MPSOS TIMES

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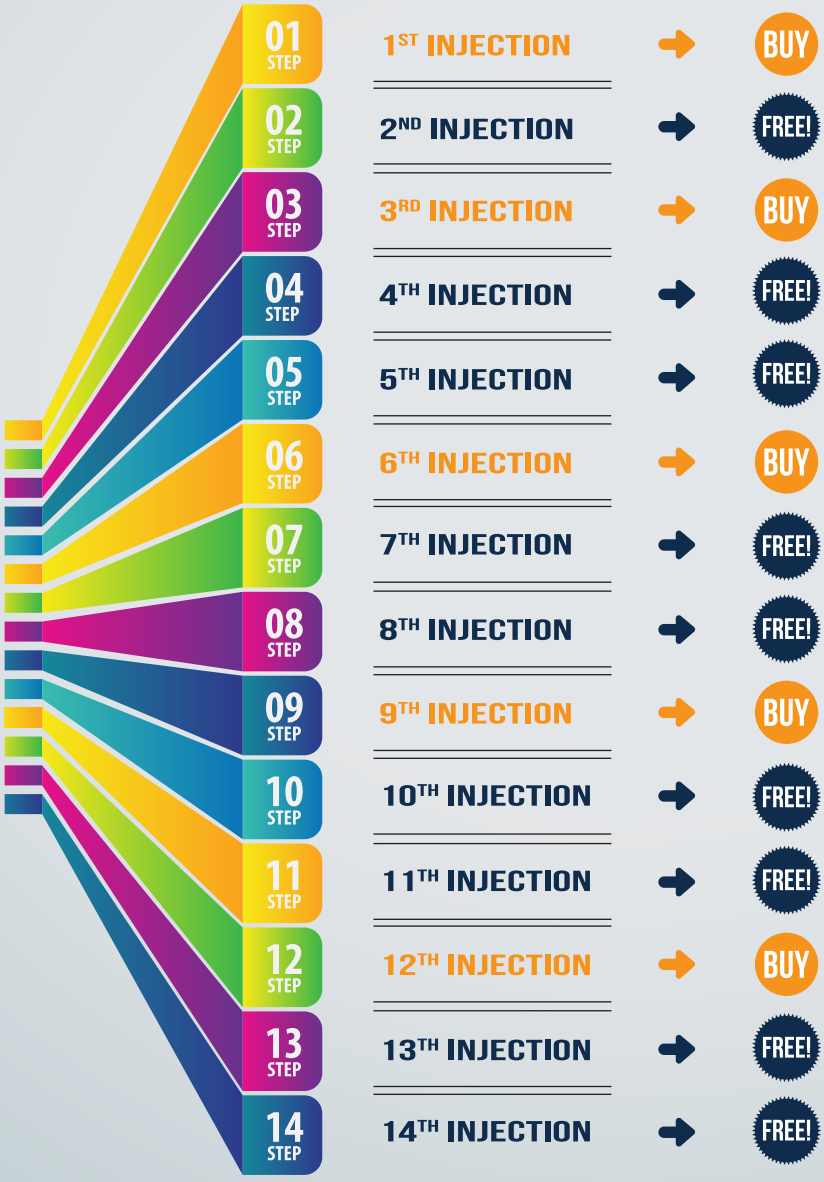

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2022-2024

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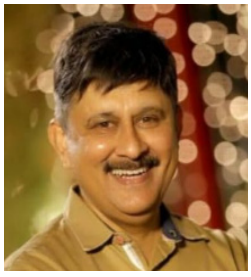

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MESSAGE

Dr B.K. Jain

Dear MPSOS Magazine Team,

I trust this message finds you in good health and high spirits. I am writing to extend my warmest regards and heartfelt congratulations on the launch of the latest issue of the MPSOS Magazine. The dedication and contributions of our society to the ophthalmology community are truly commendable, and I feel privileged to be a part of such a noble endeavor.

I want to express my deep admiration for the tireless efforts of our team in Madhya Pradesh in their pursuit of enhancing eye care services and advocating for advancements in the field of ophthalmology. The commitment of MPSOS members to improving eye health in the region is not only inspiring but also immensely impactful. It is with great pride to acknowledge the recent recognition bestowed upon us by the AIOS as the best society, which stands as a testament to our collective dedication and hard work. I am confident that our initiatives will continue to positively impact the lives of many individuals in our community.

In alignment with the mission of MPSOS, my organization, Sadguru Netra Chikitsalaya, shares a similar dedication to providing quality eye care services, conducting research, and training professionals. Together, our collaborative efforts have led to significant advancements in eye care practices not only in Madhya Pradesh but also beyond its borders.

Undoubtedly, we are faced with challenges such as the increasing burden of eye problems like refractive errors and the complexities associated with diseases such as diabetic retinopathy and glaucoma. However, it is through our collective resolve and innovative approaches that we can ensure universal eye health, which is fundamental to achieving sustainable development goals.

I am confident that together, we will navigate through these challenges and bring forth innovative strategies and interventions aimed at ensuring quality eye care services for all those in need, on a sustainable basis.

I wish the MPSOS team continued success in providing readers with insightful and informative content through the MPSOS Magazine. Please know that you can always count on my wholehearted support for your ongoing efforts in Madhya Pradesh and throughout India. I eagerly anticipate the positive impact of our collaborative work in the years ahead.

Warm regards and best wishes,

Dr B.K. Jain

Director and Trustee

Shri Sadguru Seva Sangh Trust

Jankikund, Chitrakoot, Madhya Pradesh

MESSAGE

Dr P.C. Dwivedi

Dear Team MPSOS TIMES

I am delighted to learn that our MPSOS is bringing out the upcoming edition of MPSOS TIMES.

Our magazine, MPSOS Times, mirrors the creative talents and innovative ideas of our state ophthalmologists and its contents will definitely bear proof of their scientific knowledge and multifaceted capabilities.

I congratulate the Team MPSOS for their sincere and untiring efforts and hope it will make interesting and fruitful reading for both students and practicing ophthalmologist.

Dr P.C. Dwivedi

Ex Dean, Prof & HOD, S.S. Medical College, Rewa

MESSAGE

Dr M.K. Rathore

Dear Team MPSOS TIMES

I congratulate you for bringing out the next issue of mpsos times. I applaud this upcoming publication and I'm sure it will bring in creative articles of our specialty.

I am confident that MPSOS TIMES will provide an inspirational platform for new generation of Ophthalmologists. I wish you all the best and congratulate you and your team for taking the MPSOS TIMES to new greater heights `of glory.

Dr M.K. Rathore

Professor Ophthalmology, RD Gardi medical College Ujjain

Retd Dean, MGM Medical College Indore

MESSAGE

Dr Rahul Choubey

Greetings to all MPSOS members

Commitment is an act, not a word." – Jean-Paul Sartre

The current Editorial Board under the able leadership of Dr Vinita Ramnani and Dr Mita Joshi is in office for about 2 years . When we assumed office in october 2022, our goal was "to make MPSOS TIMES bigger, brighter, and better, to support and represent the soaring academic aspirations of Ophthalmologists from Madhya Pradesh and chronicle the beautifully unfolding growth story of Ophthalmology.

"The most effective way to do it is to do it."– Amelia Earhart

Apart from its fresh and catchy cover pages MPSOS TIMES has courageously invested in reinventing itself and making it's content attractive, readable, practical, and relevant to its readers. In last 2 years we have brought out editions on GLAUCOMA, CATARACT, RETINA SUB SPECIALITY.

With continued support of our Co-editors Dr Ravi Chandil, Dr Chaveer Bindra we will continue to re-invent our self so as to bring out latest, practical, evidence based medicine articles in following MPSOS times edition. I would also like to thank all MPSOS members for their continued support in achieving greater heights in academic forefront.

Dr Rahul Choubey

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CONTENTS

Prescribing Contact Lenses in Routine Clinical Practice

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Contact lenses (CL) offer a safe and effective solution for patients troubled with glasses. They induce relatively lesser aberrations and causes lesser magnification or minification as compared to glasses.[1] A comprehensive evaluation and proper candidate selection prior to dispensing contact lenses, enable improved patient satisfaction. This article explores the various aspects that a comprehensive ophthalmologist must bear in mind, while prescribing contact lenses.

History –

- Individuals with a long history of uncontrolled diabetes mellitus, immunosuppressed individuals, and those on long-term ocular medications, tend to have a higher risk of complications, and must be counselled against regular use of contact lenses.
- The clinician must also assess whether the candidate is physically fit and disciplined to maintain hygiene of the contact lenses, lens-care solutions and contact lens cases. Those with mental incompetence and tremors must not be advised contact lenses.
- Patients with a history of dry eyes are not good candidates for contact lens wear, as long-term contact lens wear can exacerbate the signs and symptoms of dry eye disease.[2]

Examination

Spectacle Lens Power[a]	Contact Lens Power
–5.00 D	–4.75 D
–6.00 D	–5.50 D
–8.00 D	–7.25 D
–10.00 D	–9.00 D
–14.00 D	–12.00 D
+5.00 D	+5.25 D
+6.00 D	+6.50 D
+8.00 D	+9.00 D
+10.00 D	+11.25 D
+14.00 D	+17.00 D

- Adnexa - Eyelid movement must be assessed. A partial blink does not wet a rigid lens properly, and does not provide adequate tear exchange under the contact lens.
- Tear film – A healthy and adequate tear film is essential for properly fitting a contact lens over the cornea. The contact lens is held in place because of the surface tension and viscosity of the precorneal tear film. [3] The tear film spreads over the contact lens, maintaining a uniform sheet, that helps to keep it attached to the surface of the eye.[4] A negative force develops between the lens and the cornea, and the air-tear film interface forms a surface that acts as a reservoir for the lens.[5]
- Conjunctiva – Observe for signs of allergy, scarring, symblepharon. Rule out signs of ocular cicatricial pemphigoid and giant papillary conjunctivitis. Do not prescribe contact lenses in patients with active signs of infection and/or inflammation.
- Cornea – Look for abnormal neovascularization arising from prior contact lens usage.

Parameter selection –

- Keratometry/Topography – Flat and steep keratometry are obtained. The base curve is usually 0.2-0.6 mm flatter than the value of the flat keratometry in mm.[1] Commercially available base curves vary from 8.4-8.9 mm.
- Horizontal visible iris diameter (HVID) – The total diameter of the contact lens is approximately 2 mm longer than the horizontal corneal diameter in mm.[1] Commercially available contact lenses have total diameters varying from 13.8-14.5 mm.
- Refraction – A detailed refraction is necessary to obtain the back vertex power of the contact lens, as has been depicted in the following table. This is further refined after a proper fit is achieved.

Contact Lens Selection

On the basic of the material they are composed of, contact lenses can be classified as -

- Soft contact lenses – Made of hydroxyethyl methacrylate. They are easy to fit onto the cornea, and patients are able to adapt to them within a short period of time. Such lenses can be replaced every day, or every 2-4 weeks, and can be easily replaced.[1]
    - Soft spherical contact lenses - These can be used to correct patients with simple myopia and simple hypermetropia. It can also be used to treat compound astigmatism when the ratio of sphere and cylinder is 4:1. In patients with a very low amount astigmatism and high spherical error, the spherical equivalent can be prescribed.
    - Soft toric contact lenses – These can be used to correct regular astigmatism from 0.75DC up to 4DC, in steps of 0.5DC.
- Rigid gas permeable contact lenses – Made of silicon and cellulose acetate

butyrate. These lenses offer a high quality of vision and are extremely durable. Suitable candidates for these contact lenses are those with oblique astigmatism, high cylindrical errors, high myopes, irregular corneas, and those who have undergone keratoplasty.

- Rigid non-gas permeable contact lenses – Made of polymethylmethcrylate.[6] These are now obsolete.

Once a contact lens with appropriate parameters has been chosen, insert the contact lens, allow the patient some time to adapt to the new contact lens, then proceed with the fitting assessment.

Fitting Assessment –

- Soft contact lens – These lenses are said to be optimally fit, when they can be demonstrated as having a “light 3-point touch”, wherein the corneal apex and the limbus on either side of the cornea, gently touch the contact lens. An optimal fit allows the contact lens to move 1mm with each blink, while looing upwards, or with gentle pressure applied through the lower lid. A steep fit resists movement, whereas a flat fit causes too much movement.[1] In case of soft toric contact lens, there are water marks imprinted over lens. The patient is seated at the slit lamp, and a small slit is made, parallel to the axis mark on the contact lens. The patient is asked to blink, while the examiner assess the fit.
- Rigid gas permeable lenses – Fit is assessed after staining with fluorescein, and the pattern of pooling is evaluated on the slit lamp. If there is apical clearing of the cornea, a bright green area will be seen centrally. If the RGP lens is touching the cornea, this area will appear dark.[1] Once the fit is deemed adequate, the final lens parameters are clearly identified. An over- refraction can be done to confirm the final power, and the contact lenses are dispensed.

Dispensing Contact Lenses -

The following instructions must be clearly communicated to the patient at the time of dispensing contact lenses –

- Clean and disinfect a lens whenever it is removed. Rubbing cleans the lens more thoroughly.
- Follow the instructions included with the lens-care system.
- Do not use tap water, saliva, home-made solutions, or any liquid not specifically formulated for use with contact lenses on the lenses.
- Do not reuse contact lens–care solutions.
- Note that swimming while wearing contact lenses increases the risk of infection.
- Do not allow the lens solution's dropper tip or bottle to be contaminated.
- Clean the contact lens case daily by rinsing it with fresh contact lens cleaning solution (not tap water) and then allowing the case to air- dry before reusing it.
- Disinfect the case with boiling water and/or replace it every 1–3 months.
- Follow the recommended lens replacement schedule.
- Seek medical assistance promptly, when indicated.[1]

The clinician must demonstrate how to insert and remove to contact lenses. Basic contact lens hygiene and early recognition of signs & symptoms of emergencies must be explained. The follow-up schedule can be tailored as per the type of contact lens and the patient's requirements.

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Anti VEGF Port Delivery System— Clinical Aspect

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ABSTRACT

Age related macular degeneration is a leading cause of blindness. Neovascular AMD (NAMD) is a type of this degeneration. Anti VEGF therapies have a great role in the management of NAMD. While the burden of Anti-VEGF remains a problem, despite of its efficacy, may result into under treatment. This is responsible for poor visual outcome. Improving efficacy of Anti VEGF therapies, long term drug delivery device is an important solution. This device reduce the burden of repeated intra vitreal injections and burden of frequent monitoring visits. The port delivery system is surgically implanted. It is a permanent, reusable drug reservoir, composed of poly sulfone and includes a silicon septum that can be entered with a special needle many times to refill the device. It allows sustained release of drug into vitreous cavity. This article reviews merits and demerits of port delivery system.

Key words: Anti VEGF, port delivery system, age related macular degeneration.

INTRODUCTION

Neovascular age related macular degeneration, Diabetic retinopathy with macular oedema and other progressive degenerations of retina, contribute to visual loss. Anti VEGF therapy is the current first line treatment. AntiVEGF drugs are ranibizumab, aflibercept, and brolucizumab, all are required to be administered frequently and require close monitoring. This frequency of management puts a considerable burden on patients, caregivers and clinicians, the requirement for frequent injections of anti VEGF therapy reflects the short intraocular the short life of these biologic agents [(1)], The port delivery system enables the continuous delivery of drug into vitreous over extended period of times. By reducing the need for monthly injection, it has the potential to reduce treatment burden and monitoring in patients with retino vascular degeneration and further decreases the negative impact of under treatment in clinical practice [(2,3).]

BACKGROUND & HISTORY

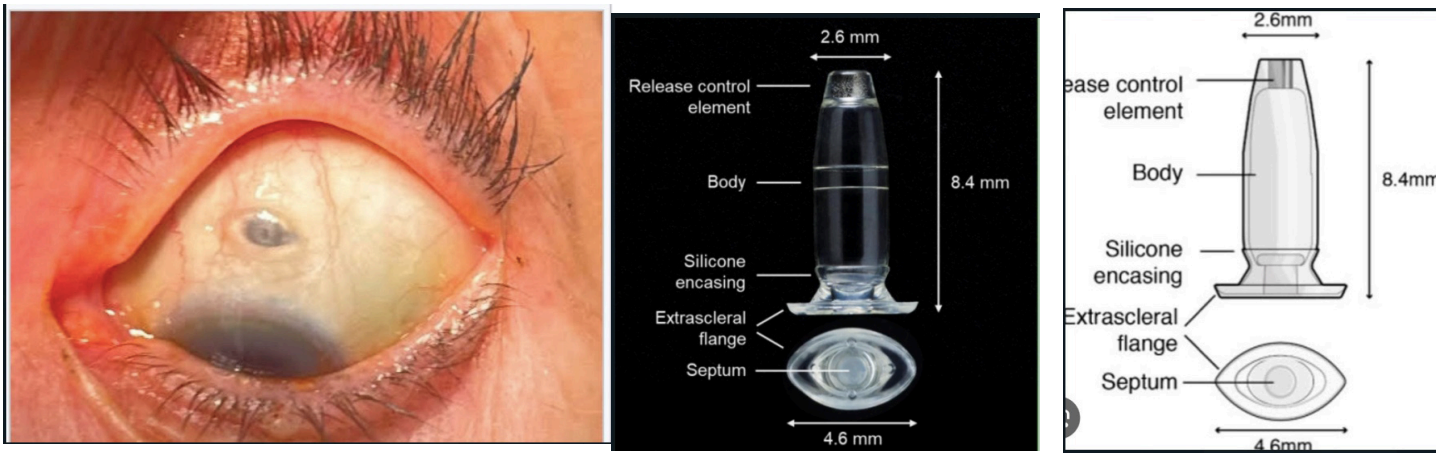
Intravitreal injection is not without risk. Most adverse effects are mild, as local discomfort, [(4)] subconjunctival hemorrhage, ocular hypertension and severe as endophthalmitis. Repeated injections increases the cumulative risk for a complication, result into extra financial burden, time and emotional burden on patients. One effective solution to reduce the need for repeated injection is the port delivery system, PDS or Susvimo {Gentech, SanFrancisco, CA} In October 2022, Genentech has reported cases of septum dislodgment, [(5)], modifications of devices are in process.

CLINICAL TRIALS

PHASE 1 TRIAL- Demonstrated the feasibility for treating AMD Supported by Genetech, Inc, South Francisco presented , results of PDS implanted in 20 patients of NAMD, 19 patients experienced hyperemia, 5 had vitreous hemorrhage and 4 patients had hyphema and one had endophthalmitis. Serum concentration of drug remains above the lower limit at 8 weeks. Improvement of vision noticed in 50% patients but 10% developed deterioration. [6]

PHASE 11 TRIAL-(LADDER) Genetech conducted a randomized, multicenter, treatment-controlled trial, to assess the safety and efficacy of system. Patients were treated with PDS filled with ranibizumab, 10mgm/ml, 40mgm/ml and 100mgm/ml. Study done for 22, 1 month for all PDS patients. Over a mean of 22 months on study, vision and anatomic outcome were comparable between the PDS 100mgm/ml and monthly intravitreal ranibizumab 0.5mgm. The LADDER study, revealed consistency, good tolerance throughout the period. [7]

PHASE 3 TRIAL [8] -Randomised visual acuity assessor- masked trial, Archway met its primary objective PDS, demonstrated non inferior and equivalent efficacy to monthly ranibizumab.



Picture 1

It is 8.4 mm in length and 4.6 mm in diameter at flange, tapering to 2.6 mm at release control element. Device is located in vitreous with a small portion traversing the sclera and widening into flange for refilling. [9]

The device has four parts-

1) Body- A refillable reservoir, may store 0.o2 ml drug
2) Release control element- A titanium part, regulates the rate of diffusion of drug into vitreous.
3) Septum - A self-sealing interface on the extra scleral surface of the device allow repeated fillings
4) Extra scleral flange- silicon encasement, designed to fit on sclera and keep the device deep to the conjunctiva without sutures.

INDICATIONS

The PDS was approved by FDA in 2021 as the commercial Susvimo implant for treatment of AMD. Clinical trials studding its use in other ocular diseases as diabetic retinopathy and macular oedema etc are in process.

CONTRAINDICATIONS

1. ocular and periocular infections, 2. Active ocular inflammation, 3. Hypersensitivity to drugs and components of device, 4. Glaucoma, 5. Dry eye

Systemic factors- Arthritis, Lupus, Granulomatosis, Anti thrombotic medicines, NSAIDS

SURGICAL TECHNIQUE [10]

Insertion of the implant involves exposure and dissection of the sclera, pars plana LASER ablation followed by parsplana incision, insertion of the device into vitreous, closure of conjunctiva and tenons capsule to avoid post-surgical complications.

COMPLICATIONS- Includes-[9]

1 Conjunctival erosion, 2 Bleb, conjunctival retraction, 3 vitreous hemorrhage, 4 endophthalmitis,
5 Retinal detachment, 6 implant dislocation

Septum Dislodgment, 2.3% occurred during implantation & 0.63% during refilling, reported in devices produced for ongoing clinical trials (PAGODA, PAVILLION)

OUTCOME

The PDS remains a novel device, The phase 3 clinical trial validated susvimo and laid the foundation for its FDA approval was the Archway study. The trial showed that over 40 wks,100 mg/ml ranibizumab administered via PDS with refilled exchanged every 24 weeks was non-inferior and equally efficacious as 0.5 mg. injection every 4 weeks. 93% patients in PDS group reported preference of PDS over routine intravitreal injections [10]

EXPERT OPINION

US FDA approval of PDS could be an initiator for long term sustained drug delivery of Anti VEGF. A safe and sustained release of anti VEGF for the long term could be the early goal for the management of retinal diseases that require frequent anti- VEGF injections. Exciting research is ongoing, such as OTX- TKI (AXITINIB INTRAVITREAL IMPLANT). Another cell-based drug delivery system is under trial, where human derived retinal pigment cells are encapsulated in hollow fiber membrane (RENEXUS). Overall, it is very challenging and exciting for advanced pharmacotherapy-based research for management of retinal disease

CONCLUSION

The PDS ensures an effective strategy for patients with n AMD to receive sustained, regularized delivery of drug. The system is a permanent drug reservoir implanted into the sclera to allow for sustained delivery of ranibizumab. However, limitations also apply to PDS including cost of device, needs experts for implantation, and extent of complications. Even then pivotal phase 3 ARCHWAY TRIAL demonstrated that PDS provided visual outcome equivalent to those achieved with monthly ranibizumab injections. 93% patients preferred the PDS over intravitreal injection. Meticulous surgical technique is required to lessen the complications and facilitate the sustained drug delivery. A detailed study in large group is required to assess the merits and demerits of system.

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Bilateral Retinal Artery Occlusion Following Massive Honeybee Envenomation

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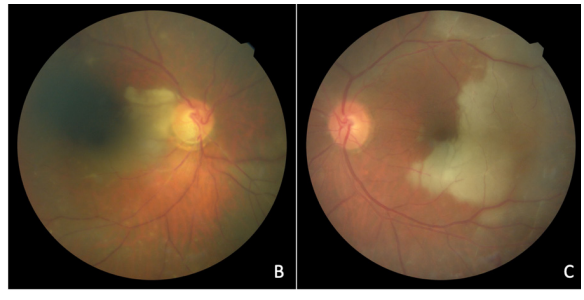
Bee stings have been known to produce an IgE-mediated hypersensitivity reaction with resultant anaphylactoid and toxic manifestationsh[1]. Ocular involvement in the form of unilateral central retinal arterial occlusion following a bee sting has been reported twice in the previously reported literature[2,3].

A 64-year-old male complained of a sudden decrease in vision in both eyes, 1 week after suffering from multiple bee stings. He was admitted to the intensive care unit for the management of anaphylactic shock and thrombocytopenia after being stung by several bees. Clinical examination revealed hyperpigmented patches along his lower eyelids following the resolution of eyelid angioedema (Figure 1A). Visual acuity in the right eye was Counting Fingers close to the face (CFCF) and 20/60 in the left eye. Anterior segment examination showed the presence of pseudo-exfoliative material on the corneal endothelium. Fundus examination revealed ischemic retinal whitening, with partial involvement of the macula in both eyes along with peripapillary retinal edema more evident nasally in the right eye (Figure 1B) and temporally in the left eye (Figure 1C) suggestive of bilateral retinal artery occlusion. OCT macula of both eyes showed significant hyper-reflectivity and increased thickness of the inner retinal layers with an intact outer retinal architecture. Blood investigations revealed raised serum IgE levels, suggestive of hypersensitivity and raised D-dimer and ferritin levels suggestive of a hypercoagulable state, which could be a cause of bilateral BRAO. Prior to ocular examination, the patient was stabilized with intravenous fluids, steroids, antipyretic, antihistaminic and other supportive medications. No additional treatment was offered to the patient for BRAO due to late presentation .

To the best of our knowledge, this is the first case of bilateral BRAO following massive honeybee envenomation in the world. Patients with systemic collapse following multiple bee stings may be at risk of retina arterial infarction and their vision should be monitored to aid in timely diagnosis and management. Hence, an early ophthalmology consult in the setting on an intensive care unit in cases like these is of utmost importance.

1A – Bilateral hyperpigmented patches on lower lids following resolution of angioedema
1B- Right eye fundus photograph showing partial macular and peripapillary retinal edema
1C – Left eye fundus photograph showing partial macular and temporal retinal edema



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Diagnostic Approach in Cases of Retinal Haemorrhage

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Retinal haemorrhage is a common clinical finding in fundus examination. It is significant and delineates various possible ocular and systemic pathologies. Arriving at an accurate diagnosis is feasible if a detailed clinical history coupled with a meticulous fundus examination is performed.

- **Diabetic Retinopathy** – Lesions mainly comprise of Retinal haemorrhages which are mainly dot and blot haemorrhages with microaneurysms in association with hard exudates. Clinically significant macular edema (CSME) is a frequent finding. Venous tortuosity, Cotton wool spots and Intra retinal vascular abnormalities (IRMA) are documented in preproliferative stage.
- **Hypertensive Retinopathy -** Arteriolar narrowing with AV crossing changes are seen. Ischaemic changes in form of haemorrhage (flame shaped haemorrhages in superficial retinal layer and dot blot haemorrhages which mainly pertains to bleeding in inner retinal layer) and exudates (hard exudates which are lipid deposits in retina and Cotton wool spots due to ischemia of nerve fibres) are common findings. In malignant hypertension disc oedema with macular exudates is observed.
- **Retinal arterial macro aneurysm –** These are localised dilatations (saccular/fusiform) of retinal arterioles at bifurcation or at arteriovenous crossing of temporal vascular arcade, with chronic leakage and exudate formation. It is frequently associated with retinal haemorrhage. The other eye also needs to be evaluated in such cases and absence of drusen may be a pointer to the diagnosis.
- **Coats Disease (exudative retinitis)** – Typically manifests as arterial telangiectasia and focal aneurysmal dilatation of arterioles in a young child usually below 6 years age associated with massive exudation and exudative Retinal detachment. Retinal haemorrhages are occasionally reported with telangiectasia.
- **CRVO -** Retinal haemorrhages are superficial and, in all quadrants, resembles tomato ketchup appearance. Macular oedema can be an accompanying feature. It is usually seen in association with hypertension, diabetes /glaucoma but in younger patients hyperhomocysteinemia is one of the differentials.
- **BRVO -** Retinal haemorrhage in territory of one vein is usually superotemporal and is associated with hard exudates, dot and blot haemorrhages along with dilatation and tortuosity of affected venous segments are present. Macular oedema is commonly described along with visual disturbances.
- **Ocular ischemic syndrome** – It is due to poor ocular perfusion due to carotid artery stenosis. Retinal artery occlusion can be seen acutely whereas chronic lesions manifest as retinopathy with fundus revealing pale, superficial haemorrhages. Visual prognosis is extremely poor. Neovascularisation of Iris is seen usually.
- **Sickle cell retinopathy –** Non proliferative sickle retinopathy (NPSR) is characterized by the presence of salmon patches (superficial haemorrhages and venous tortuosity and peripheral vascular occlusion), iridescent spots, and black sunbursts. Neovascularization is usually confined to the peripheral retina and has been documented to be frequently confined to one quadrant. Neovascularization may be complicated by vitreous haemorrhage and retinal detachment. In severe ischaemia proliferative changes with anastomosis among blood vessels and neovascularisation in form of sea fan appearance are seen especially in periphery. Occlusive vasculopathy can present as central retinal artery occlusion, branch retinal artery occlusion or macular artery occlusion.

- **Anaemic retinopathy** - Pale fundus with superficial and dot haemorrhages and Roth's spot, (white spot at centre of haemorrhage) is documented. Optic neuropathy due to pernicious anaemia may be present.
- **Cancer / Radiation associated retinopathy –** Ocular lesions include multiple superficial and deep retinal haemorrhages with Roth's spot. Tortuous vessels with ischaemic retina and anastomosis change and neovascularisation with bleed can be seen.
- **Purtschers retinopathy** - It is seen in association with acute pancreatitis, pancreatic adenocarcinoma, renal failure, preeclampsia/HELLP Syndrome and childbirth, connective tissue disorders, crush injury, fat embolism syndrome, long bone fracture, orthopaedic surgery and Valsalva manoeuvre with poor vision subsequent to blunt chest trauma and post-surgery. Visual prognosis is poor. Cotton wool spots and retinal haemorrhage is most common presentation. The pathognomonic Purtscher flecken are polygonal areas of retinal whitening which occur in the inner retina, between retinal arterioles and venules and have a characteristic clear zone, without retinal whitening, extending for an average of 50 μm on either side of the retinal arteries and pre-capillary arterioles. The late finding of atrophy of the retinal pigment epithelium, and possibly also the optic disc pallor confirms choroidal involvement.
- **Eales Disease** – Ocular findings are peripheral periphlebitis, sheathing of veins, retinal haemorrhages and cotton wool spots. In late stages neovascularisation and Vitreous haemorrhage are seen in younger cohorts.
- **HIV retinopathy**- Common clinical findings are multiple haemorrhages and cotton wool spots (posterior pole) and microvascular changes such as telangiectasia and microaneurysms. Large vessel occlusions like central retinal vein occlusion (CRVO), branch retinal vein occlusion (BRVO), and branch retinal artery occlusion (BRAO) are infrequently reported.
- **CMV retinitis** –White retinal exudates associated with retinal haemorrhage give a "pizza pie or Margherita pizza" appearance associated with < 100 CD4 counts. It tends to occur along vascular arcades and gradually extends along vessels in a 'bushfire-like' pattern. It may also affect the optic nerve head.
- **Behchet's disease**- Anterior uveitis with hypopyon and panuveitis, with arteritis and sheathing non necrotising retinal lesions. Occlusive necrotizing retinal vasculitis is classically described. Thrombotic manifestations are typically bilateral inflammatory branch retinal vascular occlusions which lead to arteriolar attenuation and retinal non-perfusion, followed by retinal neovascularization, which is a possible source of retinal haemorrhage or even haemorrhagic periphlebitis. Frosted branch angiitis, with or without neuroretinitis, is another manifestation.
- **Choroidal Neovascular Membrane** - It is typically seen as grey/greenish lesions and may occur in the macula/periphery. There may be secondary subretinal or intraretinal fluid/haemorrhage. Other clinical findings may be present such as drusen and RPE changes (AMD), peripapillary atrophy, tilted nerve, staphyloma or myopic fundus (myopic degeneration), inflammatory uveitic lesions, choroidal rupture and angioid streaks. Here fundus lesion is at macula and retinal haemorrhage is present in active disease associated with visual loss. This is best visualised in FFA and OCT.

These are few important differential diagnosis of retinal haemorrhages. Fundus features can be overlapping among these diseases, but with clinical findings and differentiating features we can arrive at the right diagnosis in a case of retinal haemorrhage.

Punctate Inner Choroidopathy Presenting as Choroidal Neovascular Membrane

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INTRODUCTION –

Evaluating and managing macular pathologies in pathological myopia is often challenging. It can present with variety of conditions including atrophic degeneration, lacquer crack associated subretinal hemorrhage, tractional maculopathies, myopic schisis and myopic choroidal neovasculopathy (CNV). The diagnosis becomes even more challenging when inflammatory pathologies are associated especially in young myopic females such as punctate inner choroidopathy (PIC) or multifocal choroiditis (MFC). The term punctate inner choroidopathy (PIC) was first used by Watzke, et al[1] in 1984, to describe a group of myopic patients with multifocal, small choroidal lesions in macular area after an infectious cause has been ruled out. PIC predominantly affects otherwise healthy young women, usually between the second and fifth decades of life, with about 90% of reported cases between 18 to 40 years old[2]. Secondary CNV occurs in up to 83% of PIC / idiopathic mutifocal choroiditis lesions[3]. Multimodal imaging often helps in detailed evaluation in clinical changes, disease progression and management.

CASE REPORT –

A 22 year female presented with complaints of black shadow with diminution of vision in the right eye since 7 days. There were no other ocular complaints. There was no history of any recent infection, hormonal or medical treatment. There was no associated stress, recent vaccination or sleep disturbances. She had undergone laser treatment for facial hair reduction around 2 years back. The best corrected visual acuity in the right eye was 6/18 (-9.0 D /-0.50 D @ 15°) while in the left eye was 6/6 (-7.50 D / -1.0 D @ 160°). On ocular examination, anterior segment was normal in both eyes with clear anterior vitreous face while posterior segment revealed single hypopigmented lesion in the foveal area in the right eye (figure 1). Left eye posterior segment was normal. On multimodal imaging, optical coherence tomography (OCT) in the right eye revealed pigment epithelial detachment (PED) with sub retinal pigment epithelium (RPE) fluid, disruption of photoreceptors with RPE thinning and intermittent areas of hypertransmission to choroid (figure 2A) signifying underlying CNV with inflammatory component. External limiting membrane (ELM) was partially disrupted. OCT in the left eye was normal (figure 2B). On fundus fluorescein angiography (FFA), early phase revealed mild hyperfluorescence with late staining in the foveal area with minimal disc leakage in the right eye (figure 3). Left eye angiography was normal. On lines of myopic choroidal neovascular membrane (CNVM), patient was injected with intravitreal ranibizumab (0.5 mg in 0.05 ml) and was followed up for 1 week. After 7 days, few punctate lesions were seen in the right eye. OCT imaging in the right eye revealed multiple punctate lesions with PED along with hypertransmission and some hyper echoic shadows above the RPE (figure 4A). Also, there was intermittent disruption of photoreceptors, thinning of RPE or Brusch membrane. After one month, OCT in the right eye revealed progressive RPE thinning and photoreceptor disruption. Also, choroidal hyper-transmission of 1st lesion had decreased while that of 2nd and 3rd lesion had increased (figure 4B). This was due to regression of CNV in the 1st lesion while the other 2 lesions were predominantly inflammatory in nature. The best corrected visual acuity improved to 6/12 with symptomatic improvement. She was subjected to 2nd dose of intravitreal ranibizumab injection. After 2 months follow, patient developed multiple small punctate lesions over the macular area (figure 5A) with BCVA of 6/24 in the right eye. On evaluation, OCT revealed multiple small lesions with involvement of outer retinal layer above the RPE with hypertransmission extending upto full thickness of choroid, diffuse photoreceptor loss and RPE disruption, intermittently breached Brusch membrane and hyper reflective choroidal foci (figure 5B). FFA revealed multiple small lesions in the macular area with early hyperfluorescence in early and mid-phase followed

by late staining and mild leakage. Also, mild leakage of optic disc and perivascular leakage were seen in the late phase (figure 6). Patient was diagnosed with punctate inner choroidopathy (PIC) and started on systemic steroids after investigations. The investigations showed negative Quantiferon TB gold and VDRL, Serum ACE levels were normal, neutrophils were slightly elevated (79.3%, normal range 40-70%) while lymphocytes were reduced (16.2%, normal range 20 -40%). After 1 month of steroid therapy, the lesions regressed significantly.

DISCUSSION

PIC is an infrequent ocular inflammatory disease, frequently affecting young myopic women with multiple, small, round, yellowish white punctate lesions, in the absence of intraocular inflammation[4]. PIC in highly myopic eyes can increase the risk of CNVM and chorioretinal atrophy. Early in its course, PIC can present with single lesion that is very difficult to differentiate from myopic CNVM[5]. OCT can help in differentiating the lesions, as PIC lesions may present with intermediate hyper-reflectivity beneath the RPE with hypertransmission. Hypertransmission is usually associated with splitting or thinning in the RPE along with ellipsoid zone disruption. PIC associated with CNVM presents with hyporeflectivity beneath the RPE in between the hyper-reflectivity. Hyperreflectivity corresponds to inflammatory changes which first begins in the sub RPE area. Also, as inflammation increases, there is involvement of outer retina with associated hyper-reflectivity on OCT. Hyper-reflective choroidal foci can also be seen as inflammation increases which was evident in the present case later in follow up. FFA can help in differentiating as these punctate lesion presents with early hyperfluorescence with late staining and mild disc leakage which can give a clue regarding the inflammatory nature of disease. Managing PIC lesion in highly myopic eyes require long term treatment with steroids along with anti VEGF agents to control the inflammation and CNVM. Also, long term immunosuppressive therapies may be required to control the inflammation, prevent complications and development of chorioretinal atrophy. As these lesions resolve, there is varying degree of RPE and outer retinal atrophy.

CONCLUSION

Distinguishing the inflammatory lesion related to PIC and myopic CNVM may be challenging, particularly in young myopic females with overlapping risk factors and clinical findings. An accurate and prompt diagnosis with multimodal imaging is important, as management requires different therapeutic approach. A close and regular follow up if of utmost importance as PIC lesions can develop CNVM either as presenting sign or in due course of treatment. While PIC lesion are managed by systemic corticosteroids therapy and immune-modulators to control the inflammation, CNVM associated to myopia or PIC lesions require anti vascular endothelial growth factor therapy.

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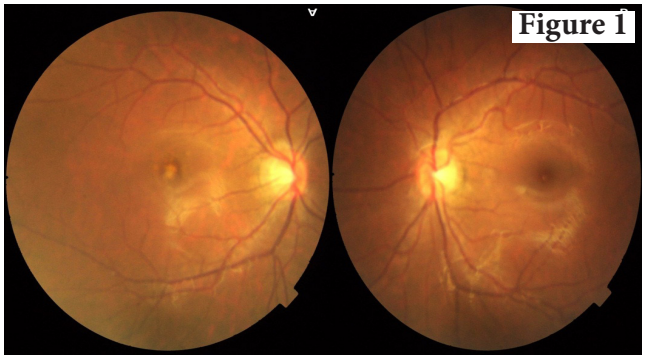

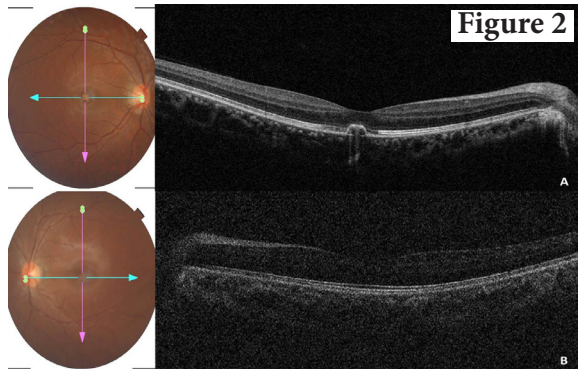

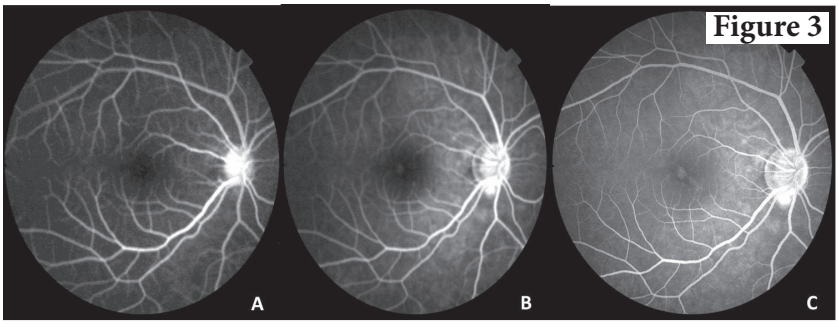

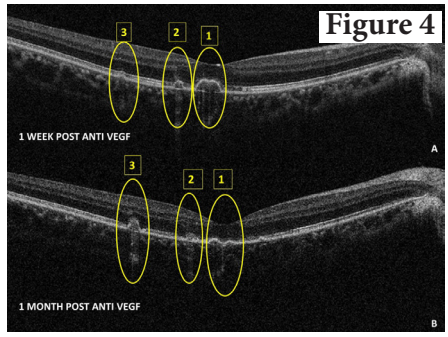

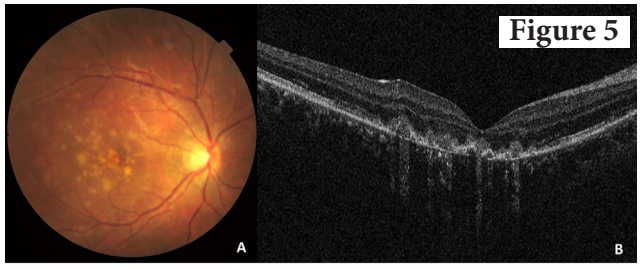

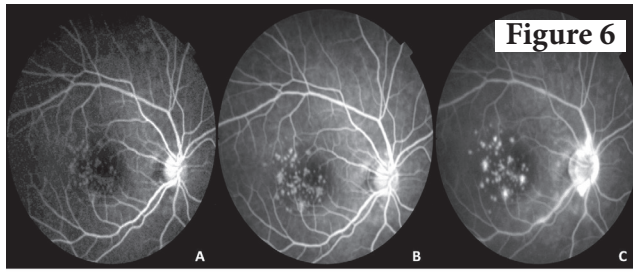

Figure 1 – Color Fundus Photography revealed single hypopigmented lesion in the foveal area in the right eye. Left eye was normal.

Figure 2 - Optical Coherence Tomography (OCT) in the right eye revealed pigment epithelial detachment (PED) with sub retinal pigment epithelium (RPE) fluid, disruption of photoreceptors with RPE thinning and intermittent areas of hypertransmission to choroid (figure 2A). External limiting membrane (ELM) was partially disrupted. OCT in the left eye was normal (figure 2B).

Figure 3 - Fundus Fluorescein Angiography (FFA) revealed mild hyperfluorescence in the early and mid-phase with late staining in the foveal area and minimal disc leakage in the right eye.

Figure 4 - OCT imaging in the right eye one week post anti VEGF injection revealed multiple punctate lesions with PED along with hypertransmission and some hyper echoic shadows above the RPE (figure 4A). Also, there was intermittent disruption of photoreceptors, thinning of RPE or Brusch membrane. After one month of anti VEGF injection, OCT in the right eye revealed choroidal hyper-transmission of 1st lesion had decreased while that of 2nd and 3rd lesion had increased (figure 4B).

Figure 5 - After 2 months, color fundus photography revealed multiple small punctate lesions over the macular area (figure 5A) in the right eye. OCT revealed multiple small lesions with involvement of outer retinal layer above the RPE with hypertransmission extending upto full thickness of choroid, diffuse photoreceptor loss and RPE disruption, intermittently breached Brusch membrane and hyper reflective choroidal foci (figure 5B).

Figure 6 - Fundus Fluorescein Angiography (FFA) revealed multiple small lesions in the macular area with early hyperfluorescence in early and mid-phase followed by late staining and mild leakage. Also, mild leakage of optic disc and perivascular leakage were seen in the late phase.

Counselling of Patient: Need of the Hour

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Changing era of life is always a challenge & changes in life's journey is a continuous process. The globalization that occurred in the last 15-20 years has affected the world scenario. In all aspects such as lifestyle, family structure, earning resources and growth ,these changes can be seen

Those who accept changes and change themselves can happily live life with the new generation.

Change also affects the most ethical & service-oriented health care industry. As corporates entered in health care, the ethical values as per the established norms were modified & marketing became a part of health care services. To compete & survive with the changes many old & well settled doctors are changing their work style to compete with the new generation. To grow, one of the things which is developing increasingly is counselling the patient to his needs in search for a better lifestyle and to get a better outcome in surgery.

But I being of old school of thought ,was compelled to think about this new situation and few questions are raised in my mind related to counselling process.

To my best understanding, counselling makes patients –

- Aware of disease
- Know about best treatment option
- To get better outcome &
- Fast return to work.

Taking cataract as an example.

We came across many patients who are visiting different doctors to figure out better options at lesser cost.

So, following are my submissions to ponder:

1. The thought embedded in mind of patient with 6/9 best correct visual acuity with mild lenticular changes is : please get it operated fast & early. If it will burst, then it won't lead to good outcome .
2. Patients are given multiple choices from Indian IOL to premium, bifocal, Toric with cost & company of the lens which creates a sense of confusion Even today a lens of higher cost is better as per human thinking as one saying "Sasta Roye Bar Bar aur Mahenga Roye Ek bar"
    a. Patients try to use their maximum financial capacity for a better IOL.
    b. **Is it correct counselling**.
    c. I think choice of IOL selection should be by doctor depending on patient's life style, affordability & faith on treating consultant.

3. One more point which I often hear is : we can make one eye see clear for distance and one for near postoperatively.No need of spectacle postoperatively! Go Spectacle Free is the slogan marketed. Is it ethical **to compromise on binocularity**?

4 The counselling is often done by counsellors who do not have proper knowledge of the subject, they usually present a cost package for procedure.

So, with my experience of more than 30 years in practice & 10 plus years as a healthcare professional, **what I feel is that counseling is an art.**

it should be done with following points in mind:

- The counsellor should be a person who is well trained in the subject he/she is talking about.
- Make a bond with the patient by simple communication and questions. during the examination-
- Try to understand the financial condition of a patient by asking a few questions like how many members there are in the family, earning members, about their jobs or business, having own house or vehicle etc. in a casual talk.
- Now do counselling by explaining about surgery IOL type, cost of IOL keeping in mind affordability of the patients. For example - the patient can afford up to 15-20 thousand and if you are giving them a choice of up to 1 lakh and they won't opt for surgery at your place. So, he should be given the choice up to his affordable limit or Insurance limit.

4. If the patient wants to get operated ~~on~~ at a later date then ask the patient for a regular follow up it shouldn't be very frequently otherwise patient will get annoyed.

Conclusion:

Counselling is a need of the present, but we should always keep ethical values in mind. Counselling is not window shopping with offers as we are dealing with a living being and everyone's response can be biologically different to the procedure done and drug taken.

MPSOS SCIENTIFIC ACTIVITIES

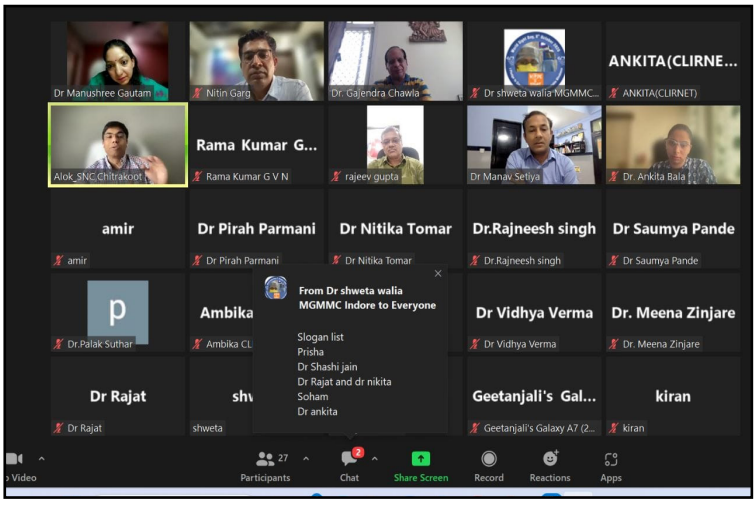
ब्रेन ट्यूमर अवेरनेस डे

आँखों की रोशनी छीन सकता है ब्रेन ट्यूमरए समय रहते हो जाएं सावधान : डॉ विनीता रामनानी, नेत्ररोग विशेषज्ञ

नोबल एक्सप्रेस, भोपाल

नेत्र रोग विशेषज्ञ डॉ विनीता रामनानी के अनुसार प्रतिवर्ष आठ जून को लोगों को ब्रेन ट्यूमर से जागरूक करने के लिए पूरे विश्व में ब्रेन ट्यूमर दिवस बनाया जाता है। ब्रैन ट्यूमर किसी भी उम्र में किसी को भी हो सकता हैं इसलिए सतर्कता एवं निगरानी आवश्यक है। ब्रेन ट्यूमर कई तरह के होते हैं जिनका यदि समय से इलाज नहीं किया गया तो यह काफी घातक हो सकता है। कई आँखों की नसो को दबाते है जिनको नजरअंदाज किया और समय रहते इलाज शुरू नहीं हुआ तो आँखों की रोशनी जा सकती है। देर से इस बीमारी का पता चलने पर आपरेशन और अन्य इलाज से भी आँखों की खोई हुई रोशनी वापस नहीं आ पाती है। कई बार ब्रैन ट्यूमर के लक्षण अति सामान्य होते हैं जिसके चलते मरीज इस बीमारी को नजरअंदाज कर देते हैं। इसलिए अगर किसी मरीज को इस तरह की कोई तकलीफ हो तो तुरंत जाँच करवाएँ . ब्रेन ट्यूमर के कारण आमतौर पर दिखने वाले लक्षण रू आँखों मे धुंधलापन या डबल दिखनाए नजर कमजोर होना चलने.फिरने में दिक्कत होनाए दीर पड़ना सिरदर्द व उसका धीरे.धीरे गंभीर हो जाना शरीर के एक हिस्से में कमजोरी महसूस होना वयस्कों व बुजुर्गों में याददाश्त का कमजोर होना या चले जाना कम सुनाई देना सोकर उठने पर सिरदर्द या उल्टी होना संकेतों कोध्यान दें एवं समय रहते जाँच एवं इलाज लें यही इस दिवस का मुख्य उद्देश्य है। आधुनिक तकनीकों के आ जाने से ब्रेन ट्यूटर का इलाज अब आसान हो गया है जरूरत है तो सिर्फ अवेरनेस्स की।आज के परिवेश में जनजागरुकता जरूरी हैइसी कड़ी में मध्यप्रदेश स्टेट ओपथलमिक सोसाइटी एवं संभव सोशल वेलफेयर सोसाइटी भोपाल के संयुक्त प्रयास से 11 जून 2023 रविवार को एक वेबिनर का आयोजन किया गया है जिसमें ब्रैन ट्यूमर के आँखों पर होने वाले दुष्परिणामए बचाव के तरीके एवं इलाज के बारे में ऑपसर्जन एवं न्यूरोसर्जन चर्चा करेंगेए साथ ही इस मीके पर जनजागरूकता एवं मेडिकल कॉलेज में अध्ययनरत पी जी स्टूडेंट्सके लिए स्लोगन और पोस्टर प्रतियोगिता का भी आयोजन किया जाएगा।

डॉ विनीता रामनानी, नेत्ररोग विशेषज्ञ
बंसल हॉस्पिटल, भोपाल



Brain Tumor and Eye Webinar
(11th June 2023)

ANNUAL CONFERENCE OF MPSOS AT UJJAIN
(27th to 29th October 2023)

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(31st March 2024)

Congratulations to all award winners!

Scientific Awards for the 46th Annual Conference of MPSOS

Winners of Scientific Awards for the 46th Annual Conference of MPSOS held at Ujjain from 27th to 29th October 2023 at Anjushree Hotel -

- **Late Kumud VA Joshi Award for PGs - Dr. Utkarsha Jain**
- **Dr. Ramesh Krishna Agarwal Physical Poster Award - Dr. Priyanka Jain**
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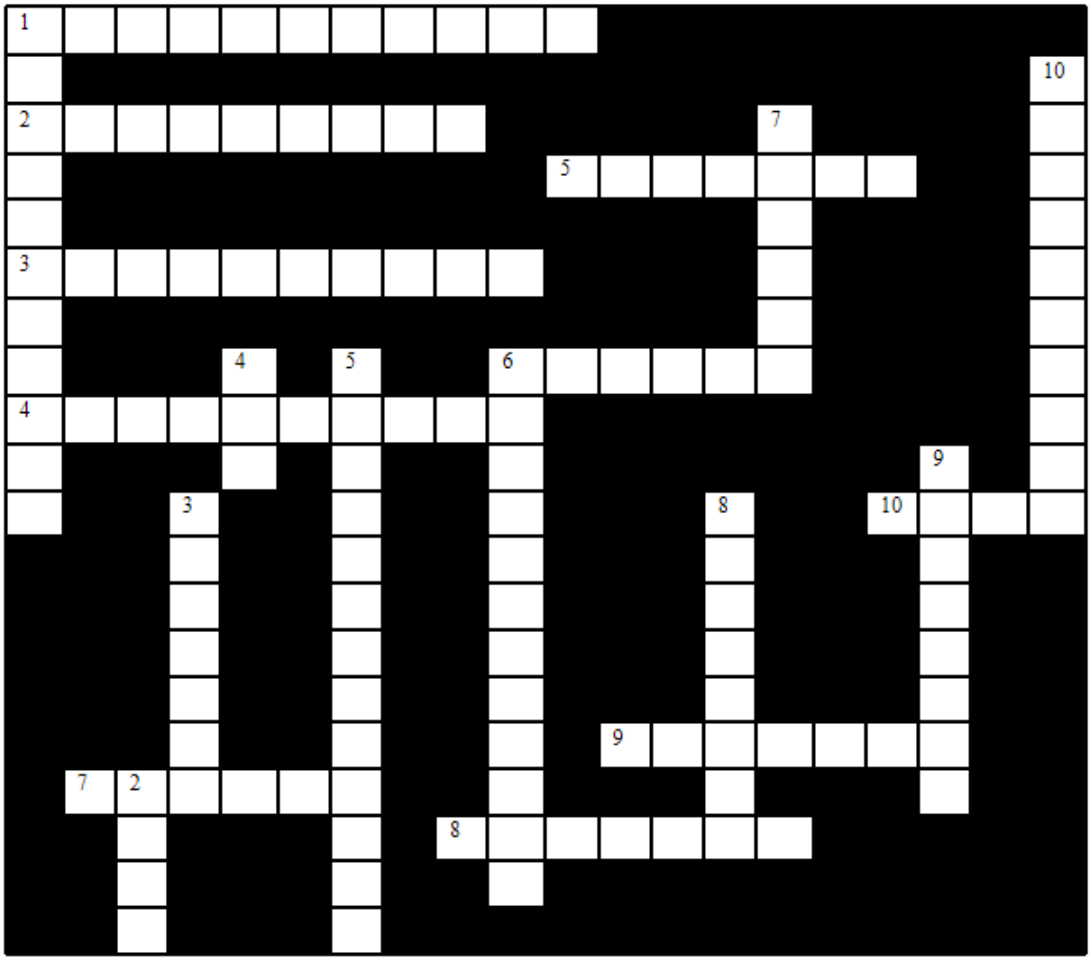
- **Dr. R.P. Dhanda Memorial Award - Dr. Supriya Khare**
- **Prof B. Shukla Award - Dr. Amruta Vijay More**
- **Non-Teachers Below 40 Years - Dr. Farheena Kulsum**
- **Free Paper Retina - Dr. Sonal Paliwal and Dr. Abhiram Thacker (tied)**
- **Free Paper Oculoplasty - Dr. Saroj Gupta**
- **Dr. J.K. Raizada Award - Dr. Shruti Kochar Maru**
- **Dr. Haripad Datta Award - Dr. Prabha Gupta**
- **Teachers Below 40 Years - Dr. Saumya Agrawal**
- **Free Paper Community - Dr. M.A. Khurram**
- **Free Paper Miscellaneous - Dr. Sasmita Singhai**
- **Dr. M.A. Khurram - Dr. D.N.S. Choudhary Award for Best of Best Paper**

MPSOS Puzzle – 1

Challenge your mind, one clue at a time!



ACROSS

1. Prostaglandin analogue for the treatment of glaucoma
2. Most accurate method of measuring IOP
3. Unequal pupils
4. Third grade of binocular vision
5. Rupture of Descemet's membrane
6. Hand-held tonometer
7. Type of Direct goniolens
8. Stenopaeic slit test for coloured haloes
9. Concentric black & white circles to measure corneal topography
10. Brucellosis disease

DOWN

1. Inner-most layer of sclera consisting of elastic fibres
2. Parasympathetic denervation of pupil
3. Endothelial tobacco dusting sign
4. Symbols to test vision in children
5. Point in the middle of a biconvex lens
6. Inappropriately excessive accommodation due to overstimulation or ciliary spasm
7. Rodent ulcer
8. Colour vision testing chart
9. Collection of lymphocytes in anterior chamber forming a sediment at the bottom
10. Mixture of atropine, procaine and adrenaline

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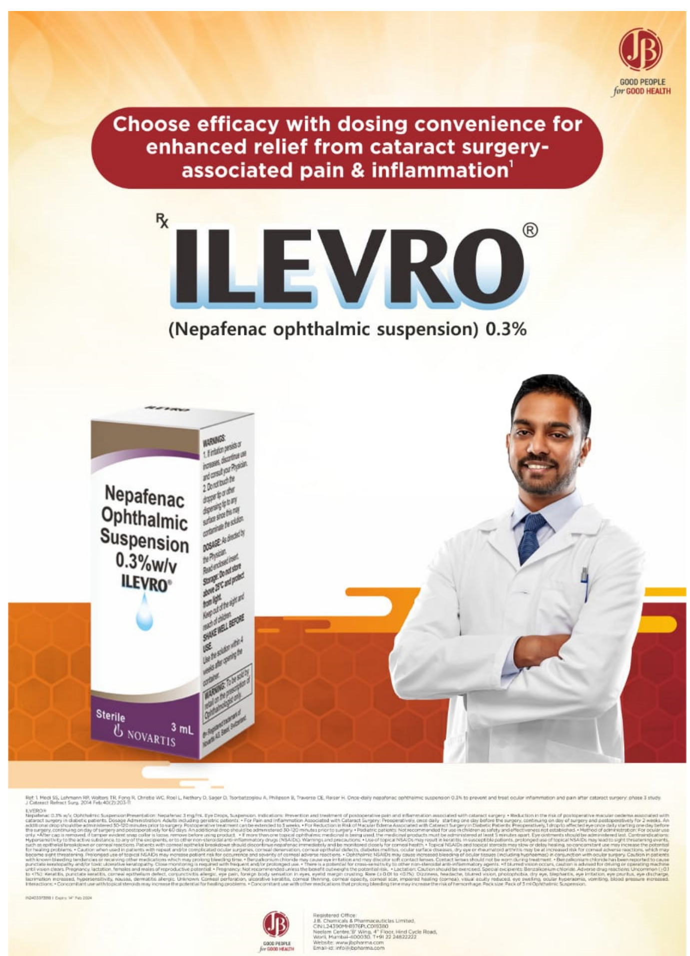
Relief has many names
HCQS Hydroxychloroquine
Folitrax Methotrexate
Saaz Sulfasalazine
Lefno Leflunomide
Igurati Iguratimod
Etova Etodolac
TFCT-NIB 5mg 11mg OD Tofacitinib
APRAIZE Apremilast
Ipca MMF Mycophenolate
Tacva Tacrolimus
AZR Azathioprine
Adalipca Adalimumab
Rituxipca Rituximab



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MPSOS for Winning Best State Award at AIOS

On March 10, 2024, at AIOS in Kolkata, we proudly received the Best State Award in the category of 500 to 1000 members. This prestigious recognition is a testament to the dedication and hard work of every single member of our society. It is a shared triumph that celebrates the commitment of our seniors, mentors, guides, and the tireless efforts of the office bearers of MPSOS 22 to 24. This honor reflects the collective pride and achievement of our entire community, along with the invaluable contributions of the divisional societies.