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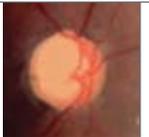


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A new innovation in glaucoma surgery: the biodegradable collagen implant

The conventional surgery for glaucoma is a **trabeculectomy**, which involves creating a drainage channel to redirect the flow of aqueous out of the eye. However, it is prone to failure as a result of subconjunctival scarring, and often anti-scarring antimetabolites such as five fluorouracil (5FU) and mitomycin C (MMC) are used to augment the success of trabeculectomy.

5FU is a pyrimidine analogue which blocks DNA replication and inhibits fibroblast proliferation. MMC, on the other hand, is an antibiotic derived from *Streptomyces caespitosus*, and inhibits vascular endothelium and fibroblasts. It is non cell cycle specific and thus more potent than 5FU.

However, the use of 5FU and MMC is not without risks. Potential risks include compromised conjunctival surface defense mechanisms predisposing the eye to infection. Other complications include over-filtration leading to maculopathy and reduction of vision. 5FU is also associated with corneal epithelial toxicity leading to tearing, discomfort and blurred vision.

The biodegradable collagen implant

A new innovation is the use of a biodegradable collagen implant, a 3-dimensional porous collagen-glycosaminoglycan structure (Fig. 1), to augment the success of trabeculectomy.

The implant is placed between conjunctiva and sclera and acts as a spacer, maintaining a patent subconjunctival space (Fig. 2). Unlike 5FU



Fig 1. Collagen implant under high magnification showing its porous structure

or MMC, it does not affect fibroblast proliferation directly but instead modulates wound healing by directing the collagen fibrils to be laid down according to a porous skeletal framework rather than randomly. As the conjunctival surface immunity is not affected, the risk for long-term postoperative infection is less than with 5FU and MMC.

In a small pilot study, we compared the Oculugen TM (Mediking, Taiwan) biodegradable collagen implant to MMC in combined cataract extraction, lens implantation and trabeculectomy. We found that MMC-augmented trabeculectomy had a lower mean IOP postoperatively at 1 year. Unfortunately, the sample size was too small for comparison of complications although no serious complications occurred in either group. Longer follow-up is needed for detection of hypotony in the 2 groups.

Continued next page



Editor's Message

Dear Readers,

Welcome to the final issue of Focus for 2008.

The spotlight is on glaucoma and neuro-ophthalmology this time.

Our lead article features the bane of glaucoma surgeons the world over - the glaucoma operation itself, ironically. Often thwarted post-operatively by robust conjunctival scarring and the adverse effects of adjunctive anti-metabolites, we are constantly on the lookout for new ways to create the classic (some say near-mythical) obedient, hardworking bleb that lasts & lasts. The biodegradable "spacer" described in the article may be a step in the right direction.

Elsewhere in this issue, we provide a useful primer for family physicians on dealing with the side effects of glaucoma medications; our neuro-ophthalmology colleagues have similarly contributed a practical tutorial on visual field and pupil assessment, as well as a DIY (diagnose it yourself) poster for your patients who may have diplopia.

The NHG Eye Institute holds its inaugural International Ophthalmology Congress on 23-25 October 2008, and I would like to take this opportunity, on behalf of our Director, A/Prof Lim Tock Han, to welcome all our guests and delegates to Singapore.

Finally, I'd like to introduce Dr Jeanne Joyce Ogle, currently a Registrar at NHG Eye Institute @ TTSH - a most welcome addition to the editorial team.

We hope you find this issue of "Focus" a good read.

See you next year!

FOCUS Editorial Team

Dr Wong Hon Tym (Chief Editor)

Dr Jeanne Joyce Ogle (Editor)

Ms Tan Mui Leng (Secretariat)

A/Prof Goh Lee Gan (Advisor)

We would appreciate your frank feedback on any part of this newsletter, be it on the format or content. Please email your comments to tei@nhg.com.sg or mail to Ms Tan Mui Leng, NHG Eye Institute @ Tan Tock Seng Hospital, 11 Jalan Tan Tock Seng, Singapore 308433. Please indicate if you would grant us the permission to publish your letter. If you would like to receive our 4 monthly-newsletter, please send an email with your name to tei@nhg.com.sg with the subject heading 'FOCUS Subscribe'.

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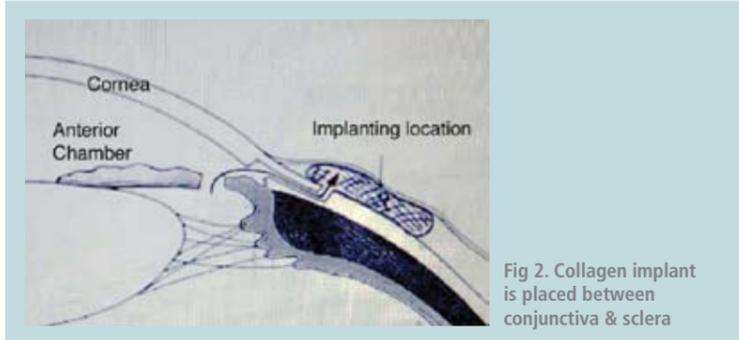


Fig 2. Collagen implant is placed between conjunctiva & sclera

Early experience thus demonstrates that the biodegradable collagen implant is safe and moderately efficacious. It may have a reduced propensity in the long run to over-filtration. It may be an option in patients with a history of hypotony in the fellow eye following MMC-augmented trabeculectomy, and also has a place for patients with active blepharitis where the use of antimetabolites might further predispose the eye to infection. Patients with significant cataract and mild or moderate glaucoma controlled on 1 or 2 eyedrops but wishing to be weaned off the medications are also suitable candidates for combined cataract surgery, lens implant and trabeculectomy augmented with the collagen implant.

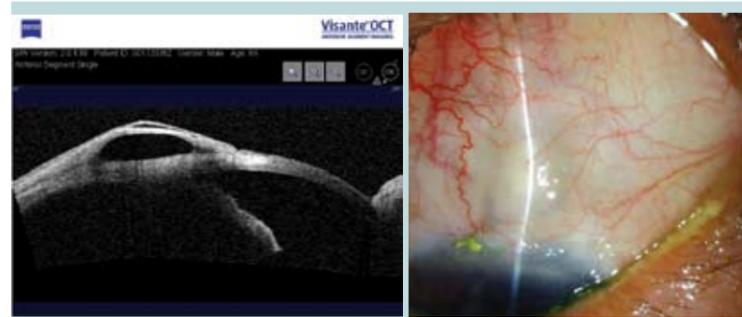


Fig 3 Slit lamp and imaging photos 4 months after collagen implant during trabeculectomy showing a good reservoir of aqueous beneath the conjunctiva

By Dr Lim Boon Ang, NHG Eye Institute @ TTSH.

SPOTLIGHT ON

NHG Eye Institute's Glaucoma Team



Dr Wong Hon Tym

Dr Wong, Head and Consultant in NHG Eye Institute @ TTSH, is also the Deputy Director and Head of Glaucoma Service in the Institute. With a fellowship at Moorfields Eye Hospital, UK under his belt, Dr Wong's specific area of interest are in optic nerve head and angle imaging. He has been invited both regionally and internationally to speak on these topics. He has also been a course instructor at the AAO, WGC and EGS meetings.



Dr Lim Boon Ang

Dr Lim, Senior Consultant of NHG Eye Institute @ TTSH, heads the Community Ophthalmology portfolio in the Institute. She received her glaucoma training at the Sydney Eye Hospital/Save Sight Institute where she did research on objective visual field assessment using visual evoked potentials (VEP). She is also a champion for better patient and optometrist education, and has been instrumental in the set-up of glaucoma patient support groups in Singapore.



Dr Vernon Yong

Dr Yong, Consultant of NHG Eye Institute @ TTSH underwent a one-year fellowship in Glaucoma from the University of British Columbia, Canada. His research interests are in visual fields, optic nerve head and retinal nerve fibre layer imaging.

GLAUCOMA

Adverse Effects of Glaucoma Medications

In recent years, the glaucomatologists' armamentarium has been boosted by the introduction of new medications. These drugs facilitate better intraocular pressure (IOP) control, with less side effects. The main groups of glaucoma medications currently available are :

1. Beta-blockers eg. timolol
2. Miotics eg. pilocarpine
3. Alpha-adrenergic agonists eg. brimonidine (Alphagan)
4. ACE inhibitors eg. acetazolamide (Diamox), brinzolamide (Azopt)
5. Prostaglandin analogues eg. latanoprost (Xalatan)

With the exception of ACE inhibitors, which are used topically, orally and intravenously, the rest of the glaucoma medications are administered topically. The side effects of these medications can be both systemic and local.

On some occasions, the family physician is the first point of contact for patients who experience these effects.

We aim, via this article, to provide you with a basic approach to managing these patients.

Should a decision be made to stop diamox due to its side effects, the patient has to have an eye review within a day or two. This is because it can be assumed that all patients on diamox are suffering from severe glaucoma and stopping the drug can have a drastic effect on the IOP.

For mild systemic symptoms, **punctal occlusion** to reduce systemic absorption may help. Simply close the eyes for 3 minutes after applying, or press a finger to the area between the eye and the nose for a similar duration.



Fig. 1 Conjunctival injection secondary to eyedrop allergy

Presenting system	Adverse effect	Likely Cause	Management by GP
Respiratory	Asthmatic attack Exacerbation of underlying asthma	Timolol (beta-blocker) Prostaglandins (less likely)	Stop topical drops. Treat asthma. Arrange for eye review in 1 week.
Cardiovascular	Exacerbation of underlying congestive cardiac failure/heart block	Timolol	As above.
Ocular	Eye irritation, redness (Figure 1)	Prostaglandins in particular, but any topical drug may cause this	Mild : continue drug, but precede with a few drops of ocular lubricants. Severe : stop drug, give lubricants (preservative-free). Eye review in 1 week.
	Lash growth (hypertrichosis)	Prostaglandins	Continue drug, reassure patient.
	Dimming or darkening of vision	Pilocarpine	Continue drug, reassure patient.
	Blurring of vision	Any topical drug	Arrange eye review in 1 weeks.
	Yellowing of vision	Diamox	Arrange eye review in 1-2 weeks, continue medication.
Central nervous system	Lethargy	Alphagan Diamox	Depending on severity of symptoms, stop drug and refer within 5 days.
	Paraesthesia	Diamox	Continue drug, reassure patient.
	Headache	Pilocarpine	Prescribe Oral Analgesia. Reassure patient that headache is usually an early side effect which will improve with time. If severe, stop drug and arrange for eye review in 1-2 weeks.
	Nightmares	Timolol	Reassurance. Try punctal occlusion.
	Syncope	Diamox	Stop drug and arrange for eye review within a week.
	Postural hypotension	Timolol	Stop drug and arrange for eye review within a week.
Genito-urinary	Acute retention of urine	Timolol	Stop drug and arrange for eye review within a week.
	Erectile dysfunction	Timolol	Try punctal occlusion.
	Calculi	Diamox	Stop drug and arrange for eye review within 1-2 days.
	Frequency		
	Electrolyte imbalance		
Systemic	Generalised rash, angioedema, anaphylactic reaction, Stevens Johnson Syndrome	Diamox	Emergency management to be instituted. Stop drug and contact ophthalmologist.
Gastro-intestinal	Anorexia Metallic taste. Abdominal discomfort	Diamox	May have to stop drug, and arrange eye review in 1-2 days depending on severity.

By Dr Vernon Yong, NHG Eye Institute @ TTSH.



Dr Leonard Yip

Dr Leonard Yip is a Consultant in NHG Eye Institute @ TTSH. He is fellowship trained in Glaucoma from the University of British Columbia, Canada. His research interests are in visual fields, optic nerve head and retinal nerve fibre layer imaging.



A/Prof Paul Chew

A/Prof Chew continues to be mentor and inspiration to all budding glaucomatologists in Singapore. Trained at Moorfields Eye Hospital in London and Addenbrookes Hospital in Cambridge, UK, A/Prof Chew is also the Head of NHG Eye Institute@NUHS. He is regarded as a pioneer in the research of angle closure glaucoma. He is a founding member of the South East Asian Glaucoma Interest Group, and a key mover in collaborative glaucoma research worldwide.



Dr Lennard Thean

Dr Thean is the team's link to the subspecialty of uveitis. Having received fellowship training in both glaucoma and uveitis, Dr Thean brings a wealth of knowledge and experience to both these areas. Acknowledging his expertise in the area of uveitic glaucoma, Dr Thean has been invited to give numerous talks on this topic both locally and regionally.



Dr Jovina See

Dr See, a consultant in NHG Eye Institute @ NUHS, has trained in England (Cambridge), Singapore and Canada (Dalhousie Eye Care Centre, Halifax). She has special interests in glaucoma, imaging and early detection of glaucoma progression and has been involved in several key papers on these subjects.



Dr Loon Seng Chee

Dr Loon, a consultant in NHG Eye Institute @NUHS, has special interests in the epidemiology and development of glaucoma. He has a Masters in Clinical Epidemiology from the University of Sydney and is currently the head of research at the National University Hospital Eye Department.

Visiting Consultants
Dr Daniel Sim Han Jen
NHG Eye Institute@ TTSH

Dr Geh Min
NHG Eye Institute@ NUHS

Clinical Fellow
Dr Maricel Natividad
NHG Eye Institute@ TTSH

Should I be worried if I am

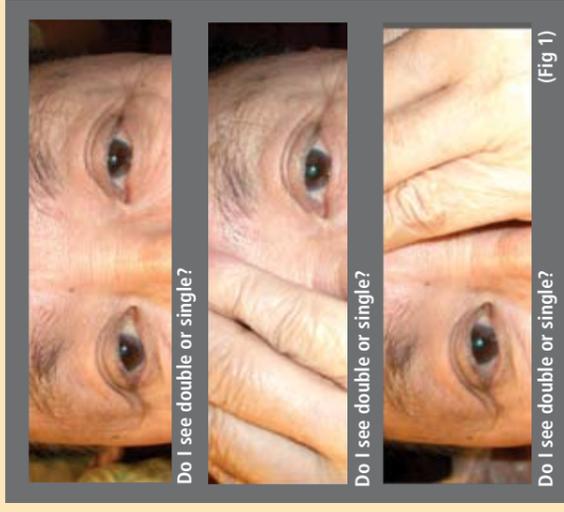
SEEING DOUBLE?

Double vision can be quite a disturbing symptom. There are many causes, some harmless and some sinister. If you are experiencing double vision, here are 5 questions you should ask yourself, to help you and your eye care specialist diagnose the cause.

1

“Close one eye at a time. Ask yourself: “Do I still see double when either one of my eyes is closed?” (Fig 1)”

“Yes, the double image is still there when I close one eye.” The likely causes are astigmatism, cataracts or dry eyes. See your eye care specialist to confirm this. If your answer is “yes”, you will not need to proceed to the other 4 questions.



“No, the double image becomes single when I close either one of my eyes.” This means that your eyes may be misaligned, due to a problem affecting the muscles that move your eyeballs. If your answer is “no”, please proceed to the other 4 questions:

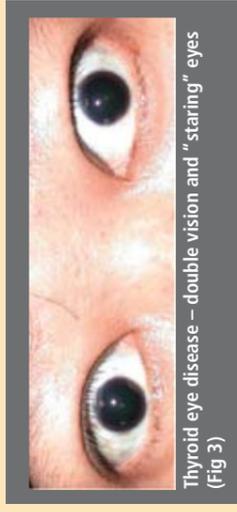
2

“Are the two images side-by-side or up-&-down?” (Fig 2)”

3

“Is the double vision worse when I look in a certain direction?”

The answers to questions 2 & 3 will help your specialist figure out which eye muscles are affected. Certain conditions tend to affect certain muscles: in thyroid eye disease, some of the eye muscles become inflamed and scarred, and the eyes also have a “staring” appearance (Fig 3); a stroke can paralyse your eye muscles too (Fig 4); direct injury to the eye may also hurt the eye muscles and cause double vision.



4

“Do I see double all the time or occasionally?”

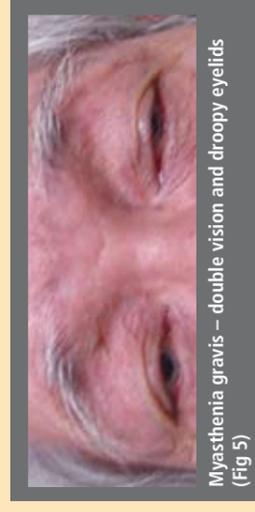
This information will also help your eye care professional guess the reason behind your eye muscle problem. A condition known as myasthenia gravis causes the eye muscles to get “tired”, leading to double vision and droopy eyelids, especially in the later part of the day. (Fig 5)



5

“Do I also have headache, hearing loss or nose bleeds, together with the double vision?”

These are very ominous symptoms if they occur in combination with double vision, and should prompt you to seek urgent medical attention.



Consult your family doctor or an eye care professional if in doubt.

Paediatric Ocular Myasthenia Gravis

Myasthenia gravis (MG) is infrequently encountered in the paediatric population, the incidence being reported as only one in a million. The majority of these have juvenile myasthenia, which is autoimmune in aetiology and similar to adult disease. Autoimmune MG is characterised by a reduction in the skeletal muscle acetylcholine receptors (AChRs) secondary to anti-AchR antibodies, leading to a reduction in the end plate potential necessary to generate an action potential.

In neonates, though, neonatal transient MG has to be considered. This syndrome occurs in one in seven babies of mothers with autoimmune MG and is due to transplacental transfer of antibodies. Besides this, there are also some congenital myasthenic syndromes.

Presentation

Kim's and Ortiz's key studies on ocular MG in Korean and American children respectively (Table 1) show that the disease most commonly presents within the first 5 years and is more common in females. The great majority present with ptosis and strabismus, which is most commonly an exodeviation. However, progression to generalised MG is less frequent for children (8-14%) compared with adults.

Diagnosis

Tests used to diagnosis myasthenia in children are no different from that in adults. However, as children may not be as cooperative as adults, single fibre electromyography or repetitive nerve stimulation may not be possible. In addition, children are more susceptible to the effects of Tensilon and most practitioners prefer the neostigmine test instead. Anti-AchR antibodies are present in about half of children at presentation (similar to adults) and studies suggest that follow-up titres may become positive a few years later even if initially negative.

Management

The management of autoimmune myasthenia is fraught with many difficulties and controversies. Being an autoimmune disease, some advocate the use of steroids. However, in view of the many side effects, the majority of physicians tend to use steroids only when pyridostigmine fails. It appears that Western children respond better to pyridostigmine alone and that Asian children may require steroids more often. The role of thymectomy in the treatment of non-thymoma related MG is similarly controversial.

In addition, we have to address the issue of amblyopia, which can

Table 1

	Kim et al	Ortiz et al
Age range of patients (years)	<15	<12
Number of patients	24	21
Follow up period	Not given From 1988-2001	24-187 mths Mean 6 years 1985-2005
M:F	6:18	9:12
Onset (median)	36 months	24 months
Ptosis	23/24 (96%)	20/21 (95%)
Strabismus	21/24 (87%) Mainly exo	16/21 (76%) Mainly exo
Cogans lid twitch	Not reported	16/21 (76%)
Treatment		
Pyridostigmine	2	12
Pyrido+steroids	12	2
Steroids	6	0
Pyrido+steroids+plasmapheresis +thymectomy	0	2
Pyrido+steroids +thymectomy	0	1
Remission	4	4
Response to treatment		
Ptosis		
Complete recovery	3/24 (8%)	10/21 (42%)
Major improvement	20/24 (83%)	
Motility	5/17 (30%)	12/21 (50%)
Amblyopia	5/24 (21%)	11/21 (52%)
Residual amblyopia despite treatment	2/5	2/11
Generalised disease	2/24 (8%)	3/21 (14.3%)
Antibody positivity	14/22 (64%)	Not known

result from ptosis or strabismus. This occurs at a frequency of 2-50%, and should be judiciously monitored and treated.

The neonate with transient MG usually presents with breathlessness and supportive therapy is required till the condition improves in 2-3 weeks.

Conclusion

In conclusion, paediatric MG usually presents between the age of 2-3 years and is more common in girls. Ptosis is present in 95% of children, and strabismus in 50%. Both may predispose to amblyopia. The majority of MG responds well to pyridostigmine and sometimes in combination with steroids. Thankfully, progression to generalised disease is rare.

By Dr Lim Su Ann, NHG Eye Institute@TTSH

SPOTLIGHT ON

NHG Eye Institute's Neuro-Ophthalmology Team



Clin A/Prof Goh Kong Yong

Clin A/Prof Goh, Senior Consultant in NHG Eye Institute @ TTSH, is also the Deputy Director and Head of the Neuro-Ophthalmology Service. He completed his fellowship at Bascom Palmer Eye Institute, USA under the preceptorship of Professors Glaser and Schatz. He has been extensively involved in teaching and training younger doctors in this challenging sub-specialty. As a founding member of the Asian Neuro-Ophthalmology Society, he has also trained and mentored fellow neuro-ophthalmologists in the region. He is actively involved in the visual rehabilitation of patients with strokes and brain trauma using the NovaVision vision restoration therapy.



Dr. Lim Su Ann

Dr Lim, a consultant in NHG Eye Institute @ TTSH, was trained in adult and paediatric neuro-ophthalmology and strabismus at the Dean A McGee Eye Institute in Oklahoma City, under the supervision of Drs Siatkowski and Farris. She has a special interest in motility problems of neurologic origin. She is also interested in the epidemiology of neuro-ophthalmic diseases in Singapore and is the principle investigator of the first Singapore-wide neuro-ophthalmic database, supported by a grant from the National Healthcare Group.

Visiting Consultants:
Professor James F. Cullen
NHG Eye Institute @ TTSH & NUHS



Dr Clement Tan

Dr Tan runs the Neuro-Ophthalmology Service at the National University Health System. Fellowship-trained at King's College Hospital and the National Hospital for Neurology and Neurosurgery in London, UK, Dr Tan has a special interest in disorders of ocular motility and the pupil. He is also significantly involved in undergraduate and postgraduate Ophthalmology education in the region.

Dr Lim Kuang Hui
NHG Eye Institute @ NUHS

More than meets the eye! Tricks to keep you out of trouble in ophthalmology

A patient who visits the family doctor for non-specific blurring of vision may actually harbour sinister problems that can be easily missed if we are not equipped with the necessary skills to detect them.

Here are 2 cases and 2 tips that I would like to share.

Case 1

A 50 year old man complained of non-specific blurring of vision in both eyes for the past year. He was otherwise well, save the occasional headache. Clinical examination reveals good Snellen acuity.

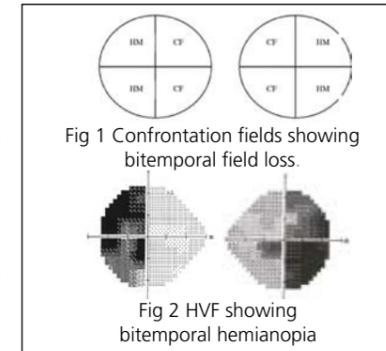
Ophthalmic examination is grossly normal. Provisional diagnosis : Refractive error ? Dry eyes?

Or is there more to this?

A useful test to do next is **confrontational visual field screening**. A patient with bitemporal hemianopia (from a pituitary tumour) or a homonymous hemianopia (from a stroke involving the visual pathway) may initially complain of vague blurring of vision that can be easily detected with this technique.

This simple test takes less than a minute. The patient sits at eye level with the examiner and is asked to cover the left eye with the palm of his left hand. He then fixates at the examiner's left eye. The examiner presents 1 or 2 fingers at each quadrant, asking the patient how many fingers he can see. The patient must fixate at the examiner's eye all this time. This simple procedure is repeated with the other eye.

(A video demonstrating this technique can be seen at <http://www.partners.nhg.com.sg>).



In this patient, confrontation field assessment revealed that he was able to count fingers in the nasal halves, but only able to detect hand motions in the temporal halves of both eyes, ie a bitemporal hemianopia. (Fig. 1)

Automated Perimetry visual field confirmed this. (Fig. 2) and an urgent MRI revealed a pituitary macroadenoma.

After the removal of the tumour, his fields returned to normal.

Case 2

A 65 year old Chinese lady noticed occasional blurring of vision in the right eye for 6 months. She saw an optometrist but was unable to improve her visual acuity via refraction.

Clinical examination revealed 6/24 vision in the right eye and 6/9 vision in the left eye with glasses. The red reflex was only slightly diminished in both eyes.

Provisional diagnosis: Cataracts?

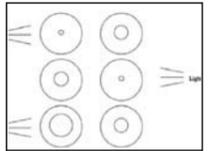


Fig 3 - Swinging torchlight test showing a right Marcus-Gunn pupil (from glaucoma or an intracranial compressive lesion) cannot be ruled out.

An elderly patient with blurring of vision may likely have cataracts. However, in the presence of a fairly good red reflex but poor visual acuity, other causes like optic neuropathy (from glaucoma or an intracranial compressive lesion) cannot be ruled out.

A vital clinical examination to perform virtually for every patient who has blurring of vision would be a **Swinging torchlight test**. (Fig. 3) This helps us look for a Marcus Gunn pupil that is caused by an optic neuropathy or a diffuse retinal problem. The examination room should be dimmed and the patient asked to look at a distant object to prevent accommodative miosis. A strong point of light is then swung from one eye to the other and back again. As each pupil is illuminated, the examiner observes closely for a) the relative briskness of constriction b) paradoxical dilation instead of constriction, i.e. Marcus-Gunn pupil.

This patient had a right Marcus Gunn pupil. Fundoscopy showed a cupped, pale optic disc. The intra-ocular pressure was raised. The cause was glaucomatous optic neuropathy, a potentially blinding condition.

In short, both the confrontation field assessment and the swinging torch-light test are simple to perform and can help us detect blinding or even life-threatening conditions. One should incorporate them when assessing a patient with reduced vision.

By Clin A/Prof Goh Kong Yong,
NHG Eye Institute @ TTSH.

The Basics of Visual Field Interpretation

Visual field testing is an important tool used to diagnose and monitor glaucoma and its treatment.

The basis of visual field assessment is to map a person's entire scope of vision, i.e. their central and peripheral fields. The gold standard for visual field assessment is the Humphrey Visual Field Analyser, usually set to a 24-2 "SITA-STANDARD" strategy.

A) Patient information

Patient's visual acuity (Snellen acuity of better than 6/36 is recommended) and age are important factors in obtaining reliable results. Since the test is conducted at near distance, appropriate reading correction is needed. The results of the visual field test are based on an age-related database, thus the year of birth must be accurate.

B) Reliability parameters

1) Fixation errors

This refers to the number of times the patient looks away from the central target fixation. This is a key indicator of patient's cooperation or fatigue. The test is considered reliable when fixation losses are less than 20 percent.

2) False positives

These refer to the number of times the patient presses the button when in fact nothing is presented. The false positive rate should be less than 33 percent.

3) False negatives

These refer to the stimuli presented at the same spot, either at the same or different levels of intensity. If the patient reports seeing the flash at a certain spot for the first time but fails to report the same flash at the same intensity when it is presented again, the reliability of the test is then reduced. This may be due to inattention or presence of actual diseases.

A false negative of less than 33 percent should be attained.

Interpreting the visual field

The **Numeric data** is the raw data printed in numbers that express the patient's response in decibels.

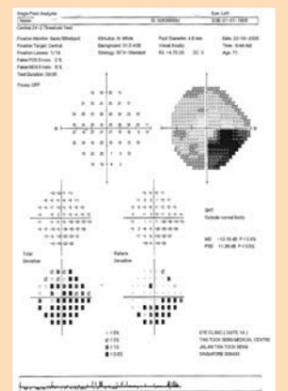
The **Greyscale** is to convert the decibel into a various shades of grey. It is a good visual representation of the numeric data.

The **total deviation** shows the point-by-point deviation from normal threshold values to a person of the same age.

The **pattern deviation** takes into account factors (other than glaucoma) that may mask a defect due to glaucoma. These include conditions like cataract, refractive error or miosis. The pattern deviation attempts to "remove" the effect of these other factors, thus uncovering a hidden glaucomatous defect.

The **mean deviation** is in effect a numerical summation of the total deviation.

The **pattern standard deviation** can similarly be considered to be a summation of the pattern deviation plot.



By Tan Shih Chia, NHG Eye Institute @ TTSH.

WHAT'S ON



It was our honour to have Dr George B. Peters III, Assistant Professor of Ophthalmology from the Uveitis Division of Johns Hopkins Hospital, Wilmer Eye Institute, Baltimore, Maryland, USA to give our colleagues and friends an enriching Continuing Medical Education lecture in Uveitis on 30 April 2008.



NHG Eye Institute organised the **Ophthalmic Microsurgical Course on 25-26 April 2008**. This regular course aims at meeting the surgical training needs of the junior eye surgeon especially the 1st and 2nd year Basic Ophthalmic Trainees. A total of 20 junior eye surgeons benefitted from the course.



In the survey conducted at NHG Eye Institute@AH and Ninewells Hospital in Scotland revealed that while nearly all surveyed knew that smoking could cause lung cancer, however, only about a third knew it could cause blindness too. For that reason, the research team including Dr Sanjay Srinivasan in AH will work with the Health Promotion Board to add the warning 'Smoking causes blindness' on cigarette packs".



During the World Ophthalmology Congress 2008, recently held between 28th June to 2nd July 2008 in Hong Kong, a number of our fellow colleagues namely A/Prof Lim Tock Han (first from the right), Dr Fam Hor Bor, A/Prof Heng Wee Jin, Dr Lim Su Ann, Dr Lim Wee Kiak and Dr Yip Chee Chew were invited as speakers for the event.

Upcoming Events

Date/ time	Venue	Title	Contact Details
For Public			
18 Oct 2008	Conference Room 1 & 2, TTSH, Level 1, 2-4pm	Coping with Glaucoma	For registration, contact GPAS at 6281 9869
18 Oct 2008	Auditorium, Alexandra Hospital \$2	Glaucoma English: Dr Jeanne Ogle Mandarin: Ms Shirley Chau	Ms Alice How: 6379 3741, 6379 3540(fax). Alice_How@alexhosp.com.sg
15 Nov 2008 8.30am - 12pm	TTSH, Clinic 1A, Level 1	National Eye Care Day	Ms Lim Sing Yong/ Lalitha : 6357 2678 /6357 7648 sing_yong_LIM@ttsh.com.sg
17 Nov 2008 10am - 12pm	Auditorium, Alexandra Hospital \$2	Age-related Eye Diseases (in English & Mandarin) Speakers : Dr Benjamin Chang and Ms Ek Bee Ting	Ms Alice How: 6379 3741, 6379 3540(fax). Alice_How@alexhosp.com.sg
For Ophthalmologists & Trainees			
23 Oct - 25 Oct 2008	TTSH	NHG Eye Institute International Ophthalmology Congress Advances in Vitreoretina & Uveitis Featuring Keynotes speakers : Prof Andrew DICK (UK), John V FORRESTER (UK), Wilson HERRIOT (Australia) and Manish NAGPAL (India).	General Enquiries Tel: 6357 7735 Fax: 6357 7649 Email: ioc@nhg.com.sg
For Optometrists and Opticians			
29 Oct 08	Singapore International Convention Ball room 3	Singapore Opticians Congress 2008 :Futuristic Vision-Uniting Opticians	For more details, kindly visit http://www.sop-association.sg/

NHG Eye Institute Research Publications

Sanjay S, Ogle JJ, Wagle AM, Au Eong KG.

Awareness and the use of nutritional supplementation for age-related macular degeneration patients. *Eye*. 2008 Mar 21.

Fam HB, Lim KL.

A comparative analysis of intraocular lens power calculation methods after myopic excimer laser surgery. *J Refract Surg*. 2008 Apr;24(4):355-60.

Teoh SC, Hogan AC, Dick AD, Lee RW.

Mycophenolate Mofetil for the Treatment of Uveitis. *Am J Ophthalmol*. 2008 May 1.

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TEST YOUR EYE Q

QUIZ

A 70 year old man presents to your clinic complaining of severe left eye pain, headache, nausea and vomiting for one day.

His vision is 6/6 in the right eye and hand motions only in the left eye.

The right eye appears normal except for early cataract. The appearance of the left eye is shown in the photo.

1. What signs do you see?
2. What is the likely diagnosis?
3. How do you differentiate this condition from acute primary angle closure?
4. How do you treat this condition?



By Quiz Master: Dr Leonard Yip, NHG Eye Institute @ TTSH

Answers include:
1. The signs include:
a. Mild-dilated pupil
b. Very shallow anterior chamber
c. Cloudy Cornea
d. Dense white cataract
2. Acute Phacomorphic glaucoma, a severe and secondary form of acute angle closure glaucoma.
3. Acute Phacomorphic glaucoma is due to a markedly swollen lens causing pupillary block, angle closure and therefore increased intraocular pressure. Examination of the patient's other eye usually reveals a deep anterior chamber, as opposed to bilaterally shallow ACS, seen in acute primary angle closure (APAC) patients.
4. Aggressive treatment with anti-glaucoma medication is initially used to lower intraocular pressure. Laser peripheral iridotomy may be performed to relieve the pupillary block. The definitive treatment is cataract surgery, which may sometimes have to be done in an emergency setting.

ANSWERS