NHG Eye Institute

FOCUS

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Polypoidal Choroidal Vasculopathy – Is it different from AMD?

Polypoidal choroidal vasculopathy (PCV) is characterised by the presence of dilated, choroidal vascular channels ending in bulging, orange polyp-like dilatations more commonly seen in the peripapillary and macular area. Presenting features are recurrent subretinal and sub-retinal pigment epithelium (RPE) haemorrhages, intraretinal and subretinal fluid, serous pigment epithelial detachments (PEDs), breakthrough vitreous haemorrhage and disciform scars.

Demography

It is more common between the ages of 50 - 75 years (mean 65 years) with a male preponderance, and is said to be more common in Asians and African Americans. PCV accounts for about 25 – 50% of cases initially diagnosed as exudative AMD in Asia, compared to 10% in the Caucasian population.

Pathology

PCV is believed to be an abnormal aneurysmal dilatation of the vasculature in the inner choroid. The lesion may enlarge by simple vessel hypertrophy, by conversion of the lesion into the advancing edge of a vascular channel, and by unfolding of a cluster of aneurysmal elements with subsequent transformation into enlarging vascular or tubular components.

Clinical course

The clinical course is variable. Lesions may be quiescent, or may cause chronic recurrent serosanguinous RPE detachments (Fig 1). Their tendency to bleed, causing massive submacular and vitreous haemorrhage may lead to visual loss. Confocal scanning laser ophthalmoscopy with indocyanine green dynamic angiography reveals feeder vessels, branching patterns, and leakage similar to choroidal neovascularisation in many cases. Due to the overlap of clinical and angiographic features, it may be considered a vascular subtype of exudative age-related macular degeneration. However, having a seemingly better natural history, better response to photodynamic therapy, and incomplete response to anti-vascular endothelial growth factor (VEGF) therapy suggests that it should be studied as a separate entity.

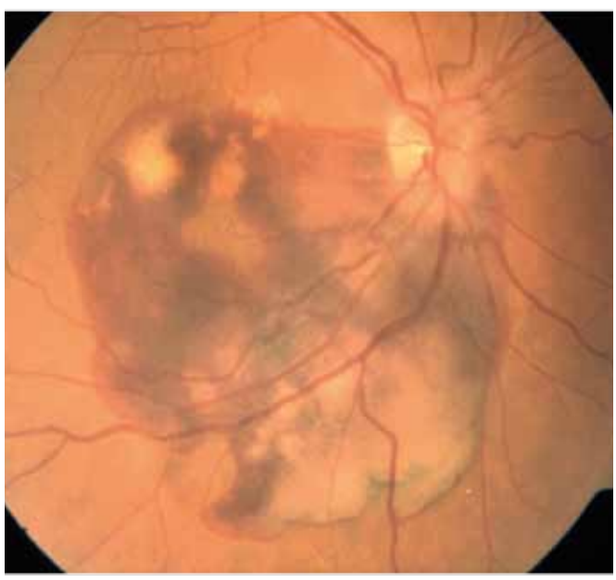


Fig 1 Submacular haemorrhage and exudative changes in PCV.

Diagnosis

PCVs are diagnosed by clinical examination, optical coherence tomography (OCT) and Indocyanine green angiography (ICGA). The PCV lesions on OCT (Fig 2) show up as inverted v-shaped elevations of the highly reflective RPE layers with moderate reflectivity within.

Continued next page

Chief Editor's Message

Dear Readers,

Welcome to an issue of FOCUS which places macular diseases squarely in the spotlight.

Age-Related Macular Degeneration (AMD) has finally made its way into the consciousness of the public and health administrators. We believe that it will eventually attain the level of urgency that already has been reached in the West, where "AMD Clinics" are now bursting at the seams, alas still without low-cost treatment options for severe cases.

Our centrefold, we feel, thus deserves some prime space on your waiting room notice board, just to increase awareness that bit more. Our lead article, on the other hand, highlights an entity that has long mimicked AMD, and is now being recognised as an arguably separate disease altogether.

Elsewhere, the focus is on glaucoma, still a top priority for ophthalmic care the world over. Our articles cover the range from the fundamental (acute attacks) to the cutting-edge (new imaging modalities and protocols to detect early disease and deterioration)

I am confident you will find something useful and vital in our pages. Do let us know if you have any suggestions - the FOCUS team aims to make this bulletin yours.

Best Regards

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'.

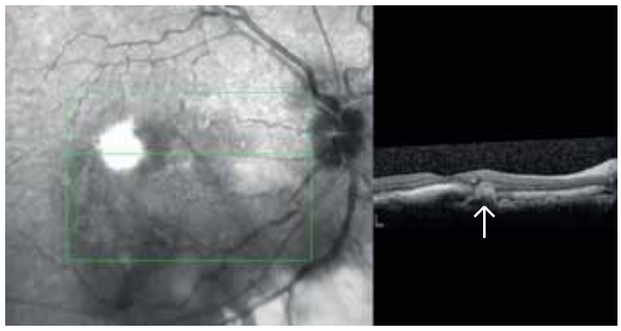


Fig 2 Inverted v-shaped elevations of the RPE seen on OCT (white arrow).

The hallmark of PCV is the presence of typical hyperfluorescent nodules in the early phase of ICGA (Fig 3). They typically appear within the first 5 minutes of ICGA and persist into the late phase. In addition, at least one of the following criteria (from NHG Eye Institute Imaging Reading Centre, EVEREST Trial) must be fulfilled to be diagnostic of PCV:

1. Presence of hypofluorescent halo around the lesion
2. Presence of pulsations
3. Association with a branching vascular network (BVN)
4. Correspondence with an orange-red nodule in fundus photographs
5. A nodular appearance rather than a flat lesion, when viewed in stereo pairs
6. Associated with massive submacular haemorrhage

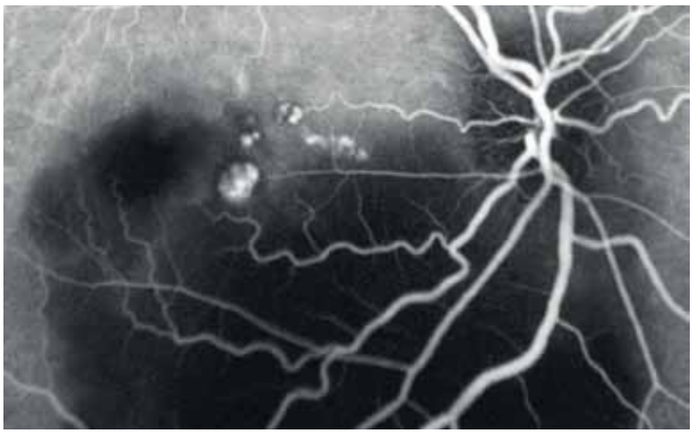


Fig 3 Typical hyperfluorescent nodules in the early phase of ICGA.

Treatment

The **Everest Trial** for PCVs has provided new insight into the management of PCVs. Though considered to be a part of the AMD spectrum, the response to treatment appears to be different. Angio-occlusion of the polyps using photodynamic therapy in combination with anti-VEGF therapy on the BVN may provide a synergistic effect for PCV. The Everest Trial was the first ICG-guided trial which took into account the angiographic outcome following treatment of PCV with PDT, Lucentis monotherapy, or both. The 6-month results have recently been released by Novartis Pharma AG. The primary endpoint was complete regression of the polyp, and this was achieved in 77.8% of patients who received the Visudyne – Lucentis combination while 71.4% of Visudyne monotherapy patients had complete regression compared to 28.6% of patients in the Lucentis group. All treatment groups showed visual improvement at 6 months. The results suggest that PCV should be treated with either combination therapy or PDT to achieve a successful treatment outcome.

In conclusion, PCV is a recognised subtype of AMD. It is diagnosed primarily with ICGA and responds well to photodynamic therapy, either alone or in combination with anti VEGF therapy.

By Dr Rajagopalan Rajesh & A/Prof Lim Tock Han,
NHG Eye Institute @ TTSH

VITREO-RETINA

Hydroxychloroquine (Plaquenil) Toxicity

Hydroxychloroquine (Plaquenil) is a drug commonly used in the treatment of autoimmune conditions such as rheumatoid arthritis and systemic lupus erythematosus. Although generally safe, a possible side-effect is retinal toxicity, the incidence of which was estimated in one meta-analysis to range from 0.5 - 4%. Risk factors include a daily dose exceeding 6.5mg per kg, a cumulative dose of more than 200g, a longer duration of treatment (more than 5 years), individuals aged 60 years and above, and patients with liver and renal impairment.

Toxicity from hydroxychloroquine results in changes in the retinal pigment epithelium (RPE) which lead to photoreceptor degradation. Patients may be asymptomatic in the early stages, and complain of blurring and scotomata only in the more advanced stages. Clinical examination of the fundus may also be normal initially.

With more established toxicity, the patients may develop bull's eye maculopathy (Fig 1), with a characteristic area of RPE depigmentation surrounding a small foveal island. Small and asymptomatic visual field defects can be detected using Amsler grid monitoring and may be detected before bull's eye maculopathy is clinically evident. Humphrey visual fields (HVF) and colour vision testing are also routinely done to detect visual field defects and/or colour vision impairment secondary to hydroxychloroquine toxicity.

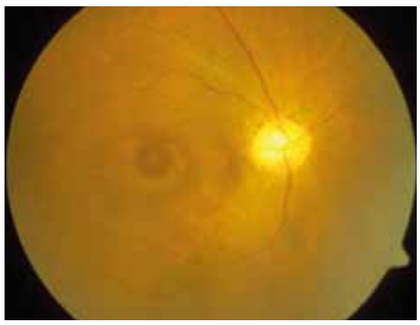


Fig 1 Bull's eye maculopathy.

If there is a clinical suspicion of toxicity, fluorescein angiography can be performed (Fig 2), and a multifocal electroretinogram (mfERG) is also a sensitive test of early toxicity. It has been suggested that mfERG be considered in the following situations: 1) Symptomatic patients with no clinical changes on routine screening, 2) Those with early changes on screening tests, 3) High risk factors, 4) As a baseline after 5 years of treatment.

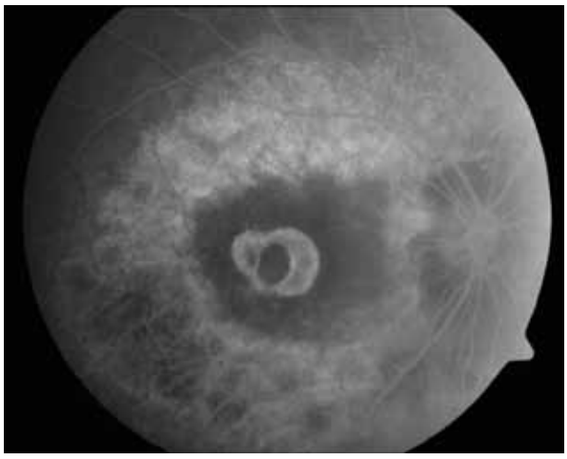


Fig 2 Fluorescein fundus angiography appearance of bull's eye maculopathy.

In Tan Tock Seng Hospital, the usual practice for screening includes an initial (baseline) visit, where best-corrected visual acuity, colour vision and Amsler grid testing, as well as a dilated fundus examination are performed. If normal, the patients are reviewed by their physicians for the next 3 years, following which the patient should return to the eye clinic for annual screening. If there are any suspicious symptoms, the patients should be referred early for further investigation.

In the event of toxicity, immediate cessation of the drug is recommended. As drug clearance is slow, the full effects of cessation may not be seen until 3 - 6 months later. It has however been reported that visual function may continue to deteriorate after cessation of the drug, and patients should be counselled on the guarded visual prognosis.

By Dr Colin Tan , NHG Eye Institute@ TTSH

SPOTLIGHT ON

NHG Eye Institute's Vitreo-Retina Team

NHG Eye Institute 's VR Team is proudly distinguished by a cache of firsts: the use of scanning laser ophthalmoscopy to dynamically image lesions in age-related macular degeneration; sutureless 23G vitrectomy; the use of intra-vitreal steroids in the treatment of refractory macular edema; and the use of low-cost intravitreal Ganciclovir therapy for infectious retinitis in AIDS patients.

Dr Nikolle Tan

Dr Tan is fellowship-trained in surgical and medical retina at the Royal Victorian Eye and Ear Hospital in Melbourne, Australia, and the Ophthalmology Department of Harvard University, USA. She is trained in the use of standard and sutureless microsurgery for the treatment of a wide range of surgical retinal diseases like retinal detachments, vitreous hemorrhage and other complex vitreoretinal pathologies. Her medical retina interests include age-related macular degeneration and retinal vascular diseases, and she is experienced in the use of lasers as well as newer therapeutic options like anti-angiogenesis drugs for the treatment of these disorders.

A/Prof Lim Tock Han

A/Prof Lim is the Director, NHG Eye Institute and Senior Consultant in NHG Eye Institute @ TTSH. He is fellowship trained in Ocular Inflammation from Jules Stein Eye Institute, USA and Vitreo-Retina from the Mayo Graduate School of Medicine, USA. He pioneered the novel, low-cost intra-vitreal therapy regime for CMV Retinitis in Singaporean AIDS patients, and also introduced High-Speed Indocyanine Green Angiography in Singapore, which has revolutionised the treatment of Age-Related Macular Degeneration.

Dr Stephen Teoh

Dr Teoh completed his HMDP Fellowship at the Bristol Eye Hospital, UK, under the mentorship of Professor Andrew Dick in 2006. He undertook training in surgical vitreoretina, uveitis, ocular immunology and inflammation. This was followed by a clinical observership in HIV-related ocular inflammation at the Wilmer Eye Institute, Johns Hopkins Hospital, USA, under the supervision of Dr James P Dunn and Professor Douglas Jabs. Dr Teoh runs his dedicated sub-specialty clinics at NHG Eye Institue@TTSH, as well as the Communicable Disease Centre (CDC).

Dr Rajagopalan Rajesh

Dr Rajesh, Consultant in NHG Eye Institute @ TTSH. He completed his postgraduate training in ophthalmology at Madras Medical College & Regional Institute of Ophthalmology, Chennai, India. He was a university topper and best out going student of his batch during his ophthalmology training. He underwent vitreoretinal fellowship training at Sydney Eye Hospital, Sydney. He is currently a member of Singapore Integrated Diabetic Retinopathy Programme Workgroup. He is also the quality reporting officer for the department. His special interest is in diabetic retinopathy.

Dr Augustinus Laude

Dr Laude is a Consultant in the NHG Eye Institute @ TTSH with clinical and research interests in cataract surgery, macular diseases and low vision. He completed a 2-year fellowship in the field of age-related macular degeneration and ocular imaging at the Princess Alexandra Eye Pavilion, NHS Lothian, Edinburgh, UK. He has published on a range of eye and vision-related topics and has been invited both regionally and internationally to speak and conduct instruction courses.

Dr Colin Tan

Dr Tan is a Consultant and Clinician-Researcher in NHG Eye Institute@TTSH. His main area of interest is in retinal conditions such as age-related macular degeneration, diabetic retinopathy and complications of myopia. He is a Clinical Teacher with the National University of Singapore and a member of the hospital's Research Committee. He has published extensively in international journals and presented at the annual meetings of the American Academy of Ophthalmology and American Society of Cataract and Refractive Surgery. His research interests include epidemiology; vitreoretinal conditions such as age-related macular degeneration and diabetic retinopathy; myopia and imaging in ophthalmology.

Dr Zaw Minn Din

Dr Zaw is part-time Senior Consultant to the VR service in NHG Eye Institute @ TTSH. He has extensive experience and training in the United Kingdom where his area of interest extends to the medical and surgical management of vascular diseases of the retina. He is active in local and international community ophthalmology with the introduction of an island-wide web-based diabetic retinopathy screening programme which is linked to the NHGP diabetic screening service.

Visiting Consultants:
Dr Adrian Koh
NHG Eye Institute @TTSH
Dr Yap Eng Yiat
NHG Eye Institute @TTSH

Currently on overseas fellowship postings:
Dr Yong Shao Onn
NHG Eye Institute @TTSH

PULLOUT FOR YOUR CLINIC NOTICE BOARD

Do you have Age-Related Macular Degeneration?

Age-related macular degeneration (AMD) is the third most common cause of visual impairment worldwide, according to the World Health Organization's data published in May 2009. Although cataract remains the commonest cause of blindness in most of the world, AMD takes the top spot in developed countries due to the growing number of people aged above 70 years.

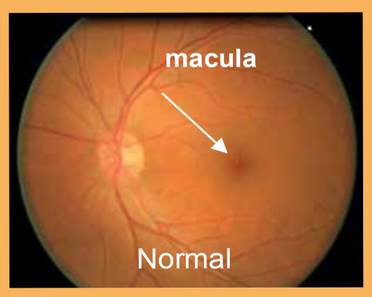
What is AMD?

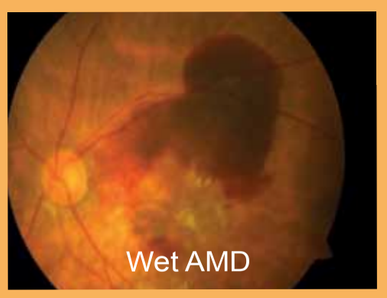
AMD affects the macula, which is the most sensitive central part of the retina (the nerve layer in the eye). It destroys central vision, which is needed to see objects clearly and essential for tasks such as reading and driving.This significantly increases difficulty with activities of daily living, leading to an increased risk of falls, hip fractures, family stress and depression.

Types of AMD

Dry AMD – the less severe variety, where the light sensitive cells of the macula slowly break down, resulting in gradual loss of central vision

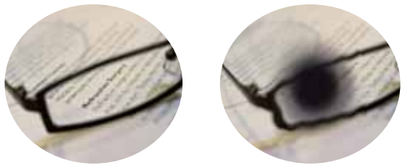
Wet AMD – abnormal blood vessels grow from under the macula and leak blood and fluid, resulting in the breakdown of light sensitive cells. This results in sudden loss of central vision or distortion of vision where straight lines appear wavy.





Symptoms

- Distortion of vision
- Loss of central vision



Central vision loss occurs in the wet form of AMD.

Risk Factors for AMD

- Age > 50 years – is the greatest risk factor
- Smoking
- Obesity
- High blood pressure
- Family history of AMD

Can AMD be prevented?

Some of the risk factors are modifiable:

- Smoking – Don't smoke or stop smoking
- Obesity – Healthy diet, regular exercise
- Diet
  - Brightly-coloured fresh fruits and vegetables contain natural anti-oxidants
  - Foods rich in Lutein and Zeaxanthin help to protect the macula

Can AMD be treated?

Amsler Grid for regular monitoring (Courtesy of Novartis (Singapore) Pte Ltd)

Treatment for dry AMD

- No effective treatment at present
- Regular monitoring
  - Eye Assessment by an eye specialist
  - With an Amsler grid (shown above)
- Lifestyle changes to reduce risk
- Dietary supplements may slow down progression of the disease

Treatment of wet AMD

- Laser
- Photodynamic therapy
- Injections of drugs inside the eye
- Can only slow down the rate of worsening vision but cannot reverse existing visual loss
- Repeated treatments are usually required as the disease tends to recur.

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

NHG Eye Institute FOCUS
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GLAUCOMA

Fast forward to the future: light scanning medical devices that diagnose eye diseases

Science fiction movies often depict a future where diseases can be diagnosed simply by waving scanning light devices over the sick or injured. Perhaps such ideas are not implausible, considering we already do have technology in the form of computed tomography scans utilising X-rays to allow visualisation of internal structures of the human body.

In ophthalmology, where pathological changes may be measured in terms of microns, we have been using scanning light in the 840 - 870nm wavelength range to help us diagnose and follow up our patients better. This technology is called Optical Coherence Tomography (OCT) and the device is able to obtain high-resolution cross-sectional images of both the anterior and posterior segments of the eye. It applies the principle of interferometry to interpret reflectance data from a series of multiple side-by-side A-scans and combines these to form cross-sectional images (Fig 1). At present, its usage is mainly in the diagnosis and follow-up of patients with diseases such as glaucoma, diabetic retinopathy and age-related macular degeneration.

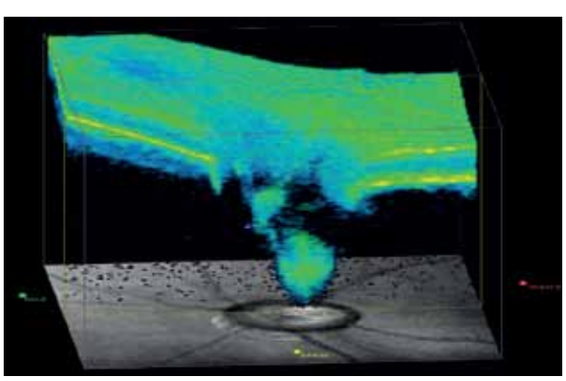

Fig 1 Cirrus slice colour.

The first generation of such devices became commercially available in 2002 and a new generation of faster devices is already in use at the NHG Eye Institute @ Tan Tock Seng Hospital and other eye departments in Singapore. This newer spectral-domain OCT (Figs 2 and 3) allows faster image acquisition speeds (27,000 - 40,000 scans per second) as well as higher resolution images (3.5 - 5 micron axial resolutions).

Fig 2 A patient being tested with the Spectralis OCT

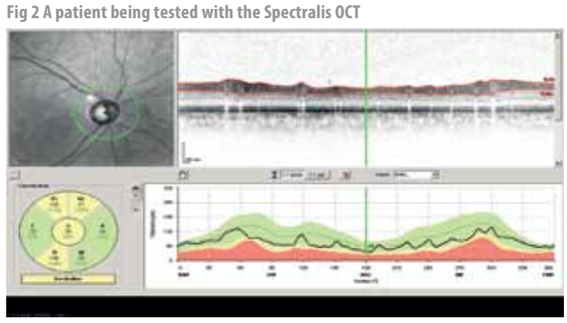

Fig 3 Spectralis OCT results.

Glaucoma is a progressive optic neuropathy that leads to blindness, and is a leading cause of irreversible blindness globally. The disease is characterised by progressive retinal ganglion cell death, leading to retinal nerve fiber layer (RNFL) thinning and optic nerve head (ONH) cupping. In the diagnosis and follow-up of glaucoma, the OCT is used to scan the RNFL around the optic nerve. Regions around the ONH where the patient's RNFL is thinner than predicted from a normative database are flagged up as abnormal, thus aiding in the diagnosis. Furthermore, changes over time in the RNFL thickness may indicate worsening of the condition.

As in other areas of medicine, the interpretation of results needs an understanding of the strengths and limitations of the test. The same is true of OCT result interpretation in glaucoma. When evaluating for glaucoma progression, the reproducibility error of the instrument is important. Factors thought to affect reproducibility of measurements include signal strength, cataract, pupil size and the thickness of the RNFL. With the recent introduction of spectral domain OCT, we have completed studies studying how these factors affect reproducibility. These have been presented at the Association for Research in Vision and Ophthalmology (ARVO) meeting 2010 and are in press in peer-reviewed journals. In brief, we found that cataracts could cause significant underestimation of RNFL measurements in these machines. Reproducibility could also be improved with pupil dilation and worsened by cataracts. Furthermore, the reproducibility of newer spectral-domain OCTs was excellent. These factors should be taken into consideration particularly since there is a high prevalence of cataract in patients with glaucoma.

Our studies give us confidence that this new iteration of OCT will be useful in managing our glaucoma patients.

By Dr Leonard Yip, NHG Eye Institute @ TTSH

SPOTLIGHT ON

NHG Eye Institute's Glaucoma Team

Dr Wong Hon Tym

Dr Wong, Head and Senior Consultant in NHG Eye Institute @ TTSH, is also the Institute's Deputy Director and Head of its Glaucoma Service. With a fellowship at Moorfields Eye Hospital, UK under his belt, Dr Wong's specific area of interest is in optic nerve head and angle imaging. He has been invited both regionally and internationally to speak and instruct on these topics, including the annual meetings of the American Acadamy of Ophthalmology, the Association for Research in Vision and Ophthalmology and the World Glaucoma Congress.

Dr Vernon Yong

Dr Yong, Senior Consultant in NHG Eye Institute @ TTSH underwent a one-year fellowship at the Lions Eye Institute in Perth, Australia. Dr Yong chose to be a glaucoma specialist as he realised that the population was an ageing one and the numbers of glaucoma patients would steadily increase over the next decade or so. Involvement in population screening is Dr Yong's other area of interest. Drawing on his long-term leadership in clinic management at NHG Eye Institute @ TTSH, Dr Yong has taken on the portfolio of Deputy Head of Department this year.

Dr Lim Boon Ang

Dr Lim, part-time Senior Consultant in NHG Eye Institute @ TTSH, heads the Community Ophthalmology portfolio. 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 a pivotal figure for the pioneering Bachelor of Science (Honours) degree programme in Optometry jointly offered by Singapore Polytechnic (SP) and the University of Manchester, for which she is the clinical faculty lead.

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. His keen interest in training and education has led him to take on the role of Accreditation Council for Graduate Medical Education (ACGME) Core Faculty Member this year.

GLAUCOMA

Emergency Treatment Of Acute Angle Closure Glaucoma

Introduction

Acute angle closure glaucoma (AACG) remains one of the most common of all ocular emergencies. The success of its treatment rests on early interventional measures aimed at reducing the very high intraocular pressures (IOPs) characterising this entity.

Pathogenesis

The key pathogenetic mechanism in AACG is pupil block, which prevents aqueous humor from passing through the pupil to reach the drainage angle. The aqueous then collects behind the iris and pushes the peripheral iris forwards (iris bombe) to close off the drainage angle (Figs 1 and 2), causing a sudden, dramatic rise in IOP. These high IOPs must be treated urgently to prevent long-term damage to the optic nerve.

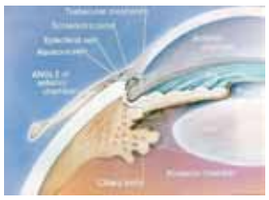

Fig. 1- Normal angle structure and configuration

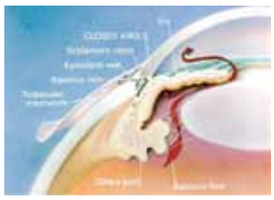

Fig. 2 - Closed angle showing pupil block and iris bombe

How to diagnose AACG?

Risk factors include:
- Hyperopia
- Female gender
- Chinese
- >60 years of age

Clinical signs:
- Eye redness
- "Rock-hard" eye on palpation
- Forward-bowed (bombe) configuration of peripheral iris
- Mid-dilated, fixed pupil
- Hazy, oedematous cornea

Symptoms:
- Blurred vision
- Eye pain with ipsilateral one-sided headache
- Nausea and/or vomiting

What are the measures I can institute?

It is imperative to decrease the IOP as quickly as possible.

Systemic treatment

1. I/V Acetazolamide 500mg stat
   - Ensure no allergy to sulphur-containing drugs
   - Ensure no renal disease
   - Possible side effects: loss of appetite, abdominal discomfort, metallic taste in the mouth, paraesthesia of the fingers and toes
2. I/V Mannitol 20%, 100mls over 30 mins
   - 2nd line treatment if I/V Acetazolamide ineffective
3. Oral Acetazolamide 250mg tds and oral potassium chloride 600mg daily
4. Analgesia

Topical treatment

1. Gutte Pilocarpine 4% stat and every 15mins for 1 hour (to alleviate pupil block)
2. Gutte Timolol 0.5% bd (to reduce IOP), adding other drops as necessary
3. Gutte Prednisolone Acetate 1% 3 hourly (to reduce inflammation)
4. Gutte Pilocarpine 2% qds to fellow eye (prophylaxis)

What should I do next?

This is an ocular emergency warranting immediate referral to an eye specialist.

The mainstay of treatment is a laser peripheral iridotomy (LPI) which alleviates pupil block and thus results in a drop in the IOP (Fig 3).

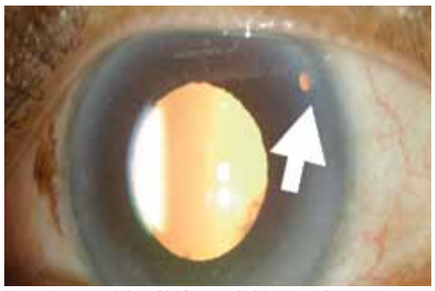

Fig 3 – Laser peripheral iridotomy (white arrow).

Conclusion

AACG is an ocular emergency that requires rapid intervention, as it is potentially treatable with correct diagnosis and subsequent management. Given its propensity for Chinese females aged 65 yrs and above, we need to continue to be vigilant for this disease in our ageing population.

By Dr Vernon Yong, NHG Eye Institute @TTSH

Glaucoma Assessment in an Optometric Practice

FOR OPTOMETRISTS
OPTOM'S CORNER
BY OPTOMETRISTS

History taking
History taking includes asking for a family history of glaucoma, use of any medications and previous refractive surgery.

Measurement of intraocular pressure
As optometrists in Singapore cannot use anaesthetic eye drops, intraocular pressure (IOP) can only be measured using non-contact tonometry. One commonly used instrument is the Air-puff tonometer, which uses a jet of air to flatten the central cornea, the time required to sufficiently flatten the cornea relating directly to the IOP. As it is only accurate in the low-to-middle pressure range, care has to be taken when determining an acceptable IOP range, especially in high-risk patients.

Assessment of the anterior chamber angle with Van Herick Test
This is an efficient method in evaluating the anterior chamber depth using a slit lamp biomicroscope. It serves as a quick assessment of the risk of angle closure.

The Van Herick test uses a slit beam to compare the depth of the peripheral anterior chamber to the thickness of the cornea. There are four grades, Grade 4 – angle closure very unlikely, Grade 3 – angle closure unlikely, Grade 2 – angle closure possible, Grade 1 – angle closure likely and Grade 0 – angle closure.

Optic nerve head and retinal nerve fibre bundle assessment
These may be assessed by direct ophthalmoscopy or with a 78D lens at the slit lamp. Signs to look out for are an increased cup-to-disc ratio, asymmetry in optic disc cupping, focal neural rim thinning, disc haemorrhage, and retinal nerve fibre loss (best viewed with a green filter).

Visual field assessment
Although Humphrey visual field perimetry is the gold standard for visual field assessment, frequency doubling perimetry (FDP) is more suited to an optometrist office due to cost and space constraints. Fortunately, both are reportedly comparable in their ability to detect visual field defects in early to moderate glaucoma although the FDP has a slight tendency to pick up false positives.

In conclusion, glaucoma screening and detection for the community at large has to be concise and precise so that appropriate referrals can be made to the secondary eye care provider for timely management.

Fig 1 - Optometrists can easily pick up a glaucomatous optic disc with fundus photography

Fig 2 - Van Herick - Grade 4

By Ms Eidawatie Rosdi, NHG Eye Institute @ TTSH

WHAT'S ON

NHG Eye Institute 3RD International Ophthalmology Congress

In conjunction with
the 1st Singapore Health and Biomedical Congress

The NHG Eye Institute held its 3RD International Ophthalmology Congress with the theme **"Trends and Techniques in Cornea & Refractive Surgery, Strabismus & Paediatric Ophthalmology"** from 16 – 18 November 2010. The Congress commenced with a LASIK course and two paediatric workshops followed by 2 days of symposia and discussions.

We welcomed over 400 delegates and speakers from more than 16 countries. We were especially privileged to have world renowned Cornea and Paediatric Ophthalmology experts, Prof Christopher Rapuano (USA), Prof Sean Donahue (USA), Prof Friedrich Kruse (Germany), Prof Michael O'Keefe (Ireland), Dr Srinivas Rao (India), Prof Terri Young (USA) and Prof Lionel Kowal (Australia) as some of our key speakers at this congress. Compelling and controversial topics such as LASIK in children, myopia and advances in corneal transplantation took centre stage.

Clinicians and scientists also showcased their research work through poster presentations. We are proud to see that in 3 short years, the IOC has evolved to become a major ophthalmic meeting in the local global calendar.

Our Guest of Honour, Mr Hawazi Daipi, Senior Parliamentary Secretary, Ministry of Manpower & Ministry of Health (centre) flanked by (from left to right) Dr Lim Wee Kiak, Dr Lim Suet Wun, Dr Wong Hon Tym and Ms Ng Kucy Ping

IOC CONGRESS DINNER

The Congress Appreciation Dinner held at the Conrad Centennial Hotel on 17 November 2010 provided a great opportunity for our speakers to be acknowledged, old friends to catch up and also for new alliances to be forged.

IOC RESEARCH PRIZE WINNERS

Prize	Winner	Title
1) NHG Eye Institute – Allergan Research Prize (Basic Specialist Trainees, Senior House Officers & Junior Residents)	**Dr Nicola Yi'an GAN, TTSH, SINGAPORE**	Cytomegalovirus retinitis (CMVR) with and without extra-ocular CMV infection – A comparison of patient groups in Singapore
2) NHG Eye Institute – Bausch + Lomb Research Prize (Clinical Fellows, Advanced Specialist Trainees, Registrars & Senior Residents)	**Dr Rupesh AGRAWAL, TTSH, SINGAPORE**	Outcome of severely traumatized eyes with no light perception at a tertiary referral eye care centre in Singapore
3) NHG Eye Institute – Alcon Research Prize (Consultant Ophthalmologists, Ophthalmology Lecturers & Above)	**Dr Colin Siang-Hui TAN, TTSH, SINGAPORE**	A novel classification of the vascular patterns of polypoidal choroidal vasculopathy and its relation to clinical outcomes – A 5-year study
4) NHG Eye Institute – Abbott Research Prize (Optometrists, Orthoptists, Opticians, Ophthalmic Diagnotics Imaging Specialists, Nurses & Medical Students)	**Mr Milton Cher-Yong CHEW, NUS, SINGAPORE**	A novel approach in assessment and classification of choroidal neovascularisation using spectral-domain optical coherence tomography
5) NHG Eye Institute – Novartis Research Prize (Scientists and Collaborators in Basic Science Research)	**Dr Veluchamy A BARATHI, SERI, SINGAPORE**	Expression of vascular endothelial growth factor in tumour necrosis factor-α induced retinal microvascular complications

•Block these dates! 10-12th November 2011
Look out for the 4th International Ophthalmology Congress : Evolving Paradigms in Cataract Surgery.

TEST YOUR QUIZ EYE Q

Q: What are the main abnormalities seen in this optic disc photograph?

1. Increased cup: disc ratio
2. Haemorrhage at the 5 o'clock sector. This is a haemorrhage of the nerve fibre layer at the optic disc border also called a "Drance" haemorrhage and is a classic sign of glaucomatous optic neuropathy, in particular normotensive glaucoma . It can also be seen in diabetic retinopathy, central retinal vein occlusion and posterior vitreous detachment. A drance haemorrhage suggests that any existing glaucoma is poorly controlled and deterioration is likely.

Quiz Master:Dr Johnson Tan, NHG Eye Institute @ TTSH

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