopentolate and Phenylephrine although failing to give adequate dilatation in 75% of cases at the end of 30 minutes, has provided adequate dilatation in 77.8% of cases after a delay of 5.30 minutes in examination.

The influence of age was also studied on the papillary dilatation. It was found that with combinations of Homotropine and Phenylephrine or Cypotalate and Phenylephrine, no variation was seen with age. But Tropicamide seems to be less effective, in the older age.

This however needs to be confirmed by a study on a larger scale. There were only two aphakic eyes in this study and hence no reasonable conclusion could be drawn regarding influence of aphakia on papillary dilatation.

Although the first two groups achieved the best dilation, this involved frequent application of drops whereby patients suffering from cardiac problems or hypertension will obviously be a risk, not to mention the cost factors. From this study we conclude that for routine dilatation for outpatient indirect ophthalmoscopy instillation of Homotropine 2% and Phenylephrine 10% twice at intervals of 10 or 20 minutes is sufficient. Adequate time must be allowed for the drugs to act. Adequate dilatation is achieved in about 40 minutes. This regimens suffices in the vast majority of cases and only rarely is it required to instill drops more frequently. Tropicamide alone is not a good substitute and the combination of Cyclopentolate and Phenylephrine and can be used in selected cases – as in allergy of Homatropine.

**TABLE I**

Group	Drug used	Frequently	No.of. instillations	Time of Examination From the last instillation	Total duration between 1 <sup>st</sup> instillation 6 examination	No. of eyes	Percentage
A	Homotropine & Phenylephrine	Every 10 min	10	10 min	100 minutes	17	9.7
B	“	“	5	“	50 minutes	26	14.8
C	“	“	2	“	20 minutes	53	30.1
D	“	Every 20 min	2	20 min	40 minutes	37	22.7
E	Tropicamide	Every 10 min	3	10 min	30 minutes	22	12.5
F	Cyclopentolate & Phenylephrine	Every 10 min	“	“	“	21	11.9

**TABLE II**

No.of Group	No.of.eyes	Max.dil	Min.dil	% mm more of dil.	Redil Required in
A.Seen on time	13	9 mm	6.5 mm	92.3%	Nil
Seen after delay of 7-12 min	4	9 mm	9 mm	100%	Nil
B.Seen on time	18	9 mm	7.0 mm	100%	Nil
Seen after delay of 6-15 min	8	9 mm	7.5 mm	100%	Nil
C.Seen on time	29	7.5 mm	3.0 mm	13.8%	72.4%
Seen after delay of 7-30 min	24	9.0 mm	6.0 mm	75%	12.5%
D.Seen on time	28	9.0 mm	6.5 mm	91.3 %	Nil
Seen after delay of 5- 33 min	14	9.0 mm	6.5 mm	85.7%	Nil
E.Seen on time	11	8.0 mm	5.0 mm	57.1%	7.1%
Seen after delay of 15-35 min	8	8.0 mm	5.5 mm	50.0%	12.5%
F.Seen on time	12	8.0 mm	5.0 mm	25.0%	16.3%
Seen after delay of 5-30 min	9	9.0 mm	6.5 mm	27.8%	Nil



## LETTERS TO THE EDITOR

1. RETINA ASSOCIATES INC.  
100 CHARLES RIVER PLAZA,  
CAMBRIDGE STREET,  
BOSTON, MASSACHUSETTS, 02114

I have received vol.1 No 3 of Nethralaya Insight and read it with great interest. There is one statement in it which interested me very much and got me somewhat concerned. It is stated, at the bottom of page of 7 and top of page 8 that methyl Cellulose solution is a good substitute for Healon and is recommended for intravitreal injection. I wonder what animal work has been done to demonstrate the tolerance of methyl Cellulose solution in the vitrectomized vitreous cavity of an animal. I also wonder how many times it has been used in humans without adverse effects. The reason I am concerned is that about 25 years ago I used methyl Cellulose successfully in the vitreous cavity of rabbits. However when I tried to use it in humans it caused a reaction with the development of a dense whitish scar tissue covering the retina. I would appreciate it if you would enlighten me further on this subject.

Charles L Schepens, M.D.

II. SPECIALISTS' CLINIC 15/3,  
MADRAS BANK ROAD,  
BANGALORE 560 001.

Thanks for sending another superb edition of Nethralaya Insight, In Dr.S.S. Badrinath's article on Endodrainage are these procedures followed by conventional cryo therapy and buckling of the holes? In Dr.Surendran's article I feel the photos should have been the front pose with different gazes rather than oblique pose of the face. In the article on Fundus Contact Lens by Dr.S.S.Badrinath has soft contact lens of - 40D power(or lenses of 20 D) been tried? Advantage would be that the soft lens could be autoclaved and it remains in position without any irrigation or visilone. I feel the corneal oedema could also be reduced by using hypertonic saline (2 or 5 %) to irrigate the soft lens. I have asked the person who makes my contact lenses to find out whether - 40D soft lenses be made. The article mention that hard 40 D Plano concave lenses can be autoclaved but the information I have is that methylmethacrylate should not be heated to avoid warping. Dr.Natarajan says Ringer lactate can be used for infusion. Can the commercially available Ringer Lactate be used even for cataract surgery?

Dr.M.S.Ravindra. M.D.



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A recent write up in 'The Hindu' dt 28.8.84 has revealed a lot of appalling facts about blindness in our country. A research study by the ICMR has estimated that the number of blind people in our country is 9 million and 45 million are afflicted with some form of visual impairment of the other. A.W.H.O. report has high-lighted that of this, 80% of blindness is preventable or curable. Maintutrition leading to Vit. A deficiency forms analarming percentage Adequate education about the use of green leafy vegetables in the diet is underway and this alone will save millions of eyes.55% of the total blindness seems to be from cataract and 20% from trachoma Surgical correction for the former and teaching adequate hygiene for the latter can act as an excellent remedy to this problem.

The sixth plan has allortted Rs.22 crores to combat thia blindness and it is estimated the 40,000 eye specialists would be required when in actual fact only 5,000 are available. This means that medical college would have to turn out more ophthalmologists, but until then a general practitioner should be capable of handling eye problems or atleast them to ophthalmologists at the earliest (Courtesy- The Hindu)

The Sankara Nethralaya Team proposes to hold six pre-conference instruction courses at the X Asia Pacific Academy of Ophthalmology at Delhi on Jan 31, 1985 they are.

Dr.Chandran Abraham	:Fundus Florescein Angiography
Dr.Mary Abraham	:Ultrasonography
Dr.Mary Abraham/	
Dr.Prema Padmanabhan	:Electro Physiological Studies
Dr.Chandra Abraham	:Indirect Ophthalmoscopy
Dr.B.Sridhar Rao	:Glaucoma Surgery
Dr.S.S.Badrinath	:Vitreous Surgery